

**Mediterranean Scientific Conference: Educational Systems and Societal Changes. Challenges and Opportunities**

**Marina MATIĆ TANDARIĆ**

High school students' leisure time activities

**Marko MRAKOVČIĆ, Željko BONETA, Željka IVKOVIĆ HODŽIĆ**

Political apathy, sophisticated politics or pluralization of the students' political engagement?

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Suvremeni modeli i pristupi analizi podataka u obrazovnim istraživanjima

**PRIKAZI / REVIEWS**

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## **Mediterranean Scientific Conference: Educational Systems and Societal Changes. Challenges and Opportunities**

### ***Editor's Preface***

The international scientific conference on contemporary challenges in education named *Educational Systems and Societal Changes: Challenges and Opportunities/ESSCCO* was held in Rijeka, in the organisation of the Faculty of Teacher Education, on 6 and 7 June, 2019. The co- organisers of the ESSCCO Conference were the Croatian Association for Educational Research (Hrvatsko udruženje za obrazovna istraživanja) and the Faculty of Education, University of Malta.

*Educational Systems and Societal Changes: Challenges and Opportunities* is a scientific conference that provided an opportunity for cooperation between and networking of researchers that study and reflect upon educational topics in the context of diverse scientific disciplines. The programme of the Conference encompasses presentations of the most recent scientific accomplishments within the field of education, as well as interactive debates, poster presentations and other forms of mutual exchange of experiences. The participants of the Conference included numerous scientists who deal with topics related to education, as well as methodicians, pedagogists, psychologists, sociologists and educational rehabilitators from nine European countries (Italy, France, Spain, Slovenia, Serbia, Bosnia and Herzegovina, Hungary, Malta and Croatia), the United States of America and the South African Republic. Around eighty participants conducted 55 thematic presentations. Two plenary sessions were held: Madam Rector of the University of Rijeka, Prof. Snježana Prijić Samaržija, Ph.D., held a plenary entitled *New Challenges for Higher Education in a Changing World*, and Prof. Régis Malet, Ph.D. from the University of Bordeaux (senior member the Institut Universitaire de France) held a plenary entitled *Empowering teachers for inclusion in schools: comparative perspectives on some challenges ahead*.

This double issue of the journal *Odgovno-obrazovne teme* presents 9 selected scientific articles that focus on examining educational topics in the context of diverse scientific disciplines in an attempt to provide answers to complex, interdisciplinary research questions. To be more specific, the author *Matić Tandarić* researches differences in selected activities or preferences between grammar school students and vocational

school students and differences based on age and sex. *Mrakovčić, Boneta* and *Ivković Hodžić* debate on the political involvement of students, thereby comparing results of their research with the political involvement of the young/students in European and Croatian research. *Marta Ilardo* researches participative discourse in relation to the regulations and development of participation in the Italian national context. *Mlekuž* and *Vršnik Perše* analyse and compare politics in the area of education of national minorities and immigrational or “new“ minority education and determine elements of specific models of politics which are used in Slovenia in the area of education of minorities. The qualitative analysis by *Cuconato* and *Loncle*, based on an international sample, presents initiatives for the better understanding of education of disadvantaged students and the role of teachers in ameliorating or reproducing their unfavourable position. *Ljubičić, Trajkovski* and *Antekolović* indicate that quality diagnostics of motor abilities is the foundation for planning and programming transformational processes. In their research, *Kostadin, Petrić* and *Minić* determine whether children of an early age equally participate in all offered kinds of motor activities and the diverse methods for the execution thereof, enabled also by multimedia. *Cucca* bases her article on the paradigm of critical feminist pedagogy. *Moreau, Destrumelle* and *Arneton* are oriented towards studying the discrepancy between students and teachers' needs and the answers proposed by cultural institutions, on the example of France.

We would like to thank the authors of articles and, in particular, the reviewers for the valuable contributions that they made to the publication of this double issue.

*Prof. Lidija Vujičić, Ph.D.*



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## High School Students' Leisure Time Activities

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### Abstract

The research paper examines high school students' leisure time preferences ( $N=437$ , 194 male, 44.4%; 243 female, 55.6%) while taking into account the school type, age and gender effect on their leisure preferences. The study included mid and late adolescents whose age ranged from 14 to 19. The questionnaire consisted of socio-demographic and leisure time activity questions. The results point to significant differences between students in terms of culture-oriented, family-oriented and passively spent free time activities. A statistically significant difference was found in relation to *spending time in a bar* (passively-idly spent time) as older adolescents were more prone to it. A significant difference was noted in terms of *attending church, sermons or lectures* (religion-oriented free time) and *actively doing sports* (sport-oriented free time), where younger adolescents ascribed a higher importance to these activities as opposed to older adolescents. Gender was significant concerning family and home-oriented leisure activities, passively-idly spent activities, culture and sport-oriented activities. Future studies should incorporate a more comprehensive list of activities in order to provide an in-depth view of out-of-school activities and daily lifestyles.

**Keywords:** *leisure time, adolescents, school, age, gender*

## 1. Introduction

During the formative period of adolescence, young people feel the need to express, interact and engage with their environment, especially their peers. Although their family and school surrounding can provide a useful means of expression, youth often uses leisure time in order to express certain aspects of their personal and social identity (Barber et al., 2005). Leisure represents a specific social context or timeframe, where adolescents' express individual preferences through leisure activities. Leisure activities become very important in adolescence as they can provide a means through which adolescents find enjoyment, fulfilment and freedom (Zeijl, Du Bois-Reymond, and Poel, 2001). However, it can also serve as an out-of-school timeframe, where adolescents passively consume goods, and wander without structure and purpose (Mlinarević, Miliša, and Proroković, 2007). Therefore, this study aims to investigate high school students' leisure time preferences while taking into account the socio-demographic factors.

## 2. Theoretical background

Leisure is a product of industrialization or, to be more precise, a social phenomenon that arose after a gradual shortening of working hours, mass employment and separation between work and free time (Ilišin, 1999). Dumazedier (1972) sees leisure as a set of voluntarily chosen, fun, educational or creative activities that an individual undertakes after he or she is done with other professional, social or family obligations. Holder, Coleman, and Sehn (2009) define leisure as freely chosen non-work activities that are done for relaxation and enjoyment.

With regards to adolescence, Zeijl, Du Bois-Reymond and Poel (2001), see leisure as an after-school time, where adolescents engage in voluntary activities (organized or unorganized). Opić and Đuranović (2014) see it as the time left after one's school obligations are done, as a "training ground" (p.547) for the development of various social, and verbal skills as well as a place of resolution and tolerance. Hendry, et al. (2005) define adolescence as a "peak time of leisure needs" (p.32), when adolescents use various activities to construct meanings and for personal

and social expression. Dworkin, Larson and Hansen (2003) emphasize that adolescents are “active agents in their own development” (p.17) and leisure, as a distinct context, provides adolescents with the freedom to investigate and express various skills, competencies and aspects of their identity. Leisure in adolescence is “instrumental”, as it enables “the development and exploration of skills and knowledge”, and it is “expressive”, as it provides adolescents with the opportunities to express “the interests, values and abilities that affirm social and personal identity” (Abbott and Barber, 2007, p.63). Aside from enabling identity formation, participation in discretionary activities provides a glimpse into one’s own motives, talents and values (Erikson, 1968). Participation in certain leisure activities reflects the adolescent’s own beliefs, while his/her participation allows the adolescent to create, uncover, explore and express different aspects of himself (Barber et al., 2005). Various authors have shown the significance of leisure time as well as its effect on adolescent creativity, well-being, satisfaction, and fulfilment (Dumazedier, 1972; Ilišin, 1999; Mahoney and Stattin, 2000; Bouillet, Ilišin, and Potočnik, 2008; Leversen, et al., 2012). As opposed to older generations, adolescents have more leisure time at their disposal. For instance, youth in North America has 6.5 to 8 hours; European youth has 5.5 to 7.5 hours, while East Asian youth has 4 to 5.5 hours of leisure time (Larson and Verma, 1999). Moreover, Ilišin (1999) states that adolescents use leisure in order to self-actualize and socialize, while it has an effect on personality development. Adolescents convey their identity through consumption practices and they are socialized through their chosen free time activities (Bouillet, Ilišin, and Potočnik, 2008). Leisure activities provide a context for identity development and they enable the facilitation of those competencies that are integral for the transition into adulthood. By participating in structured leisure activities, adolescents are provided with an opportunity to socialize, cooperate and relate to their peers, which are important developmental needs. Leisure preferences connect the individual to his or her peers because leisure choices reflect his or her inner beliefs and thoughts (Eccles, et al., 2003). Specifically, discretionary activities allow the individual to be “personally expressive and to communicate to both themselves and others that *“This is who I am”* or *“I believe I am meant to do”* (Barber et al., 2005, p.188). Mahoney and Stattin (2000) claim that structured leisure

activities are more socially complex (as opposed to unstructured ones) and involve peer cooperation, family support and guidance from other adult figures (for instance coaches). Fredricks and Eccles (2008) explain that organized activity contexts facilitate personal exploration and provide adolescents with an opportunity to enhance their academic and leadership skills.

However, leisure is often seen as a space where risky behavioural patterns are seen. For instance, Bouillet, Ilišin, and Potočnik (2008) mention that structured activities as well as time spent within the family decreases the possibility of at-risk behaviour as opposed to leisure time spent exclusively with other peers. Mahoney and Stattin (2000) revealed that participation in structured activities (for instance music, theatre, various hobbies, sports, church, etc.) led to a decrease in antisocial behaviour (especially in boys). Moreover, leisure patterns are also a product of mass media and one's own material status (parents' socio-economic status). While comparing adolescents' free time in Europe, East Asia and North America, Larson and Verma (1999) discovered that *media use* (television use or TV viewing) was the largest and most consistent category across these nations. Interestingly, the authors note that higher media use in Asian and African American youth may be attributed to a lack of other leisure options at home or to a prolonged number of leisure hours, while a lack of parental supervision had an effect on European youth. Roberts (2006) insists that leisure preferences are based on conscious and unconscious mechanisms or *social* and *decision* filters. Hendry, et al. (2005) explain that adolescents' leisure choices are coloured and influenced by various factors, such as the family, school, friends or peers, media, leisure trends, and socio-structural changes.

Even though leisure presents a space where various socio-cultural values and norms clash, Leversen et al. (2012) highlight that leisure still acts as a place where adolescents exercise self-determination and autonomy. By choosing activities of their own interest, they enhance their level of involvement and become active creators of their unstructured, free time. This is most evident in their chosen leisure practices, such as listening to specific types of musical or film genres, going to places of personal interest, spending time with friends, etc. Larson, Hansen and Moneta (2006) highlight that other unstructured activities (such as listening to

music, socializing with peers, etc.) have a constructive role in adolescence since they are self-directed and autonomous. The increase in leisure activity offers has coincided with the advances in parents' material status, unsteady family household and media-promoted goods, which have in effect allowed adolescents to plan and orient themselves towards various leisure goods, fashion and music styles (Zeijl, Du Bois-Reymond, and Poel, 2001; Hengst, 2001). Investigations therefore into adolescent leisure activity preferences do not only provide an insight into a mere list of adolescents' activities and the manner in which they are performed but as well an insight into the functions that these activities have for young people throughout the formative period of adolescence.

### **3. Method**

#### *3.1. Research goal and aims*

The research aims of this study were twofold: (1) to compare leisure time preferences/activities between grammar school students and vocational school students and (2) to explore the differences in leisure time preferences based on gender and age.

#### *3.2. Hypotheses*

The following hypotheses were proposed:

H1: Differences in leisure preferences based on school type are expected, since the school programme varies and possibly dictates leisure preferences.

H2: Differences in leisure preferences based on age are expected, since adolescents change interests throughout the formative period of adolescence.

H3: Differences in leisure preferences based on gender are expected since there is a stereotypical view of how leisure time is spent, while previous research has pointed to a gender effect when it comes to leisure preferences.

#### *3.3. Sample*

The sample consisted of 437 high school students, specifically 245 students from grammar schools and 192 students from vocational schools in Osijek, Croatia. Two (2) randomly selected grammar and vocational schools participated and gave their research approval, which amounts to 437 participants. The study included 194 males (44.4%) and 243 female students (55.6%). Mid (9<sup>th</sup> to 11<sup>th</sup> grade) and late (12<sup>th</sup> grade) adolescents, whose age ranged from 14 to 19, participated in the study. Table 1 shows the descriptive data concerning the number of male and female participants.

**TABLE 1. DESCRIPTIVE STATISTICS OF THE SAMPLE**

<i>SCHOOL</i>	<i>GENDER</i>	<i>N</i>
GRAMMAR SCHOOL	MALE	110
	FEMALE	135
VOCATIONAL SCHOOL	MALE	84
	FEMALE	108

### 3.4. Instruments

The questionnaire consisted of two parts. The first part contained socio-demographic questions, while the second part contained questions related to leisure preferences. The socio-demographic questions were related to school type, gender, age, family structure, parents' educational level and previous year's school success.

The second part of the questionnaire examined the participants' leisure choices/preferences. It contained 15 items /leisure choices that were roughly grouped into passively oriented time (*I spend my free time in a bar; I participate in games of chance (online poker, lottery, sport betting); I play games (PS, Xbox, Warcraft, Lol, etc.); I spend the weekend posting pictures of my night out; I lay around all day*), family/home-oriented time (*I participate in the housework and do the chores; I spend my free time with family members*), culture-oriented time (*I go to the cinema, the theatre or see a concert; I read books in my free time*), religion-oriented time (*I attend church, mass, sermon and lecture*), socially engaged time (*Free time is best spent with friends ; I spend time with my girlfriend/boyfriend; I do charity and volunteer work*) and active/sport-oriented time (*I actively do sports; I spend my free time with my pet* ). The participants rated the frequency of certain leisure activities on a five-point Likert scale. The scale

consisted of five response categories ranging from (1) never, (2) seldom, (3) sometimes, (4) often and (5) very often.

### 3.5. Procedure

The research was conducted in accordance with *The Ethical Standards for Research with Children* (2003). The school board approved the questionnaires beforehand, while the parents gave their written consent. The study was conducted via an anonymous questionnaire during regular classes, in the month of May, school year 2017/2018. The participants were given a brief introduction, after which they completed the questionnaire voluntarily and in complete anonymity.

## 4. Results

As evident in Table 2, a statistically significant difference between vocational and grammar school students was found in terms of sports-oriented, culture-oriented, passively and family-oriented leisure time preferences. Taking into account the T-test results and frequency of leisure activities (based on mean scores) vocational and grammar school students often spend time with their friends, family members, doing house chores and lying around the house. Still, grammar school students are more prone to lying around, while vocational school students are more prone to doing housework or spending time with the family. While both vocational and grammar school students sometimes do sports or spend time with their girlfriend/boyfriend, vocational school students are more prone to both activities than grammar school students are. Both grammar and vocational school students sometimes go to the cinema/theatre/a concert, but grammar school students are more inclined to visit such establishments or events. Both groups rarely go to bars, church or read books, but grammar school students are still more prone to reading. While both groups rarely play video games or post pictures, grammar school students are still more interested in games, whereas vocational school students are more prone to posting pictures online.

While they rarely spend time with their pets, vocational school students are more prone to such an activity. Both groups very rarely do charity work or participate in games of chance, but vocational school students are still more prone to gambling of sorts.

**TABLE 2. T-TEST RESULTS ON GRAMMAR AND VOCATIONAL STUDENTS  
LEISURE TIME ACTIVITIES**

<i>VARIABLE</i>	<i>SCHOOL</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>
FREE TIME IS BEST SPENT WITH FRIENDS.	GRAMMAR	245	4.06	.80	-1.46
	VOCATION	192	4.18	.83	
I SPEND TIME WITH MY GIRLFRIEND/BOYFRIEND.	GRAMMAR	245	2.61	1.64	-3.32
	VOCATION	192	3.11	1.49	
I ACTIVELY DO SPORTS.	GRAMMAR	245	3.20	1.34	-
	VOCATION	192	3.35	1.33	1.23 ***
I GO TO THE CINEMA, THE THEATRE OR SEE A CONCERT.	GRAMMAR	245	3.01	1.01	3.70
	VOCATION	192	2.63	1.09	***
I READ BOOKS IN MY FREE TIME.	GRAMMAR	245	2.49	1.29	3.53
	VOCATION	192	2.07	1.14	***
I SPEND MY FREE TIME IN A BAR.	GRAMMAR	245	2.70	1.21	.26
	VOCATION	192	2.67	1.18	
I PARTICIPATE IN GAMES OF CHANCE (ONLINE POKER, LOTTERY, SPORT BETTING).	GRAMMAR	245	1.52	1.12	-1.75
	VOCATION AL	192	1.71	1.13	
I PLAY GAMES (PS, XBOX, WARCRAFT, LOL, ETC.)	GRAMMAR	245	2.56	1.54	1.05
	VOCATION	192	2.40	1.55	
I SPEND THE WEEKEND POSTING PICTURES OF MY NIGHT OUT.	GRAMMAR	245	2.08	1.14	-1.96
	VOCATION	192	2.31	1.22	
I LIE AROUND ALL DAY.	GRAMMAR	245	3.66	1.11	2.71
	VOCATION	192	3.36	1.19	**
I SPEND MY FREE TIME WITH MY PET.	GRAMMAR	245	2.58	1.44	-
	VOCATION	192	2.90	1.42	2.33 *
I DO CHARITY AND VOLUNTEER WORK.	GRAMMAR	245	1.89	1.08	-.70
	VOCATION	192	1.96	1.08	
I PARTICIPATE IN THE HOUSEWORK AND DO THE CHORES.	GRAMMAR	245	3.60	1.07	-
	VOCATION AL	192	3.97	1.05	3.65 ***
I SPEND MY FREE TIME WITH FAMILY MEMBERS.	GRAMMAR	245	3.43	.97	-
	VOCATION	192	3.69	1.02	2.68 **
I ATTEND CHURCH, MASS, SERMON AND LECTURE.	GRAMMAR	245	2.83	1.48	.04
	VOCATION	192	2.82	1.43	

Note: \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ 

Still, grammar school students are more prone to lying around, while vocational school students are more prone to doing housework or spending time with the family. While both vocational and grammar school students sometimes do sports or spend time with their girlfriend/boyfriend, vocational school students are more prone to both activities than grammar school students are. Both grammar and vocational school students sometimes go to the cinema/theatre/a concert, but grammar school students are more inclined to visit such establishments or events. Both groups rarely



go to bars, church or read books, but grammar school students are still more prone to reading.

**TABLE 3. T-TEST RESULTS ON LEISURE TIME ACTIVITIES AND AGE EFFECT**

<i>VARIABLE</i>	<i>AGE</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>T</i>
FREE TIME IS BEST SPENT WITH FRIENDS.	YOUNGER	218	4.15	.85	.88
	OLDER	219	4.08	.77	
I SPEND TIME WITH MY GIRLFRIEND/BOYFRIEND.	YOUNGER	218	2.64	1.60	-2.43*
	OLDER	219	3.01	1.58	
I ACTIVELY DO SPORTS.	YOUNGER	218	3.43	1.28	2.53*
	OLDER	219	3.11	1.37	
I GO TO THE CINEMA, THE THEATRE OR SEE A CONCERT.	YOUNGER	218	2.89	1.02	.93
	OLDER	219	2.79	1.10	
I READ BOOKS IN MY FREE TIME.	YOUNGER	218	2.30	1.24	-.10
	OLDER	219	2.31	1.25	
I SPEND MY FREE TIME IN A BAR.	YOUNGER	218	2.43	1.20	-4.66***
	OLDER	219	2.95	1.13	
I PARTICIPATE IN GAMES OF CHANCE (ONLINE POKER, LOTTERY, SPORT BETTING).	YOUNGER	218	1.56	1.09	-.77
	OLDER	219	1.65	1.17	
I PLAY GAMES (PS, XBOX, WARCRAFT, LOL, ETC.)	YOUNGER	218	2.63	1.57	1.87
	OLDER	219	2.35	1.51	
I SPEND THE WEEKEND POSTING PICTURES ABOUT MY NIGHT OUT.	YOUNGER	218	2.17	1.14	-.19
	OLDER	219	2.19	1.22	
I LIE AROUND ALL DAY.	YOUNGER	218	3.49	1.15	-.68
	OLDER	219	3.57	1.15	
I SPEND MY FREE TIME WITH MY PET.	YOUNGER	218	2.64	1.43	-1.14
	OLDER	219	2.80	1.43	
I DO CHARITY AND VOLUNTEER WORK.	YOUNGER	218	1.92	1.09	-.00
	OLDER	219	1.92	1.07	
I PARTICIPATE IN THE HOUSEWORK AND DO THE CHORES.	YOUNGER	218	3.72	1.04	-.85
	OLDER	219	3.81	1.11	
I SPEND MY FREE TIME WITH FAMILY MEMBERS.	YOUNGER	218	3.49	1.07	-1.16
	OLDER	219	3.60	.92	
I ATTEND CHURCH, MASS, SERMON AND LECTURE.	YOUNGER	218	3.04	1.47	3.03*
	OLDER	219	2.62	1.42	

Note: \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

While both groups rarely play video games or post pictures, grammar school students are still more interested in games, whereas vocational school students are more prone to posting pictures online. While they rarely spend time with their pets, vocational school students are more prone to such an activity. Both groups very rarely do charity work or participate in games of chance, but vocational school students are still more prone to gambling of sorts.

The T-test data analysis shows that *younger* (age 14-16) and *older* adolescents (age 17-19) vary in terms of boyfriend/girlfriend-oriented, sports-oriented, passive (bar) and religion-oriented leisure time (see Table 3). Specifically, based on the T-test results and overall mean scores, it is evident that older and younger adolescents often spend time with their friends, family members or doing house chores. However, younger adolescents spend a bit more time with friends, while older adolescents spend a bit more time with family members or doing housework. Younger adolescents spend more time on sports as opposed to older adolescents. Although they both often lay around the house, older adolescents still do it more often. Both groups sometimes spend time with their boyfriend/girlfriend, but older adolescents still spend a higher amount of time with his/her love interest. While younger and older adolescents sometimes go to the cinema/theatre/a concert or to the bar, older generations spend more time at the bar while the younger ones still go to the movies/theatre/a concert a bit more. The younger group sometimes goes to church, while the older group rarely attends. While both groups rarely read books or play video games, the younger one spends a bit more time on games. Both rarely spend time with their pets, but the older group is still a bit more interested in spending time with them. Both groups very rarely do charity work, participate in games of chance and post pictures of themselves online.

The t-test results did not show a statistically significant gender effect across all leisure activities. However, as presented in Table 4, the T-test data analysis and overall mean scores show that both groups often spend time with friends and family or doing chores. However, female students spend a bit more time with the family or doing housework. Male students do sports or play games more often than females. Male and female students both lie around a lot, but girls are less prone to doing it.

**TABLE 4. T-TEST RESULTS ON LEISURE TIME ACTIVITIES AND GENDER EFFECT**

<i>VARIABLE</i>	<i>GENDER</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>
FREE TIME IS BEST SPENT WITH FRIENDS.	MALE	194	4.10	.78	-.33
	FEMALE	243	4.12	.85	
I SPEND TIME WITH MY GIRLFRIEND/BOYFRIEND.	MALE	194	2.87	1.53	.44
	FEMALE	243	2.80	1.66	
I ACTIVELY DO SPORTS.	MALE	194	3.59	1.30	4.68 ***
	FEMALE	243	3.00	1.30	
I GO TO THE CINEMA, THE THEATRE OR SEE A CONCERT.	MALE	194	2.71	1.04	- 2.40 *
	FEMALE	243	2.95	1.06	
I READ BOOKS IN MY FREE TIME.	MALE	194	1.85	1.10	- 7.36 ***
	FEMALE	243	2.67	1.22	
I SPEND MY FREE TIME IN A BAR.	MALE	194	2.71	1.22	.27
	FEMALE	243	2.67	1.18	
I PARTICIPATE IN GAMES OF CHANCE (ONLINE POKER, LOTTERY, SPORT BETTING).	MALE	194	2.05	1.38	7.22 ***
	FEMALE	243	1.26	.70	
I PLAY GAMES (PS, XBOX, WARCRAFT, LOL, ETC.)	MALE	194	3.49	1.45	14.4 0***
	FEMALE	243	1.69	1.09	
I SPEND THE WEEKEND POSTING PICTURES ABOUT MY NIGHT OUT.	MALE	194	1.98	1.10	- 3.24 **
	FEMALE	243	2.34	1.22	
I LIE AROUND ALL DAY.	MALE	194	3.66	1.20	-.45
	FEMALE	243	3.36	1.11	
I SPEND MY FREE TIME WITH MY PET.	MALE	194	2.58	1.37	- 3.89 ***
	FEMALE	243	2.90	1.44	
I DO CHARITY AND VOLUNTEER WORK.	MALE	194	1.89	1.02	- 2.51 *
	FEMALE	243	1.96	1.11	
I PARTICIPATE IN THE HOUSEWORK AND DO THE CHORES.	MALE	194	3.60	1.09	- 4.17 ***
	FEMALE	243	3.97	1.02	
I SPEND MY FREE TIME WITH FAMILY MEMBERS.	MALE	194	3.43	1.01	- 4.28 ***
	FEMALE	243	3.69	.95	
I ATTEND CHURCH, MASS, SERMON AND LECTURE.	MALE	194	2.83	1.46	- 2.46 *
	FEMALE	243	2.82	1.44	

Note: \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Both groups sometimes spend time with their love interest or go to the bar. Both male and female students rarely go to the theatre/cinema/a concert, but female students do it a bit more often. Male students read books very rarely, as opposed to female students, who do it a bit more often. Male students rarely participate in games of chance, while female students do it even less often. Male students rarely spend time with their pets, as opposed to female students. Female students rarely post pictures, while male students do it even less often. While both groups rarely go to sermons/church, male students are still a bit more prone to going to church. Both groups very rarely do charity work.

## 5. Discussion

The research study aimed to examine the differences in the chosen leisure time activities or preferences between grammar and vocational school students and to explore the differences in leisure time preferences based on gender and age. The t-test results did not show a significant school, gender or age effect across all leisure activities. However, vocational school students were more active sportswise and they spent more time with their families and house pets. Grammar school students lay around after school, read books and visit the cinema, theatre and concert halls in their free time. The difference in school programmes (bigger number of hours devoted to their craft), daily changes in school and work setting and the emphasis placed on practical training could explain the difference in grammar and vocational school students' leisure preferences (Farias and Sevilla, 2015). These results were in line with other research results on high school students' activity preferences, specifically vocational students' sports-oriented leisure time (Hardman and Green, 2011; Zhou and Wang, 2019). Based on 771 students attending three different school programs, Hardman and Green (2011) noted that the school programme had the highest impact on the students' sports activity. Shanahan and Flaherty (2001) as well as Mortimer (2003) added that vocational school students, or students engaged in part-time work, are more prone to spending leisure time with their families, doing chores as well as spending time with friends than grammar school students. The results, however, are not in line with Singha and Misra's (2015) research

on leisure patterns, as their participants did not spend time doing sports nor did they read books or visit galleries, the theatre or museums in their free time.

The T- test data analysis shows that older adolescents spend more time in a bar or in the company of their boyfriend/girlfriend. The research findings also indicate that younger and older adolescents are equally prone to spending time with their peers or friends. Moreover, younger generations are more active in sporting activities and going to church/listening to sermons in their free time. The current results are in accordance with other similar research (Ilišin, 2002; Badrić and Prskalo, 2011; Opić and Đuranović, 2014). Opić and Đuranović (2014) note that the period of adolescence is marked by an increase in socialization so it is not surprising that adolescents ascribe a higher importance to it. Hendry, et al. (2005) highlight that adolescents see leisure as a period of time when they can joke around, have fun with their friends and do nothing in particular. Bouillet (2008) explains that most adolescents see socializing with friends, girlfriend/boyfriend as the best-spent leisure time. After analysing American and Korean leisure activities, Won and Han (2010) conclude that interacting with friends and watching TV are the most common activities. While analysing and comparing leisure activities, Badrić and Prskalo (2011) note that young people spend their time watching TV, hanging out with friends and going to bars/night clubs. Based on a comparative analysis of leisure interests (conducted in 1999 and 2004), Ilišin (2007) noticed slight changes in the incidence of certain leisure activities. Thus, for instance, participants spent time socializing, watching TV, listening to folk music, playing games and participating in games of chance. In addition, they went for walks, to concerts, various clubs or parties and they afterwards rested (as a result of going out). An increase in sporting activities could be accounted by an increase in their participation in games of chance.

The results are in accordance with Leburić and Relja (1999), who conclude that night clubs (30%); bars (18.9%) and the cinema (15, 6 %) are the most common places to spend leisure time relaxing. Mlinarević, Miliša and Proroković (2007) also note the passiveness when it comes to structuring leisure activities. The results of their research show that adolescents spend their time in front of the TV, listening to the radio or

going out to clubs or bars. While analysing night/disco clubs as specific social contexts where younger generations express their identities, Leburčić, Relja and Božić (2007) noticed that the participants are passive consumers since they are not able to create meaningful acts of identity expression. Tomić-Koludrović (1998) states that the expansion of leisure has led to media-enforced product placement, where various media outlets are trying to push various consumer-driven styles of life.

The T-test research results show that female students spend their time reading books, going to concerts/cinema/theatre and doing charity work. They also spend time with their pets, family members or doing house chores. In addition, female students spend their time posting pictures of themselves or their outings on social media. Moreover, the research results show that male students are more sport-oriented; they are more prone to betting/online poker/the lottery and playing video games more often than females. These findings are in accordance with the results obtained by Opić and Đuranović (2014), which show that girls use electronic media more, and that they tend to spend their free time on cultural activities, whereas boys turn to sports. Pejić Papak, Vidulin-Orbanić and Rončević (2012) and Badrić and Prskalo (2011) also explain that males are more prone to sports, while girls pertain to cultural activities. McHale, Crouter and Tucker's (2001) three-year longitudinal study showed that girls are more interested in real-life activities, for instance various hobbies or reading books, while boys are concerned with games and doing sports. Won and Han (2010) discovered that Korean students play PC games or use the Internet 30% of the time (after-school) while American students tend to do sports, chores or part-time jobs. Fawcett (2007) states that girls are more involved in cultural activities, as opposed to boys, who play sports and video games more often. The results further highlight stereotypical roles that shape leisure possibilities. Fawcett (2007) explains that girls are more prone to spending time with family and doing housework. Videnović, Pešić and Plut (2010) add that parents are usually stricter when it comes to girls and girls usually take care of their siblings.

The research findings are in line with other research results on religious activities in adolescent lives (Markstrom, 1999; Barber, Eccles, and Stone, 2001), as these results indicate that male students are more inclined to go to church/lectures/sermons.

Low mean scores in terms of civic/social engagement indicate that adolescents do not attribute much importance to it in their leisure time. Videnović, Pešić and Plut (2010) highlight that few participants are usually involved in a sort of civic activity, which could stem from a lack of social awareness in schools/at home or extracurricular activities of that sort in schools.

## 6. Conclusion

The study examined and compared high school students' leisure preferences while taking into account the school type, age and gender. The t-test data results did not show a statistically significant school, gender or age effect across all leisure activities. However, vocational school students are more active, spend more time with family members and pets and do house chores more often, as opposed to grammar school students, who are more inclined to lie around all day, read books and visit the theatre, cinema and concerts in their free time. Older adolescents spend more time with their boyfriend/girlfriend or in a bar. Younger adolescents are more active and attend masses. Gender differences were also noted as female students go to the cinema/the theatre/concerts, read books, do volunteer work, house chores and spend time with family members and pets. They are also more inclined to take pictures of themselves and post them online. Male students do sports, participate in games of chance and spend more time playing games on the computer. Interestingly, male students are more inclined to go to church. High mean scores were found in terms of spending time with friends, which is not atypical for their age and developmental needs. However, lower mean scores were noted for civic involvement as the participants did not volunteer or do charity work. It should be noted that the study has certain limitations as sample sizes (between vocational and grammar school students) were unequal. A larger sample size could, therefore, provide a more in-depth view of leisure preferences.

Due to the fact that adolescence is a very turbulent period filled with changes, adolescent leisure preferences will continually change. Still, efforts should be placed on creating more creative extracurricular activities or provide content that is more interesting and stimulating so that

adolescents can change activities and express aspects of their identity in different ways.

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## Slobodnovremenske aktivnosti učenika srednjih škola

### Sažetak

U radu se istražuju razlike u odabranim slobodnovremenskim aktivnostima ili preferencijama između gimnazijalaca i učenika strukovnih škola ( $N=437$ , 194 dječaka, 44.4%; 243 djevojaka, 55.6%), kao i razlike temeljene na spolu i dobi. U istraživanje su uključeni ispitanici u srednjoj i kasnoj adolescenciji, čija je dob varirala od 14 do 19 godina ( $M=2.32$ ,  $SD=1.16$ ). Upitnik se sastojao od socio-demografskih pitanja i pitanja vezanih uz slobodno vrijeme. Rezultati ukazuju na značajnu statističku razliku između učenika u vezi s kulturno, obiteljsko i pasivno provedenim slobodnim aktivnostima. Značajna je razlika utvrđena u vezi s provođenjem *vremena u kafiću* (pasivno provedeno vrijeme) te su stariji adolescenti skloniji tomu. Značajna razlika je uočena kada je riječ o *odlaženju u crkvu, na mise ili predavanja* (religijski orijentirane aktivnosti) i *aktivnom bavljenju sportom* (sportski orijentirano vrijeme), gdje su mlađi adolescenti pripisivali više značaja navedenim aktivnostima za razliku od starijih adolescenata. Spolne su razlike značajne kada je riječ o aktivnostima orijentiranim na obitelj i dom, pasivno provedenim aktivnostima, kulturnim i sportsko orijentiranim aktivnostima. Buduća istraživanja mogu kreirati sveobuhvatniju listu aktivnosti u svrhu dobivanja dubljeg uvida u slobodne aktivnosti i svakodnevne stilove života.

**Ključne riječi:** *slobodno vrijeme, adolescenti, škola, dob, spol*

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## Political Apathy, Sophisticated Politics or Pluralization of Students' Political Engagement?<sup>1</sup>

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### Abstract

Studies in Croatia confirm that political engagement of the youth is changing. Although the youth's interest in politics and political affairs in Croatia saw an increase between 1999 and 2004, it was still weaker than it was in the period of socialism (Ilišin, 2011), while at the same time their political engagement is on decline. Research has found that young people are more skeptical of the forms of traditional politics and are more open to expressing their political engagement through new media. This research addresses the very foundation of the opposing diagnoses as well as the thesis on the pluralization of the youth's political engagement, based on a study conducted among the students enrolled in eight components of the University of Rijeka in 2015 (N = 635). The paper analyzes traditional forms (political party membership, elections,) and new political forms (forms of political engagement on social networks) of the students. The results are compared with the political engagement of the youth/students in European and Croatian research. The results point to the existence of hybrid politics, which includes a high readiness to vote in elections, signing paper petitions, and "liking" political initiatives on the Internet, but at the same time reveals the students' very modest engagement in either traditional or new forms of political action.

**Keywords:** *youth, political participation, interest in politics, social networks, students.*

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## 1. Introduction

Recent research on the youth's political engagement (PE)<sup>2</sup> points to their disinterest, unwillingness to participate, detachment, and distrust towards institutional politics (Benedicto and Blasco, 2008). The results undoubtedly indicate that politics no longer plays a central role in the design of young people's life (Benedicto, 2013). Is the underlying reason for this the career and privileges that politics can bring? In contrast to the cynical attitude of the young people towards politics, an increasing number of analysts claim that young people are characterized by their detachment and sole focus on classical/traditional/conventional politics, but that they manifest their PE in innovative and sophisticated way through new media. *To what degree has political apathy spread among young people, and to what extent the "new" PE?* The paper answers this question based on the research conducted among the student population. It is a particularly interesting category within the cohorts of young people from which the majority of the future social elite will be recruited. If the theory of stratified diffusion is applied, it can be assumed that the most educated part of youth dictates trends also in political behavior, which will expand after a certain time and become characteristic of the entire youth population.

## 2. Theoretical-conceptual starting points

In the analyses of the youth's PE, we find two opposite diagnoses: pessimistic and optimistic. An alarming pessimistic diagnosis (Bessant et al, 2017) argues that young people are uninterested and detached from politics. The underlying arguments of this thesis are the data on the ever-lower level of the youth's participation in elections and their poorer involvement in the work of political parties (Dalton, 2008, Sloam, 2016). Putnam (2000) points out that between the mid-1960s and the 1980s, there was a noticeable decline in the political/social engagement of Americans. Members of the baby-boom generation (born between 1946 and 1964) cast fewer votes in the elections than their parents had done, which, along with a decline in the interest in political and social affairs, is a symptom of their self-exclusion from the life of the community. As political parties grow

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<sup>2</sup> Further on the abbreviation PE will be used instead of the term political engagement.

organizationally (professionally and financially), party identification and unprofessional PE are declining. All forms of local political participation are also decreasing: signing petitions, attending public gatherings, and running for public positions. In the text published ten years later, the authors (Sander and Putnam, 2010) highlight the positive consequences of the terrorist attacks on September 11, 2001 on the PE of young Americans. Their interest in politics and the frequency of political debates increased as well as their civic engagement and election turnout. The authors believe that the post-9/11 generation is reversing the trends of civic engagement in relation to those detected in the book *Bowling Alone*. The authors found an example of this new PE of the youth in Obama's presidential campaign, highlighting thereby that this is not characteristic of the entire generation.

The optimistic diagnosis claims that turning back on traditional politics does not mean that the youth is apolitical; on the contrary. Building upon Beck, Farthing (2010) develops the idea of the radically unpolitical youth that develops new agendas, new spheres of power, and forms of political action – including the possibility of doing nothing. Young people are striving for complete transformation, not just a correction of traditional politics. They construct sophisticated forms of PE in new media and are thus overcoming the frameworks of renewal of traditional politics and are building new, unconventional PE (Gordon and Taft, 2011). Norris (2004) was among the first to formulate this thesis as the theory of evolution of political activism. The author claims that the nature of political activism in general, but primarily youth activism, has changed in two key points. First, the repertoire/scope of political action has expanded and the traditional forms of political action have become insufficient. In the society of late modernity, new forms of youth engagement, related to experimentation outside political parties, are emerging, (Benedicto, 2013). Conventional direct (voting, party engagement) and indirect (contacts with politicians) PE is a characteristic of older generations in poor societies of deprivation. Contemporary political action in postmodern societies is diversified and takes on the forms of protest (strike, petition signing, boycott, demonstration, etc.). Norris distinguishes citizen-oriented actions directed at election and party engagement and cause-oriented repertoires focusing on specific issues emerging from the political sphere (buying or boycotting a certain product). New PE is directed at the government, but it also

includes the influence on actors from the public, non-profit, and private sector. The second change relates to the organizational structures through which political action takes place. Along with traditional bureaucratically structured organisations (parties, trade unions), modern agents, such as the Women's Rights Movement, the Antiglobalization Movement, the Anti-Liberal Movement, the Environmental Protection Movement, and NGOs, are characterized by decentralization, informal borders of affiliation, and an easy exit. Referring to the European Social Survey 2002, which was conducted in 15 countries, Norris emphasizes that citizen-oriented actions are practiced by older participants. The author explains this with the theory of life cycles – a weak involvement at a younger age, an increase in the middle age, and a slight decline in the senior age. Norris detects an identical pattern in all analyzed societies, despite their different cultural-political traditions. Cause-oriented action is a characteristic of younger participants, who rediscover political engagement, but non-institutionalized forms of participation overpower the institutionalized. The concept of “monitorial citizenship” (Schudson) has emerged, according to which young people show great interest in political and social problems but try to solve them through informal connectivity, for example, through buying or boycotting a product for ethical or political reasons. “Therefore the comparison suggests that the political energies among the younger generation in postindustrial societies have diversified and flowed through cause-oriented activism, rather than simply ebbed away into apathy. Evidence in this report indicates that multiple contemporary channels of civic engagement, mobilization and expression have emerged in postindustrial societies to supplement traditional modes” (Norris, 2004, p. 17).

Dalton (2008) holds the view that the expression of concern due to a poorer PE of the youth has become a mantra in social sciences, and that the forms of PE mentioned by Putnam have not significantly decreased in comparison to the late 1960s. On the contrary, he argues that “the repertoire of political action is broadening” (Dalton, 2008, p. 93). The youth voter turnout is declining, but new forms of political action (in the areas of environmental protection, consumer protection...), informal groups, and new media (internet) are emerging. Political institutions are accepting new

forms of political action by their citizens, thereby expanding their influence.

Benedicto and Blasco (2008), adding onto Norris's findings, claim that the model of militant party activism has been replaced by new sporadic forms of engagement in various areas of civic solidarity. In the late modernity characterized by strong individualism, the influence of socialization agents is diminishing, and politics no longer has a central place in the life of young people. Younger generations have a different view of politics from the elderly and are focusing on new instruments in articulating their interests and concerns. Young people have developed new, hybrid forms of political culture that simultaneously include both cynicism and apathy. "Young people develop experiences, shape their opinions and carry out different types of actions around these different groups of political meanings, depending on their life circumstances" (Benedicto and Blasco, 2008, p. 26). Amna and Ekart (2014) also believe that we should scratch below the surface of the dichotomy politically active - politically passive youth. Postmodern citizens are expected to be less interested in traditional politics, but more interested in new forms of politics and in specific social problems. The authors consider that among the active citizens (characterized by high interest and highest participation) we can distinguish three forms of political passivity of the youth: (1) "stand-by citizens," "which refers to citizens who are interested in politics without participating" (Amna and Ekart, 2014: 269); (2) disengaged (low interest and low participation); and (3) disappointed citizens (low participation and lowest on interest).

Hustinx et al. (2012), starting from the idea of postmodern individualization, develop a pluralistic thesis in which diversification of youth politics (students) involves combining traditional and new forms of political and social participation. The new generation is versatile, because with the expansion of the existing, it adds new and combines old and new forms of political and social participation. The authors distinguish five patterns in this context: (1) Disengaged students, who are mostly inactive; (2) Classical volunteers engaged in sporting or cultural youth organizations, who are poorly politically active; (3) Humanitarian citizens, active in several types of humanitarian organizations, but relatively weak in political ones; (4) Monitorial citizens, the dominant form, who show

great interest in politics and in action and combine different types of new and unconventional non-institutional activities; (5) Civic omnivores, the most interesting category, which combines conventional and unconventional, and formal and informal forms of political “à la carte” participation.

Starting from Inglehart’s distinction of materialism and postmaterialism, Henn, Oldfield, and Hart (2018) argue that economic circumstances of socialization are more important in explaining the forms of political participation than socio-economic factors. Young people are turning their back on formal politics and are turning to protest, boycott, and direct actions in accordance with their lifestyle. Young postmaterialists are more inclined to institutional and non-institutional forms of political action than materialists.

Gordon and Taft (2011) argue that the youth’s cynicism and mistrust in politics is a logical consequence of understanding the relationship between power and inequality in that societal sphere. This has nothing to do with apathy, because young people are more engaged in social movements. The discourse of the youth’s apathy towards politics is used as the adults’ justification for patronizing and oppressing the youth.

In his analysis of the political participation of young people in 15 “old” EU Member States, Sloam (2016) found that they are not apathetic but rather “protesters” or “postmaterialistically” political. It refers to engagement in solving specific issues, but outside the mainstream political parties. Stand-by citizens (Amna and Ekman, 2014) deal with concrete problems rather than ideological issues. Voting in elections is still the most widespread form of classical PE of young people, and signing petitions is the most widespread form of engagement in specific issues. However, the forms of the youth’s PE depend on the type of political (participative) culture of the country, its socio-economic context, and the democratic tradition. Sloam detects four regional forms of the youth’s PE in Europe: (1) the Nordic cluster, which is characterized by a high participation in elections and high PE on specific political issues; (2) the Southern European cluster, which is characterized by a relatively high participation in the elections, but at the same time a weak engagement on specific political issues; (3) the Anglo-Celtic cluster, which includes a low participation and moderate engagement, and (4) the Central European



cluster, which corresponds to the mean value of the entire sample. A generational comparison between the young and the elderly reveals that young people are less active in turning up for elections, they sign fewer petitions, and join fewer boycotts, but are also more active in wearing badges and participating in demonstrations. Sloam concludes that the weak political participation of young people does not necessarily mean a lack of interest in politics. By problematizing *a new participatory landscape*, Sloam (2017) finds significant differences in the political participation of the young people, which are determined by the socio-economic status and political culture of the country. Young people are distancing themselves from established parties and vote less in elections. Traditional PE as well as *issue-based PE* (signing petitions, boycotting a product, and participating in demonstrations) increases with the level of education. Young people from socially excluded groups are more inclined to join populist, nationalist, and extremist parties. Sloam concludes that "...young people are interested in politics and politically active in many different ways." (Sloam, 2017, p. 292).

Tomić-Koludrović (2002) offered an interesting analysis of the youth's PE in Croatia. The author analyzes the causes of the awakened youth engagement in the Republic of Croatia expressed in the greater voter turnout in the 2001 elections. Tomić-Koludrović explains the youth's apolitical engagement until the year 2000 with their disagreement with the dominant political pattern in Croatia, which she termed "patriarchal politics", since the modernization and postmodernization processes in Croatia are rather weak, and there is still "traditional youth" in our country, i.e., the adults' paternalistic treatment of young people as an infantile generational category. The author thinks that the true face of the youth's apolitical nature is expressed precisely through the youth's exceptional criticism of the sphere of conventional politics. Young people, more specifically the student population, are the bearers of the process of individualization as the foundation of alternative political engagement. This new PE of the youth, developed in subcultural groups, will gradually spread to other social classes through the logic of stratified diffusion (Young and Willmot, 1973). A characteristic of the new anti-political engagement of the youth (Beck) is also the lack of interest in traditional politics and the volunteer engagement "based on voluntary social

networks” (Tomić-Koludrović, 2002, p. 89). However, in post-socialist societies, we encounter the process of collectivization (national homogenization) instead of the process of individualization, which is further strengthened due to war circumstances in Croatia. This, along with the transitional obstacles and an underdeveloped civic society, has allowed the domination of patriarchal conservative politics that prevents social affirmation of young people. The author thinks that the political passivation of the youth in Croatia and its redirection into the sphere of privacy were a rational reaction of actors in the context of social retraditionalization and war circumstances. “By rejecting the traditional political action ... the young people in Croatia showed similarity with 'subpolitical' (Beck) strategies of achieving their interests through different micro-scenes (from labor to private), which are characteristic of societies of 'reflexive modernization” (Tomić-Koludrović, 2002, p. 94). Although the author sees the intensified PE of the youth in the late 1990s as a rejuvenation of the youth’s new PE in Croatia, at the end of her paper she pessimistically concludes that a traditional, intolerant, relentless youth continues to dominate; one that is unprepared for engagement in charitable work.

Continuation of the IDIZ research on the Croatian youth (Ilišin, 2011, 2014, 2017) confirms that the youth’s PE is a dynamic phenomenon in our country. Although the interest of the young people in politics and political affairs in Croatia between 1999 and 2004 was on an increase, it was still lower than it was in the period of socialism (Ilišin, 2011). At the same time, the political participation of young people is on the decrease and is characterized by a high degree of distrust in the institutions of political power and their potential correctors (Ilišin, 2017). Ilišin concludes that young people in Croatia are more skeptical about institutions and forms of traditional politics, and more open to expressing their PE through new media.

### **3. Methodology**

#### *3.1. Research Aims*

The paper has the following aims: to analyze the general student interest in politics; to analyze student participation in the forms of

traditional and new politics; to establish their relationships and the rapport between their interest and participation with socio-demographic characteristics.

### 3.2. Hypotheses

H1. Based on the previously conducted research (Ilišin, 2011, 2014, 2017), we hypothesize that the students' interest in politics is low.

H2. According to the research presented above, we hypothesize that the students should be more involved in the new than in the old forms of PE.

H3. There are two hypotheses about the old types of PE:

3a Participants taking active part in new forms of PE do not participate in traditional political actions, i.e., their participation in the new forms of PE is an alternative to the traditional forms.

3.b. Participants are simultaneously taking an active part in both forms of political action (political omnivores).

H4. There are differences in the PE with regards to the socio-demographic characteristics of the participants.

This paper deals with the youth's PE based on a field survey carried out in eight components of the University of Rijeka<sup>3</sup> in the first half of 2015 (N = 635). The results are compared with the PE of the youth/students in European (Amna and Ekart, 2014; Paolini, Horvath and Motiejunaite, 2018; Sloam, 2016, 2017) and Croatian (Ilišin, 2011, 2014, 2017) research. The data were processed in the statistical package SPSS 24 at the level of univariate, bivariate, and multivariate analysis.

### 3.3. Sample structure

The gender structure of the sample does not differ significantly from the structure of the UNIRI population in the academic 2015/2016 (male 57.9%: female 42.1%). Students from smaller urban settlements (up to 10,000 inhabitants) prevail, while the other three categories of settlements are equally represented. Parents with secondary education dominate the sample, which is followed by the category of obtained university education. Due to the low representation of both parents with

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<sup>3</sup> Students enrolled in the following components of the University of Rijeka participated in this research: Faculty of Humanities and Social Studies, Faculty of Tourism and Hospitality Management, Faculty of Civil Engineering, Faculty of Law, Department of Physics, Department of Informatics, Faculty of Engineering, and Faculty of Teacher Education. We would like to thank all the colleagues who helped with the survey.

completed primary education, this category was added to the category of completed three-year secondary education in further statistical analysis.

**TABLE 1. SOCIO-DEMOGRAPHIC CHARACTERISTICS (%)**

<b>SEX<sup>4</sup></b>		<b>AGE (M)</b>	20,9
MALE	60,9	18 – 20	56,5
FEMALE	38,4	21 – 23	30,6
<b>SIZE OF SETTLEMENT</b>		24 AND ABOVE	11,8
UP TO 1.000	20,8	<b>YEAR OD STUDIES</b>	
1.001 – 10.000	37,3	FIRST	59,2
0.001 – 100.000	20,8	SECOND	6,3
100.001 AND MORE	20,0	FOURTH	20,6
<b>EDUCATION OF THE FATHER</b>		FIFTH	13,9
ELEMENTARY SCHOOL	2,9	<b>EDUCATION OF THE MOTHER</b>	
THREE-YEAR HIGH SCHOOL	14,7	ELEMENTARY SCHOOL	5,4
FOUR-YEAR HIGH SCHOOL	42,7	THREE-YEAR HIGH SCHOOL	8,7
COLLEGE	17,8	FOUR-YEAR HIGH SCHOOL	47,9
UNIVERSITY	20,6	COLLEGE	14,0
		UNIVERSITY	22,9

### 3.4. Measuring instruments

For the purposes of this paper, several simple indicators and one scale were used from the survey. General interest in politics and the frequency of political discussions with family members and friends were measured using single indicators that participants could respond to on a five-point scale (Table 2 and Table 3). The political participation was measured with a scale that comprised nine variables. The participants could answer each offered form of participation whether they exercise it or not (Table 6). Finally, for the purposes of additional analyses, composite variables were constructed to represent the forms of political participation obtained on the basis of latent dimensions determined by factor analysis (Table 7). Composite variables were obtained by summing the participants' affirmative responses to the variables that most strongly saturate the identified factors (Table 8, Table 9, and Table 10). Univariate, bivariate, and multivariate statistical procedures were used in the analysis of the data obtained on the mentioned instruments. Univariate statistical methods describe the percentages of the distribution of responses on the variables used, as well as the arithmetic means and standard deviations. Bivariate analyses (simple analysis of the variance, t-test, correlation

<sup>4</sup> 0.7% of the students did not answer this question. In the continuation of this paper we will not explicitly mention the number of students who did not answer a particular question because it can be calculated on the basis of other data presented in the paper.

analysis) tested the significance of differences between the groups, i.e., the correlation between the variables. Factor analysis was used to determine the existence of latent dimensions within the scale of various forms of political participation.

## 4. Results and discussion

### 4.1. Interest in politics

The participants' overall interest in politics is analyzed first. Political interest is "the degree to which politics arouses a citizen's curiosity" (van Deth, 1989, p. 278 according to Amna and Ekart, 2014, p. 268). Research at the level of Croatia (Ilišin, 2017) found that, in the last thirty years, the percentage of young people who are completely uninterested in politics is growing, from one fourth (24%) in 1986 to over one third (38%) in 2004 and one half (54.3 %) in 2013. The author brings this growing lack of interest into connection with the change in the political system, since the same trend is present in other transition countries. Unlike the overall youth population, in the student subgroup, when comparing the years 1999 and 2010, the interest in politics remained unchanged (Ilišin, 2014).<sup>5</sup> The total lack of interest in politics in 2010 was represented by 43.8% of the students, while a great interest was represented by 14.5% of the students. It should be emphasized that the lowest interest at the national level was expressed by the students in Rijeka and Osijek. In our research, the interest in politics is measured with a more elaborate five-degree scale.

**TABLE 2. GENERAL (LACK OF) INTEREST IN POLITICS (%)**

<b><i>YOU ARE INTERESTED IN POLITICS:</i></b>	
1. NOT AT ALL	25.7
2. I'M NOT INTERESTED	26.1
3. NEITHER INTERESTED NOR UNINTERESTED	22.7
4. MOSTLY INTERESTED	20.2
5. EXTREMELY INTERESTED	5.0
M(SD)	2.53 (1.21)

It is observable from Table 2 that twice as many students claim that they are not interested in politics (categories 1 and 2 = 51.8%) than those who claim that they are interested in politics (categories 4 and 5 =

<sup>5</sup> Ilišin (2014) cites the paradox that the number of political party members doubled (5.3%: 10.7%) in the student population with a simultaneous decline in their interest in politics (2004 - 2013).

25.2%). Furthermore, five times more students claim that they are not interested in politics at all (25.7%) than those who claim that they are extremely interested in politics (5%). When comparing the results of this research and that of Ilišin (2014), we can notice that the share of those who are greatly interested in politics is stably small among the students in Rijeka.

**TABLE 3. HOW OFTEN DO YOU DISCUSS POLITICS (%)?**

	<i>WITH YOUR FAMILY?</i>	<i>WITH YOUR BEST FRIEND?</i>	<i>IN YOUR PEER GROUP?</i>
1. NEVER	7.4	18.6	13.5
2. VERY RARELY	29.3	28.5	32.3
3. OCCASSIONALLY	41.3	36.2	37.3
4. FREQUENTLY	18.9	13.2	12.8
5. ALL THE TIME	2.7	3.0	3.6
M(SD)	2.80 (0.92)	2.53 (1.03)	2.30 (0.99)

The frequency analysis of political discussions within the primary groups (Table 3) indicates that the number of participants who never or very rarely engage in these (categories 1 and 2) is almost twice as large as the number of those who do it frequently or all the time (categories 4 and 5). It can be noticed that the students are more likely to discuss politics more frequently within the family than with their best friend or peer group.

The analysis of the general level of student interest in politics and the frequency of their discussions on politics with family members or friends reveals the existence of statistically significant positive correlations. The correlation ranges from  $r = 0.490^{**6}$  in the context of conversations with family members, to  $r = 0.487^{**}$  in the context of conversation with the best friend, and to  $0.449^{**}$  in the context of the discussions within the peer group. A variance analysis was conducted in order to gain an insight into the relationship between the students' level of interest in politics and the level of frequency of political discussions. We started off from the assumption that family policy discussions are an important aspect of primary political socialization of young people and therefore affect their general interest in politics. On the other hand, we assumed that the level of the students' general interest in politics is, at least

<sup>6</sup> For the sake of saving space wherever possible, the level of statistical significance of the analyses will be indicated by  $^{**}$  ( $p < 0.05$ ) and  $^{***}$  ( $p < 0.01$ ).

partly, responsible for the extent to which they discuss politics with their best friend and within their peer group.

**TABLE 4. TESTING THE DIFFERENCES AT THE LEVEL OF THE STUDENTS' GENERAL PE IN REGARD TO THE FREQUENCY OF POLITICAL DISCUSSIONS IN THE FAMILY**

<i>INTEREST IN POLITICS<sup>7</sup></i>			
<i>HOW OFTEN DO YOUR DISCUSS POLITICS IN YOUR FAMILY?</i>	<i>N</i>	<i>M</i>	<i>SD</i>
1. NEVER	47	1.57	0.950
2. VERY RARELY	186	1.90	0.927
3. OCCASIONALLY	262	2.70	1.078
4. OFTEN	120	3.29	1.198
5. ALL THE TIME	17	3.94	1.345
F <sub>(632)</sub> =50,834**		5≠1,2,3 ; 4≠1,2, 3 ; 3≠1,2	

The results shown in Table 4 indicate that only those students who frequently (4) or all the time (5) discuss politics with their family on average reach the arithmetic mean values above the theoretical average of the scale on the general interest in politics indicator. It is also evident that the students who discuss politics only occasionally (3), very rarely (2) or never (1) on this indicator achieve, on average, the values of the arithmetic mean below the theoretical average of the scale. The results of the analysis of variance and correlation analysis show that primary family political socialization to some extent affects the level of the youth's general interest in politics.

Additional variance analyses were carried out in order to uncover whether there is a correlation between the socio-demographic variables and the level of the students' general interest in politics. These analyses have shown that the size of the settlement in which the participants grew up and the financial status of their families do not affect the level of the students' interest in politics. On the other hand, it turned out that the participants' sex<sup>8</sup> and the level of their parents' education<sup>9</sup> affect the difference in the level of general interest in politics to a certain extent. According to the findings of previous research (Henn and Foard, 2015), women (M = 2.44) show statistically significantly greater disinterest in politics than male

<sup>7</sup> 1. Not at all interested; 2. Mostly not interested; 3. Neither interested, nor interested; 4. Mostly interested; 5. Extremely interested

<sup>8</sup> t=2.351\*\*

<sup>9</sup> Education of the mother F<sub>(632)</sub>= 2.899\*; education of the father F<sub>(632)</sub>= 2.391\*

participants ( $M = 2.67$ ). In addition, the participants whose mothers graduated from university ( $M = 2.79$ ) were statistically significantly less uninterested in politics than the participants whose mothers completed only a four-year high school ( $M = 2.39$ ). The situation is almost identical when the father's level of education is concerned.

#### 4.2. Political participation

Political participation includes "ways in which ordinary citizens try to influence the political decision-making process" (Parry et al. 1992: 39, according to Amna and Ekart, 2014: 269). In the beginnings of the research, political involvement was operationalized only by a single variable – voting. Since 1960 this has included protest engagement in social movements and at the end of the century it includes social engagement and civic participation (Amna and Ekart, 2014). The instrument used in this research included nine forms of political participation, whose results are presented in Table 6.

**TABLE 6. FORMS OF POLITICAL PARTICIPATION (IN %)**

	<i>NO</i>	<i>YES</i>	<i>N/A</i>
ARE YOU A MEMBER OF A POLITICAL PARTY?	92.8	5.7	1.5
IF THE ELECTIONS WERE HELD THIS MONTH, WOULD YOU GO TO THE POLLS?	23.6	73.4	3.0
DID YOU SIGN A PAPER POLITICAL PETITION IN THE PAST YEAR?	57.4	41.3	1.3
HAVE YOU BEEN ACTIVELY INVOLVED IN THE WORK OF A POLITICAL PARTY IN THE LAST YEAR?	95.3	3.6	1.1
DID YOU "LIKE" SOME POLITICAL INITIATIVE ON THE INTERNET IN THE LAST YEAR?	63.5	35.4	1.1
DID YOU COMMENT ON POSTS OF SOME POLITICAL INITIATIVES IN THE LAST YEAR?	87.6	11.1	1.3
DID YOU POST SOMETHING ABOUT A POLITICAL INITIATIVE IN THE LAST YEAR?	94.5	4.2	1.3
DID YOU "SHARE" THE CONTENT OF SOME POLITICAL INITIATIVES IN THE PAST YEAR?	90.2	8.5	1.3
DID YOU ADMINISTERING WEBSITES OF A POLITICAL INITIATIVE IN THE LAST YEAR?	98.1	0.6	1.3

From Table 6 it is evident that only turnout in elections is a widespread form of the students' political participation. Three quarters of the participants (73.2%) expressed their intention to go to the polls, but only a fifth of them had a clear idea of which party they would vote for.



The results coincide with those at the European Union level (Paolini et al., 2018), where three quarters (74%) of young people reported voting in local, regional, national, or EU elections in the past three years. Similarly, Sloam's (2017) data show that three-quarters (75.1%) of young people with a graduate degree participate in voting.

The second political action in terms of frequency is the signing of paper political petitions (42.3%). When comparing these data with those from "old" EU Member States (Sloam, 2016), only young Swedes do this more frequently than our participants. The most widespread action in the new media is "liking" a political initiative on the Internet (35.4%). Each tenth participant commented on the post of some political initiative, and every twelfth "shared" the content of some political initiative on the Internet. Finally, the results show that a relatively small number of students are members of a political party, that even fewer are actively involved in their work, and that the "posting" of the content of some political initiative and administering of political initiative pages are very poorly represented among the students. The share of students who are members of political parties does not differ from the share of membership of EU youth with a university degree (4.5%) in Sloam's research (2017).

On the basis of only the two most widespread indicators (voting and signing petitions) it could be concluded that, compared to the European average, Croatian students are politically active above average. However, we come across a lot of political passivity in other forms of political action. For example, 15.7% of the participants do not participate in either form of political action, while one third (33.1%) does, mostly in voting in elections (28.1%). A quarter of the sample participates in two activities and slightly more (26.1%) in three or more activities. The scope of PE is statistically significantly associated with the interest in politics<sup>10</sup> and policy discussions in primary groups<sup>11</sup>. The number of political actions in which the participant is active increases with the interest in politics and the frequency of political discussions in primary groups. The analysis of correlation between the interest and scope of engagement variables shows a statistically significant correlation between them ( $r = 0.414^{**}$ ) and indicates that there is an equal share of diametric categories in the sample:

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<sup>10</sup>  $F_{(631)}=35.584^{**}$

<sup>11</sup> Discussions in the family  $F_{(631)}=19.768^{**}$ ; with the best friend  $F_{(631)}=18,880^{**}$ ; in the peer group  $F_{(631)}=22.012^{**}$ .

those who are not interested in and do not participate in any activity (12.3%) and those who are interested in and participate in three or more activities (13.1%). Additionally, it is interesting to note that one third of the participants are not interested in politics, but that they nevertheless participate in one (21.3%) or two (11.4%) activities.

A factor analysis was performed in order to determine the manner in which the indicators of political participation of the students are grouped (Table 7). The analysis has shown that the measured aspects of political activity can be grouped into three latent dimensions that together account for 58.53% of the total variance of the instrument. The first factor brings together variables that represent aspects of the “new” forms of political participation such as commenting on posts of political initiatives on the Internet (0.79), publishing political posts (0.77), and “sharing” the content of political initiatives (0.73). The second factor is saturated with variables that test membership (0.78) and active engagement of students in political parties (0.81) as well as administering pages of a political initiative (0.67). The common denominator of the included items is the traditional party engagement.

**TABLE 7. POLITICAL PARTICIPATION - FACTOR STRUCTURE MATRIX (VARIMAX TRANSFORMATION)**

	<i><b>FACTOR 1</b></i>	<i><b>FACTOR 2</b></i>	<i><b>FACTOR 3</b></i>
MEMBERSHIP IN A POLITICAL PARTY	-0.026	<b>0.767</b>	0.232
VOTING IN ELECTIONS	-0.078	0.004	<b>0.723</b>
SIGNING A PAPER POLITICAL PETITION	0.179	0.039	<b>0.693</b>
ACTIVE PARTICIPATION IN THE WORK OF A POLITICAL PARTY	0.217	<b>0.807</b>	0.026
“LIKING” A POLITICAL INITIATIVE ON THE INTERNET	0.444	0.075	<b>0.551</b>
COMMENTING ON POSTS OF A POLITICAL INITIATIVE	<b>0.790</b>	0.144	0.063
PUBLISHING POSTS ON THE PAGE OF A POLITICAL INITIATIVE	<b>0.767</b>	0.199	-0.036
“SHARING” THE CONTENT OF A POLITICAL INITIATIVE	<b>0.729</b>	0.053	0.249
ADMINISTERING WEBSITES OF A POLITICAL INITIATIVE	0.190	<b>0.669</b>	-0.130

The third factor includes variables that at first glance represent a variety of forms of political participation, such as voting in elections (0.73), signing paper political petitions (0.69), and “liking” political initiatives on the Internet (0.55). It should be emphasized that the “liking” item at the same time somewhat less (0.44) saturates the first factor, which, based on “theoretical logic” it should present. It seems that these activities have become an integral part of the dominant political culture and are the prevailing forms of political activity in our country and that, in this context, they may have to be seen as forms of conformist behavior irrespective of their “hybrid” character.

In the continuation of this paper we will analyze the relationship between the general interest in politics, the frequency of political discussion within primary social groups and socio-demographic variables on the one hand, and the variables that represent the three mentioned forms of political participation on the other. In order to gain a deeper insight into the level of student engagement in these forms of political participation for each of the obtained dimensions, a composite variable is constructed, which represents the indices of the total number of student activities in them. The range of results within these composite variables may vary from 0 (the student has not participated in any activity) to 3 (the student has participated in all three activities). The correlation analysis showed that there is a statistically significant but weak correlation between the obtained indices. More precisely, the correlation between the index of traditional party engagement and the index of “new” politics is  $r_s = 0.166^{**}$ , the correlation between the index of traditional party engagement and the index of “hybrid-conformist” engagement is  $r_s = 0.173^{**}$ , and the correlation between the index of “new” and the index of “hybrid-conformist” engagement is somewhat higher than in the previous cases and amounts to  $r_s = 0.362^{**}$ . The correlation between the indicators of the general interest in politics and the mentioned indices is statistically significant but still relatively weak. With regards to the traditional party participation index,  $r_s = 0.166^{**}$ , in the context of the index of participation in “new” forms of political activity  $r_s = 0.332^{**}$ , and with regards to the “hybrid-conformist” index  $r_s = 0.384^{**}$ . In addition, the correlation between the frequency of political discussion within the primary groups and the mentioned indices is also statistically significant, but it is slightly

weaker than in the context of their connectedness with the indicator of the general interest in politics. The index of traditional party politics is extremely poorly correlated with the rate of discussion within the family ( $r_s = 0.091^*$ ), with the best friend ( $r_s = 0.111^{**}$ ), and the peer group ( $r_s = 0.093^{**}$ ).

With regards to the remaining two indices, the correlations are slightly higher than in the previous case, but are still weak. According to previous research (Jennings, Stoker, and Bowers, 2009; Verba, Lehman Schlozman, and Burns, 2005) we find that family discussions affect the political behavior of the participants. Slightly higher correlation values between family political socialization and the hybrid-conformist index ( $r_s=0,219^{**}$ ) suggest a somewhat more important role of the family in transmitting this form of political behavior than the remaining two agents. Discussions with friends and peer groups have a somewhat greater impact on this new PE than discussions with family members, suggesting that this is a political action that is to a greater extent generationally marked.

In the following sections, the connectedness between the socio-demographic variables and types of politics will be analyzed by means of the correlation analysis on the obtained indices, and the relationship between the general interest in politics and the mentioned types of PE will be further examined through t-tests on individual variables from which the indexes are constructed.<sup>12</sup>

#### 4.3. *Traditional party politics*

The index of traditional party politics is a composite variable derived from the sum of results on the variables: membership in a political party, active engagement in a political party, and administration of a page of a political initiative in the previous year. Table 8 shows that as many as nine out of ten participants did not participate in any form of traditional party political activity, and only 7.1% of the participants actively participated in one of these forms. Finally, it can be seen that only 2.4% of

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<sup>12</sup> Since in the obtained indices, the vast majority of the participants (eight or nine out of ten participants in the first two indices) opted for the first category of activity (no activity) and only a very small number of the participants for the remaining three categories, we have decided to analyze the relationship between the general interest in politics and the measured forms of political participation through t-tests on individual variables that were initially used to measure these forms of political activity.

the participants participated in more than one form of such political activity.

The correlation analysis showed ( $r_s$ ) that there is no statistically significant correlation between the index of traditional party politics of the students and the socio-demographic variables, such as the size of the settlement where the students grew up, the socio-economic status of their families, and the level of their parents' education. Interestingly, the commonly observed relationship (Coffé and Bolzendahl, 2010; Paolini et al., 2018) between gender and conventional PE was not determined.

**TABLE 8. INDEX OF TRADITIONAL PARTY PE (%)**

NONE	90.2
ONE	4.7
TWO	1.9
THREE	0.5
N/A	2.7

Several t-tests were conducted in order to investigate the relationship between the general interest in politics and the traditional forms of political action. In all cases, the analysis showed that there are statistically significant differences between those who practice the forms of traditional political activity and those who do not practice them with regards to the level of their general interest in politics. For example, those who did not actively participate in the work of political parties in the last year ( $M = 2.49$ ) on average do not show interest in politics, while those who participated in such activities showed a positive general interest in politics ( $M = 3.61$ ).<sup>13</sup> A similar situation is observable in the context of party membership. Those who have never been members of a political party ( $M = 2.47$ ) on average achieve values below the theoretical average of the scale of general interest policy indicators, while those who are members of a political party ( $M = 3.25$ ) on average achieve values above the theoretical scale average.<sup>14</sup> Finally, the difference in the interest in politics is further increased among those who have administered ( $M = 4.25$ ) the website of some political initiative and those who have not ( $M =$

<sup>13</sup>  $t = -4.401^{**}$

<sup>14</sup>  $t = -3.805^{**}$

2.52)<sup>15</sup> in the last year. Overall, it is evident that the general interest in politics has an effect on the forms of traditional political activity. In all cases, those who have participated in these forms of political participation show, on average, a “positive” general interest in politics, while those who have not, on average, show a “negative” general interest in politics.

#### 4.4. “New” political engagement

The index of new forms of political participation is represented by a composite variable obtained by summing the results on the variables related to commenting on posts of political initiatives, publishing political posts, and “sharing” the content of political initiatives on the Internet.

**TABLE 9. INDEX OF “NEW” FORMS OF POLITICS (%)**

NONE	83.3
ONE	9.0
TWO	3.6
THREE	2.5
N/A	1.6

The results from Table 9 show that eight out of ten participants did not take part in any of the measured “new” forms of political activity. It is observable that a slightly larger share of the participants (15.1%) actively participated in some of the new forms of political action than was the case in the context of participation in traditional forms of party political action. A similar situation applies to those participants who have participated in more than one form of this kind of political activity. It is evident that there are twice as many participants who participated in two or more forms of new political activity (6.1%) than those who participated in two or more forms of traditional party political activity (2.4%).

As it was the case with the traditional party participation index, the correlation analysis ( $r_s$ ) has shown that there is no statistically significant correlation between the index of “new” forms of PE and the socio-demographic variables. The relationship between the general interest in politics and the “new” forms of political action was tested using t-tests. It was once again shown that, in all cases, there are statistically significant differences between politically active and inactive participants. For

<sup>15</sup>  $t = -2.866^{**}$

example, those who commented on posts of some political initiative ( $M = 3.56$ ) seemed to be more interested in politics than those who did not comment on such posts ( $M = 2.40$ )<sup>16</sup>. A similar situation is noticed with “sharing” the content of some political initiative on the Internet. Students who have “shared” ( $M = 3.63$ ) such content are on average more interested in politics than those who have not ( $M = 2.43$ )<sup>17</sup>. The difference in the general interest in politics among those who published a “post” on a political initiative on the Internet ( $M = 4.07$ ) in the past year and those who did not ( $M = 2.46$ ) is somewhat higher than in previous cases<sup>18</sup>. Based on the results presented, it can be noted that general interest in politics even better distinguishes the participants in the context of participating or not participating in the “new” forms of political action than in the context of participating or not participating in the traditional forms of political activity.

#### 4.5. Hybrid-conformist politics

The index of hybrid-conformist forms of political participation is a composite variable obtained by summing the results on the variables relating to voting in elections, signing paper political petitions, and “linking” political initiatives on the Internet.

**TABLE 10. HYBRID-CONFORMIST FORMS OF POLITICS (%)**

NONE	15.0
ONE	36.1
TWO	27.2
THREE	20.3
N/A	1.4

The results from Table 10 indicate that a significantly higher percentage of surveyed students participated in the forms of hybrid-conformist PE than was the case with the forms of traditional party participation and “new” political engagement. Indeed, it can be seen that, in this context, we have a completely different trend than in previous cases. Namely, with regards to this index, the vast majority of the participants (three quarters of them) took part in at least one form of political

<sup>16</sup>  $t = -7.954^{**}$

<sup>17</sup>  $t = -7.931^{**}$

<sup>18</sup>  $t = -9.235^{**}$

participation and only a small number did not participate in any of them (15%). As can be seen from Table 10, every third participant participated in at least one activity, every fourth in two activities, and every fifth in each of the three measured activities.

The correlation analysis ( $r_s$ ) showed that there is no statistically significant correlation between the socio-demographic variables and index of hybrid-conformist forms of PE.

The relationship between the general interest in politics and forms of the students' political action gathered within this index was analyzed with a t-test. Analyses have shown that there are statistically significant differences between active and inactive participants in all the variables from which this index is compiled. However, the tests have shown that the level of general interest in politics cannot as clearly distinguish active and inactive students, as was the case with the variables in the previous two types of political engagement. More specifically, students claiming to vote in elections are on average somewhat less uninterested in politics ( $M = 2.70$ ) than the participants claiming they would not vote ( $M = 1.97$ ). The situation is similar in the context of signing paper political petitions. Those who did not sign a petition in the last year ( $M = 2.29$ )<sup>19</sup> have on average only slightly less interest in politics than those who signed it ( $M = 2.85$ )<sup>20</sup>. Finally, those who have "liked" a political initiative on the Internet ( $M = 3.05$ ) on average show a somewhat greater general interest in politics than those who have not ( $M = 2.24$ ). The average responses of those who have "liked" a political initiative on the Internet are closer to indifference towards politics than to interested in politics.<sup>21</sup> The presented results of arithmetic means that represent this type of politics as well as their comparison with the results of the arithmetic means obtained on the items in the previous two types (traditional-party and "new" political engagement) indicate that the participants do not have to be generally interested in politics in order to vote in the elections, sign a paper political petition, or "like" a political initiative on the Internet.

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<sup>19</sup>  $t = - 7.120^{**}$

<sup>20</sup>  $t = - 5.829^{**}$

<sup>21</sup>  $t = - 8.442^{**}$



## 5. Concluding remarks

The analysis of the students' PE has resulted in a rather colorful picture. The first hypothesis of the low interest, i.e., of the students' predominant lack of interest in politics was confirmed. However, an open doubt remains as to whether the participants have expressed their views with regards to institutional politics. Namely, student engagement in the work of political parties is very low. Politics, and we assume here that this refers to institutional politics, is occasionally or very rarely a topic of discussion in the primary groups in which the respondents participate, more often within the family than a circle of friends. Despite the apparent detachment from party engagement, two thirds of the participants stated they would vote in the elections. However, the majority does not know which political option they would vote for. In regard to the percentage of the general voter turnout in the previous elections in the Republic of Croatia, a high percentage of positive responses should be taken with a degree of doubt. Compared to European results, the activity of signing paper political initiatives is relatively high. "Liking" political initiatives on the Internet is the most widespread form of political action in new media. Although the PE of the participants on the Internet is significantly greater than their party engagement, due to voting information, the second hypothesis in favor of greater participation in new forms of politics is dismissed. We notice that a part (15.7%) of the participants are completely detached from any form of PE, and that almost twice as many participants (28.1%) are politically engaged only in voting in the elections. A quarter of the participants simultaneously participate in both traditional and new forms of political engagement.

The conducted factor analysis extracted three factors, two theoretically expected (traditional and new political engagement) and one somewhat unexpected. The third factor refers to the three most widespread forms of political action: voting in the elections, signing paper political petitions, and "liking" political initiatives on the Internet. Connecting one indicator of traditional and two new forms of PE into a new hybrid factor, points to a pluralization of the participants' political engagement. It should be emphasized that it would be dubious to unquestionably associate the signing of paper political initiatives in Croatia with new forms of political

engagement, since it is often the case with party political actions. A similar case is with “liking” political initiatives on the Internet, which does not have to be connected to initiatives of various associations or civil society organizations. In any case, these forms of political action are a part of the usual, one might also say conformist political actions, because even those who are politically uninterested participate in them.

The existence of opposing forms of participation (H 3a) has not been confirmed, according to which the participation in new forms of PE excludes the participation in the old forms. Due to relatively modest PE in the new media and the broadest conformist political behavior (voting), we could not apply Pippa Norris’s assessment that the youth is “reinventing political activism.”

The family atmosphere manifested in political discussions is connected to the participants’ interest in politics and PE in the forms of hybrid conformist politics, which confirms the importance of primary political socialization. Participation in the forms of new PE is somewhat more pronounced, but still modest and is associated with the frequency of political discussions with friends and peers rather than the frequency of conversations within the family. Socio-demographic variables, sex, and the level of the parents’ education are statistically significant only in relation to the interest in politics, but not in regard to the forms of political action; the fourth hypothesis is therefore dismissed. PE is primarily influenced by the level of an individual’s interest in politics. In other words, the impact of parental transmissions leaves a mark on the general interest in politics, but not on the forms of political engagement.

Exploring the level of political engagement of students, as potentially important stakeholders of political processes in democratic societies, is especially important given the emergence of the paradox of democracy, which is characterized by an increasing dissatisfaction with the work of democratic institutions and an increasing mistrust in the institutions of the political system (Giddens, 2007, p 429-431). This is also vital because of a possible debate on the need to introduce formal education for young people that addresses the functioning of contemporary democratic political systems and the challenges that democracy faces in the late modern era.

This research has several limitations. In the operationalization of new political engagement, not all forms of cause-oriented repertoires of political actions were covered. The emphasis was on the traditional forms of political action, so the questionnaire covered only a part of the range of extra-institutional political actions. The second limitation is related to the absence of research into the forms of political action at the level of the entire population, on the basis of which it would be determined whether and to what extent younger and older generations are different. Furthermore, the sample encompassed only the student population of the University of Rijeka, which comprises students from the Croatian regions (Primorje-Gorski Kotar and Istarska County), whose level of development is above the state average, which, of course, influences the political identity of the region (Boneta, 2004, Mrakovčić, 2015) and most likely also the forms of political engagement.

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## **Politička apatija, sofisticirana političnost ili pluralizacija političke participacije studenata?**

### **Sažetak**

Istraživanja u Hrvatskoj potvrđuju da se političnost mladih mijenja. Iako interes mladih za politiku i politička zbivanja u Hrvatskoj između 1999. i 2004. godine raste, još je uvijek manji nego što je bio u razdoblju socijalizma (Ilišin, 2011), dok istodobno, politička participacija mladih opada. Istraživanja nalaze da su mladi sve skeptičniji prema oblicima tradicionalne političnosti, a otvoreniji prema iskazivanju političnosti kroz nove medije. Rad problematizira utemeljenost oprečnih dijagnoza, kao i teze o pluralizaciji političnost mladih, na temelju istraživanja provedenog među studentima osam sastavnica Sveučilišta u Rijeci 2015. godine (N=635). U radu se analiziraju oblici tradicionalne (članstvo u političkim strankama; izlazak na izbore) i nove političnosti (oblici političkog angažmana na društvenim mrežama) studenata. Rezultati se uspoređuju s političnošću mladih/studenata u europskim i hrvatskim istraživanjima. Rezultati govore o postojanju hibridne političnosti koja uključuje visoku spremnost glasovanja na izborima, potpisivanje peticija na štandu i lajkanje političkih inicijativa na internetu, ali, istovremeno, ukazuju i na vrlo skromni angažman studenta u ostalim, bilo tradicionalnim bilo novim, oblicima političke akcije.

**Ključne riječi:** *mladi, politička participacija, interes za politiku, društvene mreže, studenti*



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## **Social participation in High School: Informed or Practiced Citizenship?**

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### **Abstract**

According to National and European discourses on participation (Andersson et al, 2016; Becquet et al, 2019), young peoples' participation should be enhanced already in the teenage years as an integral part to individuals' socialization processes and outcomes in later life. This discourse is particularly significant and reflecting the Structure of the European Education Systems 2018/19 (the Eurydice model). In this vein, the paper explores school participatory discourse in relation to the regulations and to the development of the participation experience in the Italian national context.

**Key words:** *young people, participation, high school, educational system, discourses on education*

## 1. Introduction

Young people's engagement is often portrayed as apathetic and disengaged from political and social processes. Some scholars state young people are less interested in political matters and less likely to vote, become members of formal organizations such as political parties, and in general as having limited knowledge regarding public issues across the different national and regional contexts (Park et al., 2004). However, other scholars remark that such approaches adopt a narrow concept of youth participation (Marsh, et al., 2007; Manning, 2014) and a deficit approach to youth (France, 2007), neglecting the structural barriers that young people face in their effort to participate in democratic processes.

Moreover, from the "golden age" of 1960's onwards, due to the expansion of mass education, the increased levels of protest and the following gradual recognition of youth as social actors (Coleman 1961; Côté 2014; Furlong 2013), scholars and policy makers have shown increasing interest in young people's civic and political participation in society.

Despite this interest, in most public discourses on youth engagement "participation" has been often interpreted more as a "status" than as a "lived practice" (Lister, 2008). Few attempts have been made to understand "how" young people experience participation considering their living conditions, socio-cultural backgrounds and local contexts of engagement. Other critical studies of youth participation - developed by sociologists and educationalists during the 1970s in different research fields - remark that these developmental discourses, positioning young people as "becoming" rather than "being", have been used to define young people as partial, and deficient in contrast to the complete, and rational adult (James, Jenks, and Prout, 1998; Wyn and White, 1997).

In this sense, what is rarely taken into account is the multi-factorial interrelation between different elements characterizing youth participation and that, concerning in particular the forms of participation in school contexts, interacts also with the important goal of autonomy (also civic and citizen) that the school intends to promote and achieve for each student. From this point of view, participation as "lived practice" becomes an important pedagogical aim of the school (especially the high schools).



Pursuing the directives promoted and encouraged by the Eurydice project, the Italian educational institutions are also trying to take into account this multi-factorial experience embedded in the participation.

The European Education System clearly highlights what it intends to promote through citizenship education, redefining the aims, goals and practices of democratic and civic education (the difference between these two areas is reported in the legislation). As is stated in the first page available on the web site: “Citizenship education is understood, in this report, as the subject area that is promoted in schools with the aim of fostering the harmonious co-existence and mutually beneficial development of individuals and of the communities they are part of. In democratic societies citizenship education supports students in becoming active, informed and responsible citizens, who are willing and able to take responsibility for themselves and for their communities at the local, regional, national and international level.”

What is intended to be promoted in schools it is more similar, at least from a normative point of view, to the concept of participatory practice expressed as “lived practice”. This change of perspective is also useful for trying to define young people no more like “beings in progress” but as (already) active citizens. They are not only subjects “in power” but also (and for this reason) competent citizens who contribute to the change and progress of society (and its meanings).

This way of understanding young people and participation recalls the educational concept of *autonomy*, as defined by the philosopher of education P. Foray when he states that “autonomy is nowadays both a school and a social injunction: students must be trained to “become independent”, citizens are invited to “take up the arm” and be autonomous [...]. Becoming independent means being able to come into spaces where you can meet your peers” (Foray, 2016, p. 9). Foray highlights two fundamental aspects of autonomy in relation to the construction of citizenship.

1. Autonomy is part of a transition path that can be promoted and guided by adults, however,
2. It is not possible to encourage autonomy without enhancing the meeting between peers behind the mediation of the adult world.

Foray goes on developing this concept of horizontal socialization and writes: “the ‘horizontal socialization’ that takes place between the peer group, the age group, or the same generation, and not just between one generation to the one that follows, or between the adults towards the younger ones, it is few mentioned” (Foray, 2016, p. 10). In this way, he revealed that participation is (often) primarily conceptualized as being ‘involved in something’ that is defined (by adults).

The contribution of adult to the definition about “youth participation” is a critical point and an interesting resource in order to research social representation about this topic. In order to describe evidence of this meaning of youth participation, in this contribution we will present some suggestions and reflections starting from an “expert interview” conducted with the Principal of a high school of Bologna addressing the core research questions of an European project (Partispace project Horizon 2020).

The expert interviews collected from the project were conducted with key persons such as members of the municipal council, representatives of local authorities, youth workers, principals of secondary schools and representatives of youth organizations, or youth activists in each partner city. Some of the experts had professional roles but we also interviewed persons with key roles in a more informal way, for example leading figures of informal social movements.

This contribution focuses on the interview with the Principal of secondary school. In fact, it was particularly relevant and it allowed us to understand the difficulties of the school in implementing the elements which could enhance students’ possibility to experience participation as a “lived practice” in the formal context, which from a pedagogical and social point of view some scholars define as a specific and a fundamental stage of “transition to adulthood” (O’Donnell, V. L., and Tobbell, J., 2007).

According to the National and International rules and normative (Eurydice programme)<sup>1</sup>, we consider the civic and political participation of young people as a part of the transition path to the adulthood: as a tool both for exploration and presentation of the ‘own identity in transition’,

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<sup>1</sup> We refer in this specific case to the Eurydice, which each year provides those responsible for education systems and policies in Europe with European-level analyses and information which will assist them in their decision – making and which addresses the theme of participation. ([https://eacea.ec.europa.eu/national-policies/eurydice/index\\_en.php\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/index_en.php_en))

and as a means used by young people to answer the questions “who am I?” and “who do I want to become?” (Spencer et al. 2007; Crocetti et al. 2008; Meeus et al. 2010). However, some contradictions emerged from this interview reflecting the complex balance between students’ autonomy and the scholastic rules (aims and specific norms), which sometimes acts as a barrier in attaining the goal of participation as a lived practice.

Therefore, one of the principal questions emerging from this interview regards the participation promoted in the school. Should participation be promoted as an informed citizenship or practiced citizenship? What is the role of the principal in promoting active participation of young students?

In order to effectively reflect upon this question, this paper is structured as follows:

- overall approach starting from a short explanation of the project background and its main aims according to which we adopted a qualitative approach;
- approaching the fieldwork: consisting in a presentation of the sampling of the experts and in-depth Principal’s interview of the Italian High School;
- some comment and suggestions about the relationship between the European and Italian normative on participation and the educational/school practices emerging from the interview.

## **2. Project Background: “Partispace”**

The interview and analyses that will be presented in this section is part of an ethnographic research work conducted in the framework of the European project Spaces and Styles of Participation - PARTISPACE 2015-2018 (this project receives funding from the European Union's Horizon 2020 research and innovation programme). The project aims at undertaking a comparative analysis on youth participation, in terms of young people’ involvement and engagement in decisions “which concern them and, in general, the life of their communities” (European Commission, 2001a, p. 8).

The reconstructive analysis of young people’ participation starting from the expert interview was one part of the mixed-method and multilevel

approach adopted in the Partispace project and consisted of 7 research phases. Starting from a national research literature reviews, youth policy and discourse analyses and analyses of the youth participation discourse at European level (documents the European Commission, Council of Europe, European Youth Forum), the project included a qualitative local studies in in the eight cities including (Bologna (IT), Eskisehir (TK), Frankfurt (DE), Göteborg (SE), Manchester (UK), Plovdiv (BG), Rennes (FR) and Zurich (CH).

Qualitative research was conducted through mapping youth participation (188 expert interviews, 100 focus groups and city walks with young people) and ethnographic case studies (N=48) of formal, non-formal, and informal practices of youth participation including participatory observation, group discussions and biographical interviews with young people (N=96). At the end of the project a participatory action research was developed by and with young people (N=18) and was a dissemination through local and European advisory boards a supplemented, alongside a video, a training module, a policy brief, evidence papers, newsletters and scientific publications.

The central research question of the project is how and where 15- and 30-year-old young people participate differently across social millieaus and youth cultural scenes and across eight European cities (framed by different national welfare, education and youth policies). What *styles* of participation do they prefer, develop and apply and in what *spaces* does participation take place? Answers to these questions could improve understanding of the complexities and contradictions of youth participation – on the side of policy makers as well as on the side of young people – and thereby help to empower young people in participating in society, renovating concepts, definitions and discourses on what (youth) participation is, could and should be. Corresponding to the work program topic YOUNG- 5a-2014: Societal and political engagement of young people and their perspectives on Europe, PARTISPACE starts from the assumption that social and political engagement and participation develop through practice in everyday life contexts (as school, family, peer groups) and in relation to issues of biographical relevance (turning point, family background etc.). Over recent years, youth work and youth participation have become central elements in the European youth policies as well as in

Italy, especially in school programs. From here stems the possibility to investigate spaces of participation which may or may not be recognised as such by the entities or authorities that regulate youth. The fieldwork was thus characterised by an openness that allowed finding different modes of participation and different styles of promotion and regulation of these (also) scholastic aims.

### **3. Approaching the fieldwork: the expert interviews**

Regarding the promotion of youth work and participation structures, both public and private institutions and associations are involved in Bologna. The municipality plays a central role in supporting the active involvement of youth in the socio-political life of the city. This is often done in collaboration with the provincial and regional authorities. The goal is mainly realized through the support of youth-led or youth oriented initiatives implemented by private actors, such as social and cultural associations, cooperatives, foundations, sport clubs and other organizations. The city's Youth Office is, for example, very important in this context since it functions as a collector of local initiatives and youth engagement's opportunities.

School can be considered as another relevant institutional actor/setting in the local promotion of youth engagement. Beyond fostering youth active citizenship and socio-political inclusion through educational activities, the local schools offer a lot of opportunities of direct engagement to the students in the school councils.

For the purpose of individuation of representation of "youths' participation" in the school, the project included expert interviews with key persons like members of the municipal council, representatives of local authorities, youth workers, principals of secondary schools and representatives of youth organizations, or youth activists in each partner city. These interviews contributed to an overview of spaces and clusters of participation in the urban context and provided access to key actors and settings, while serving as a forum to discuss emerging issues, trend, contradictions.

Moreover, the expert interviews (with city walks, group discussions and local advisory groups that we don't illustrate) constituted

the privileged way in which teams were engaged in the fieldwork. The sampling of the experts followed a set of criteria (documented in the 1st Guidelines), which aimed to create a diverse sample including classic and representative participation settings as well as access to spaces and clusters of participation that might not be immediately described or narrated as youth participations. A general point of departure was the level of institutionalisation within which experts and groups of young people operate (formal, non-formal and informal). The aim was to achieve diversity in terms of levels of formality, both in the ways the groups operated within themselves and in the relation with other groups and social institutions.

There was a set of guideline questions that researchers used to guide the interviews. However, these were only indicative and were not used to break the flow of the conversation or inhibit the interviewee from addressing other issues that were not predicted beforehand by the researcher. As such, the guidelines facilitated the address to the topic whilst at the same time providing the interviewees with necessary discursive space in which they could reflect upon issues related to youth participation not formulated in the interview schedule. The researcher (or researchers) conducting the interview also noted reflections and statements that addressed topics not covered by the interview guide. The table below resumes the amount of expert interviews carried out in each city implemented.

**TABLE 1: SAMPLE OF EXPERT INTERVIEWEES PER LOCAL EUROPEAN CITY**

CITY	EXPERT INTERVIEWS
BOLOGNA	20
ESKIŞEHİR	30
FRANKFURT	26
GOTHENBURG	26
MANCHESTER	21
PLOVDIV	21
RENNES	22
ZURICH	22

Regarding Bologna, the interviews with the Principal of the High School were particularly relevant. The interviews were meaningful in offering the school orientation about topics related to the participation, practices of democratization and socialization in the formal organization. The interview was done in September 2016 and was oriented to the observation of youth participation meaning at the beginning of the school year in order to investigate the elements/factors that promotes/or hinder particular forms of participation in formal context. The next section introduces the exemplary interview illustrating the main approach to forms and issues of participation in a specific Italian formal context (high school).

#### **4. The expert interview on the Italian high school**

The high school “Remi” is one of the leading high schools in Bologna and is embedded in a social context of widespread economic prosperity and cultural sensitivity. The school offers a variety of extracurricular activities, which are interwoven in the curricular offer. The Institute considers them as a key task to assess the achievement of its objectives (also through external assessment) and promotes projects for the certification of pupils’ skills.

Students can stay at school in the afternoon self-managing their activities (with positive results and a lack of significant vandalism) and make use of all school facilities (Copiers, PCs suitable for students, IBW, Interactive Whiteboard...). Still in the field of self-management, students are encouraged and supported in the presentation of specific projects because, like the headmaster said “The school has a good social recognition in the surroundings for the investment of "youth empowerment" that it promotes” and this world highlight important civic and democratic aims of education.

The possibility of realization of students’ participation is in this case strictly connected to specific social status and guided by the influence of a particular family background. In this sense, particularly significant are the Headmaster’s words: “[...] We have a particularly privileged situation here, because, except for very rare circumstances, our students have a family that takes care of them, that cares about them and the value of school education. In our school, there is a sort of, how can I say, a pre-selection,

no wait, I can say it in a better way, there is a sort of self-selection before the beginning because, how can I say it, this is a school that has the reputation of being “very open” to students, welcoming, and in the last few years this has become our characteristic [...]” (Headmaster, September 2016).

Furthermore, the good quality of the institute proposal is demonstrated also by the educational outcomes of the students. Each year, teaching and learning objectives are achieved without great difficulty. Despite being a school that requires a great effort, most of the students have a good school success and teachers are very motivated in their work. Students attending our school (around 1500), come from homogeneous families and apart from a few rare exceptions, these are families who take care of the educational path of their children. Alongside the purely educational and didactic needs, the headmaster also stresses the importance of the moment when they welcome new younger students.

In this sense, the participatory activities described by the headmaster are characterized by a set of proposals – external to the didactic timetable - that the school already starts with the beginning of the school year.

The "structured" sign/trace of the participatory experience is clear from the first days through the organization of this welcome day. Furthermore, as the principal/headmaster’s words suggest, the privileged starting context and the family background of the attending students seem to make it easier to activate "politically" oriented participatory processes. In this sense, the homogeneity of the context, the family origins as well as the economic ones, are described as a fundamental premise of the activation of the participative process.

During the interview, the High school’s Principal states that “students are the owners of the school”. Usually, school is open till 7 p.m. and students can enjoy a lot of and times for discussion (e.g. student associations), meetings (peer-education), social activities (music, gardening, barbecue...). Despite this, when the word goes of students who act joining specific sided wings (i.e. association, collective working group), and of issues such as the occupation of school spaces during school hours, the Principal’s words start showing a very strong authoritative leadership and a full control of the situation: “so... about the occupation,



the last one took place 2 years ago, it lasted a few hours. I made a public announcement saying: tomorrow morning we're going to get the school back [...] you can do whatever you want, but tomorrow morning we're taking it back... and we did it, you know, in a non-violent way, we opened the doors, we all entered, we all went into the classrooms [...] that was the last occupation”.

Particularly from this episode it is possible to detect a risky situation (possible contradiction between normative and practice), that is the tendency of creating spaces of citizenship and participation at school just in order to provide a “ready-made container”, in which students are allowed to express their autonomy and agency just in preconditioned paths (it's not by chance that words like “occupation”, “self-management”, “political party” were introduced in the interview by the researchers and not by the Principal).

Together with formal participation where students have rights and duties, moments of active participation in terms of commitment and decision-making should also be promoted and created both inside and outside school as being a citizen means to be able to carry out a critical and reflective thinking in order to transform society (Di Masi, 2014).

A similar idea of citizenship is defined by McLaughlin as minimal and maximal (McLaughlin, 1992). A “minimal approach” to citizenship education limits itself in providing information about democracy and its institutions, whereas a maximal approach “demands the development of a critical comprehension of social structures and processes, so that they can be called into question, and of “virtues” that enable students to change them” (McLaughlin, 1992, p. 238). The first approach understand citizenship as a legal status, the latter can, instead, be defined as agency-based. Managing this kind of education is a hard task that runs on the delicate balance of the supply of a real space of autonomy within a strongly high controlled and structured context. To rephrase McLaughlin, a “minimal” citizenship education – which is, for example, stated by the Principal's words when he says that “the most important moment for students' growth and participation take place at this age, between 14 and 18” - is a kind of education easily provided and guaranteed within curricula and educational offer. An education promoting students' agency in terms of active participation involves “skating on thin ice” and, thus, it is more

difficult to be detected also within our case study, though it is a school known for being very much committed on promoting students' agency.

## 5. Comments and suggestions

From the Principal's narration emerged some contradictions and ambivalent ideas of social participation in the high school. In fact, weak and not very coherent ideas of "youth participation" experience/opportunity on the formal context came to the fore and these are not consistent with what the regulations promote in order to build citizenship competences.

In this specific case, related as well to the McLaughlin analysis, two critical aspects emerged from the real opportunity to include a critical comprehension of social structures and processes that define the experience participation.

1. From one side, participatory activities in this formal setting are not always adequate as they follow only a standardized agenda and exclude the developmental and educational skills, both in terms of peer interactions and learning process about self-empowerment or emancipation, for example.
2. From the other side, considering participation only as a transition and experience phase aimed at building one's future identity neglect the importance of autonomy and self-empowerment that are inherent to the participatory experiences in the life-phase in which they are realized.

Instead, the concept of "transition to adulthood" which school are expected to support (also according to the National directives), concerns the possibility of developing useful skills for the realization of a citizen identity that acts in the present and involves above all those who are more distant from the possibilities of realizing empowerment and emancipation thanks to development of citizen and psycho-pedagogical skills.

From the point of view of European directives, it also emerges that this kind of participatory learning occurs transversally to other important skills to be acquired. In order to achieve these objectives, citizenship education needs to help students to develop knowledge, skills, attitudes and values in four broad competence areas:

- 1) interacting effectively and constructively with others;

- 2) thinking critically;
- 3) acting in a socially responsible manner;
- 4) acting democratically.

In this vein, the scholastic institution should remember that it isn't without tools or responsibility. For instance, the Eurydice model (The Structure of the European Education Systems 2018/19 – Schematic Diagrams) suggests some answers and adopts other terms like “participation” in order to promote this participative process amongst youth like a way of democracy and autonomy. In the last Eurydice report of 2017, in fact, on citizenship education (Eurydice Report, 2017), we can find several goals for youth participation at school. Four entangled categories are identified:

1. Democratic and civic education (today, after terrorism, there was another important evolution that provides standardization of the civic education in every school degree)
2. Political Literacy
3. Development of values and behaviours for a responsible citizenship
4. Active participation

The first goal refers to the acquisition of theoretical knowledge related to human rights and democracy, as well as the functioning of political institutions and social, historical and cultural aspects of a country (civics). The second goal concerns the development of soft skills including conflict management and non-violent resolution skills. The third concerns the development of skills necessary to achieve an active, critical and responsible commitment in the school and community life, including opportunities for direct forms of participation. These goals are provided within the Italian school system with forms of students’ participation both in school life and as an informed citizenship. Each institute, according to these indications, should facilitate different forms of students’ participation both within the formal bodies and in self-managed spaces. Democracy is a “right and duty” to be learnt and practiced every day and school could be the ideal place for that.

There are two main goals within the Italian school legislation:

- at individual level, the development of self-consciousness and agency within the educational trajectory and in the construction of an identity

as a citizen;

- at collective level, the development of soft skills finalized to collaboration, debate and coexistence in a community.

School (as family in a different way), is defined as the first space of community, in which to practice confrontation and as a social space in which forms of participation and democracy are experienced. The balance between “minimal” and “maximal” approach (McLaughlin, 1992) is very delicate and promoting a real agency in term of participation seems to be still a very complicated task.

In the light of all the above mentioned, we do not offer a new typology of participation. Instead, what is described are a few examples of how nodes of ‘participation’ might be explored and opened up in order to illuminate contradiction and the distance between narration and practice and intention and reality in the educational field. The example chosen is not chosen for its typicality but because of the representative insights they yield. These cross cutting themes - participation, education, autonomy - which have emerged from our interview can be taken as a basis to contemplate upon how “youth participation” might be reflected in democratic, innovative and “active” educational practices.

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## **Društvena participacija u srednjoj školi: Informirano ili uvježbano građanstvo?**

### **Sažetak**

Sukladno raspravama o participaciji na nacionalnoj i europskoj razini, (Andersson i dr., 2016; Becquet i dr., 2019), participacija mladih ljudi trebala bi se poticati već u tinejđerskim godinama kao sastavni dio procesa socijalizacije pojedinaca te ishoda u daljnjem životu. Ova rasprava je iznimno važna te reflektira Strukturu europsih obrazovnih susava 2018/19 (Eurydice model). U tom pogledu, ovaj rad istražuje participativni diskurs u odnosu na propise i razvoj participacije u talijanskom nacionalnom kontekstu.

**Ključne riječi:** *mladi, participacija, srednja škola, obrazovni sustav, obrazovni diskursi*



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## **Policies Regulating Minority Education: The Case of Slovenia**

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### **Abstract**

In Slovenia, three national minorities are recognized (Italian, Hungarian and Roma), who enjoy different collective rights. However, there are also immigrants or "new" minorities present in Slovenia. The members of this group mainly consist of immigrants from the countries of the former Yugoslavia. They are mostly economic migrants and refugees who came to Slovenia during the war in the Balkans and remained (Ribičič, 2004). In recent years, however, the number of migrants who came to Slovenia from the Middle East has also been increasing (EMN, 2017). Many surveys show that there usually exist differences in school achievements between various ethnic groups or minorities in a country and students belonging to the majority population (Luciak, 2006), therefore countries need to ensure an inclusive and equal educational experience for all students. In the light of these changes, the objective of the article is to analyse and compare the policies in the field of established national minority education and immigrant or "new" minority education and to determine elements of specific policy models used in Slovenia in the field of education for each of the Slovenian minorities.

**Keywords:** *minority rights, Slovenia, "new" minorities, national minorities, minority education policies*

## 1. Introduction

Education of minorities is an important process for the minorities themselves and for the majority population (Rončević, 2009). For minorities, the appropriate educational policies can define their role in the wider society and help them keep their identities. For the majority population and the economy in general well-functioning educational system, which ensures equity in education and inclusion for all, can play an important role in social integration and transition to an innovative society based on knowledge. However, institutional education can have two-fold effect for minorities: on the one hand, it is seen as an opportunity to move upward on the social scale, on the other hand, it can also reproduce the inequality with its discriminatory practices (Bourdieu and Passeron, 1977; Coleman et al., 1966). Many surveys show that migrant and minority students tend to enroll in schools with lower academic demands, they tend to drop out of school and demonstrate lower educational performance (Fekjaer, 2007; Heath and Brinbaum, 2007; Kalmijn and Kraaykamp, 2003; OECD, 2016). On the other hand, there are also minority groups which tend to do much better than the majority population (Heath, Rethon and Kilpi, 2008).

In recent years the European Union has implemented new legislation enforcing equity and non-discrimination, which also covers the field of minority education (Luciak and Binder, 2005). Meanwhile, the picture of regulating minority education across European Union is highly diversified with various more or less successful educational approaches targeting cultural and language diversity, which is believed to be a consequence of different types of minorities existing in the EU (Luciak, 2004; Luciak, 2006; Luciak and Binder 2005). Broadly, we can divide them into two major groups: autochthonous and allochthonous minorities (Menendez and Olsen, 2019; Andreß and Careja, 2018):

1) Autochthonous minorities are minority groups who are either indigenous or have settled in the countries a long time ago and can be referred to also as national minorities, linguistic minorities or ethnic minorities. The status of these minorities varies among countries – they can be officially recognised as a minority group with special rights and privileges, some have certain language rights, others do not have any special rights, the same



minority can be recognised as a minority in one country but not in another (e.g. Roma), also the size of these minorities varies considerably among countries (Luciak and Bidner, 2005).

2) Allochthonous minorities can be referred to as immigrants or “new” minorities. Many EU countries (mainly old member countries) have long-established immigrant communities, on the other hand, there are some countries (mainly new member countries) recently confronted with an increase in migration resulting in higher numbers of immigrants. Again, there are several differences in size, type and ethnic composition of the immigrant groups (Luciak and Binder, 2005; Andreß and Careja, 2018).

All these differences make all comparisons between countries rather difficult. However, there is a trend in the European Union where the differences in regulating autochthonous and allochthonous minority policies are more and more evident (Luciak, 2004; Luciak, 2006; Luciak and Binder, 2005; Rončević, 2009). In his research, Luciak (2006) recognizes three different approaches to the regulation of minority educational policies in the EU (Luciak, 2006), namely:

- minority schooling for established minorities,
- language (and cultural) programs for migrants and descendants,
- intercultural education approaches, which target minority and majority students.

For the purpose of this article, we named these three approaches: 1) the education policy model for autochthonous minorities, 2) policy models that provide targeted assistance and 3) policy models of establishing an intercultural environment, which includes all - the majority students and all minorities (autochthonous and allochthonous).

The education model for autochthonous minorities provides autochthonous minority education, which maintains and supports the learning of minority language and culture and often includes the learning of the majority language and culture (Luciak, 2006). Members of minorities are included in special minority schools, where instruction is conducted in minority language or is bilingual (in minority and majority languages).

Policy models that provide targeted assistance mostly include educational programs for allochthonous minorities (“new” minorities or immigrants), for example, special linguistic (and cultural) programs, and

serve primarily for the integration of migrants and their descendants into a majority society, and offer the learning of the mother tongue as a second language (Kislev, 2016). These programs focus on the specific needs of migrants and directly assist them in the difficulties they face. They include separate language learning lessons and additional classes in subjects, where migrant students face difficulties to reach standards set by the recipient country (Crul, Schneider, and Leile, 2013; Gofen, 2009, Gofen and Blomqvist, 2013).

The model of establishing an intercultural environment is intended for all pupils, with the aim of deepening the understanding and respect for others, for different cultures, reducing prejudices, raising awareness of discrimination and inequality, and promoting debate on different views and practices based on different cultures (Kislev, 2016). This approach promotes the integration of minorities into a majority society, while members of the minority as well as members of the majority learn about and accept the culture of each other.

The research shows that the education model for autochthonous minorities is the central characteristic of minority education policies in new member countries (Eastern European countries) (Luciak and Binder, 2005). The majority of these countries focus on regulating educational policies for their autochthonous minorities and to a certain extent for Roma minority. These minorities are historically present in these member countries, and they enjoy high protection in international and national legislation (Rončević, 2009). At the same time, these countries struggle to establish suitable regulation in the field of allochthonous minority education (Luciak, 2006). On the other hand, the model of targeted assistance in the form of (native and second) language education is more predominant in old member countries (Western European countries) due to long-established immigrant communities present, even though the quality of the programmes and the quality of teacher training in this field differs considerably among countries (Luciak and Binder, 2005). Additionally, the model of establishing intercultural environment through intercultural education has been mostly discussed in the old member countries. However, the approach is not yet adequately implemented (Luciak, 2006). Nonetheless, in order for the educational system to achieve equity and equality for all students regardless of their ethnic background,

it needs to introduce anti-discrimination policies, effective language support programmes, intercultural curriculum and ethnic diversity among the teaching staff (Luciak and Binder, 2005).

### *1.1 Minorities in Slovenia*

Slovenia recognizes three national minorities (autochthonous minorities), namely Italian, Hungarian (which are also autochthonous minorities) and Roma. In terms of individual rights, the Slovenian constitutional arrangement provides every individual with the right to express national affiliation freely, cultivate their own culture and use their own language and script irrespective of their nationality. Besides these collective rights, the Italian and Hungarian minorities have additional special collective rights. They are the free use of symbols as a possibility to develop their own education and to be educated in their own language, they are free to nurture and develop relations with their motherland, they are free to establish self-governing communities, they have representation in different bodies, and they need to give consensus in the adoption of regulations that relate to their rights (Ribičič, 2004). It can be observed that Italian and Hungarian minorities enjoy extensive rights whereas the Roma do not enjoy all of the above-listed special collective rights, but only some of them, for example, representation in municipal councils. Moreover, the special collective rights for the Italian and Hungarian minority are determined by the Slovenian Constitution, whereas the special collective rights for the Roma minority are determined by a special law.

On the other hand, in Slovenia, there are also "new" minorities or immigrants (allochthonous minority), who are predominately immigrants from the countries of the former Yugoslavia. They are mostly economic migrants and/or refugees who came to Slovenia during the war in the Balkans and then remained (Ribičič, 2004). In recent years, however, the number of refugees who are coming to Slovenia from the Middle East (EMN, 2017) has been increasing. Despite the fact that the number of members of the »new« minorities is significantly larger than number of members of the Italian and Hungarian minorities, they do not enjoy any special collective rights as enjoyed by the Italian and Hungarian national communities, and partly by the Roma, however, they do enjoy all individual rights (Ribičič, 2004). There are some aspirations in Slovenia

that the policies regulating the field of allochthonous minorities would be similar to the ones regulating the field of autochthonous minorities. However, this is close to impossible due to several reasons (dispersion of the settlement, inhomogeneity of the group members, etc.) (Komac, 2007). Therefore, there emerges a need to establish a new, successful model of minority education. Based on her research, Vižintin (2014) proposes a model for the implementation of intercultural education in Slovenian schools, which covers seven areas: (1) understanding interculturalism as a pedagogical-didactic principle, (2) development of systematic support for the successful integration of immigrant children, (3) teachers with evolving intercultural competence, (4) the development of a multicultural society awareness in all school subjects, (5) the development of intercultural dialogue at school, (6) cooperation with (parents) immigrants and (7) cooperation with local community.

The objective of our research, therefore, was to analyse and compare the policies in the field of autochthonous minority education and allochthonous minority education in Slovenia, to determine which of the above-mentioned models is in use in the field of education for each of the Slovenian minorities, especially which model is in use for Roma minority and for “new” minorities.

## 2. Methodology

The approach chosen to research the policies in the field of minority education in Slovenia was an in-depth document content analysis. Based on the Bengtsoon's (2016) methodology for content analysis, which was slightly adapted<sup>1</sup> for the needs of our analysis, we defined the aims of the analysis, choice of data collection method, and the type of analysis method in the planning phase of the analysis. The aim of our analysis was to answer our four research questions: (1) Which are the rights granted to Slovenian minorities; (2) Are there any special measures connected to learning activities during classes for the members of minorities?; (3) How does the legislation provide for the financing of the minority education in Slovenia?; (4) How do all of the minority education elements mentioned

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<sup>1</sup> Stages of defining the sample and units of analysis and practical implications were left out since we analysed the legal documentation.

in previous research questions of differ between different national minorities in Slovenia? The data collected for the analysis were several legal and non-legal documents, which mention education in general and minority education or education of migrant children, in the field of education and wider<sup>2</sup>, the analysis method chosen was qualitative content analysis.

In stage one of our analysis (the decontextualization phase), we familiarised with the documents, we read them through and marked the parts where different groups of minority students in question were mentioned. In the second stage of the analysis (the recontextualization phase), we reread the documents, with special attention to marked parts and with consideration if the marked text answers our research questions. Afterwards, we divided the marked text based on the type of the legal document it was found in and focused on the minority it refers to. In the third stage (the categorisation), we assigned the common categories to each part of the marked text in the selected documents. We identified several categories: right to develop their own education agenda, right to establish minority schools, right to use mother tongue in the process of education, learning of Slovene language, right to learn about their own (minority) culture, textbooks, the number of students in a class, additional support at learning, grades and national examinations, in-service teacher training, special projects in the field of education and financing. Moreover, we combined these categories into four different themes: legal basis, special rights in the field of education, factors connected to learning activities and system-level resources. At this stage, we also introduced the quantification of qualitative analysis results for the theme legal basis. In the final stage of

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<sup>2</sup> Act on Organization and Financing of Education and other legislation and regulations governing this area (1996), Act on Self-Governing National Communities (1994), Basic School Act (1996), Constitution of the Republic of Slovenia (1991), Foreigners Act (2011), Guidelines for the integration of migrant children (2009, 2011, 2012), Rules on the norms and standards for the implementation of the elementary school program in bilingual basic schools and basic schools with Italian language of instruction (2005), Rules on national assessment in elementary school (2013), Instructions for the implementation of the basic school program for Roma students for the 9-year basic school (2000), Law on Roma minority in the Republic of Slovenia (2007), Law on Special Rights of the Italian and Hungarian National Communities in the Field of Education (2001), National Program of Measures for Roma for the period 2017 – 2021, Program of measures to help Roma in the Republic of Slovenia (1995), Regulation on the Integration of Foreigners (2008), Rules on the assessment, grading and advancement of pupils in primary school (2013), Strategy for the education of Roma in the Republic of Slovenia (2004) and its updates (2011), Strategy for the integration of migrant children and students (2007), Strategy of economic migrations (2010), White paper (2011)

our analysis (the compilation), which will be in detail presented in the following part of the articles (see Results), we were particularly interested in the imbalances between rights provided to different minorities in Slovenia.

### **3. Results**

#### *3.1 Legal basis*

The document analysis has shown that Slovenian Constitution provides free basic education, which is obligatory and publicly financed to everyone (Article 57) and that everyone has the right to freely express affiliation to his/her nation or national community and to cultivate and express his/her culture, use his/her own language and script (Article 61). Regarding the minority education, Article 5 provides and ensures special protection of the rights of Italian and Hungarian autochthone minorities, Article 11 states that beside Slovenian language Italian and Hungarian languages are official languages in the areas where Italian and Hungarian minorities live, and Article 64 states special rights of Italian and Hungarian minorities, which include the right to education in mother tongue and the right to develop education in the mother tongue. The Roma minority is in the constitution mentioned in Article 65, where it states that the position and rights of this minority are determined by a special law. “New” minorities are not directly mentioned in the Slovenian Constitution.

There are two special laws regulating the Italian and Hungarian minority rights, one being the Act on Self-Governing National Communities, which was adopted in 1994 and Law on Special Rights of the Italian and Hungarian National Communities in the Field of Education, which was adopted in 2001, and provides the legal basis for the separate development of education of Italian and Hungarian minority. The Law on Roma minority, which determined the position and the special rights of Roma minority and was mentioned in Article 65 of the Constitution, was adopted in 2007. It mentions the field of education in Article 4, stating that the Republic of Slovenia creates the conditions for inclusion of the members of Roma community in the educational system in order to raise the educational level of members of Roma community, and that it ensures suitable scholarship policy.

TABLE 1. LEGAL BASIS

	<i>ITALIAN NATIONAL MINORITY</i>	<i>HUNGARIAN NATIONAL MINORITY</i>	<i>ROMA NATIONAL MINORITY</i>	»NEW« <i>MINORITIES/ IMMIGRANTS</i>
<b>CONSTITUTION OF THE REPUBLIC OF SLOVENIA</b>	2 ARTICLES <sup>3</sup>			
	3 ARTICLES <sup>4</sup>		1 ARTICLE <sup>5</sup>	/
<b>SPECIAL LEGISLATION FOR THE EDUCATION OF MINORITIES (ACTS/LAWS)</b>	1 GENERAL DOCUMENT <sup>6</sup> + 1 DOCUMENT SPECIFICALLY REGULATING THE EDUCATION OF ITALIAN AND HUNGARIAN MINORITY <sup>7</sup>		1 GENERAL DOCUMENT <sup>8</sup>	/
<b>OTHER LEGISLATION (ACTS/LAWS/ REGULATIONS)</b>	2 MAIN DOCUMENTS <sup>9</sup> + SEVERAL OTHERS GOVERNING THIS AREA			
				2 DOCUMENTS <sup>10</sup>
<b>OTHER NON-BINDING DOCUMENTS (WHITE PAPER, INSTRUCTIONS, STRATEGIES ETC.)</b>	WHITE PAPER: 1 SPECIAL CHAPTER		WHITE PAPER: NO SPECIAL CHAPTER – MENTIONED INDIRECTLY	
			5 ADDITIONAL DOCUMENTS <sup>11</sup>	4 ADDITIONAL DOCUMENTS <sup>12</sup>

There are several laws and other legislation and regulations regulating the area of education that also cover minority education, Basic School Act and Act on Organization, and Financing of Education being

<sup>3</sup> Article 57: Education is free, basic education is obligatory and is publicly financed; Article 61: Everyone enjoys the right to freely express affiliation to his nation or national community, to cultivate and express his culture and use his own language and script.

<sup>4</sup> Article 5: The state of Slovenia protects and ensures the rights of Italian and Hungarian autochthone minorities; Article 11: Beside Slovenian language Italian and Hungarian languages are official languages in the areas where Italian and Hungarian minority live.; Article 64: special rights of Italian and Hungarian minority, which include the right to education in mother tongue and the right to develop education in the mother tongue

<sup>5</sup> Article 65: the position and the rights of the Roma minority is determined by a special law

<sup>6</sup> Act on Self-Governing National Communities (adopted in 1994)

<sup>7</sup> Law on Special Rights of the Italian and Hungarian National Communities in the Field of Education (adopted in 2001)

<sup>8</sup> Law on Roma minority in the Republic of Slovenia (adopted in 2007)

<sup>9</sup> Basic School Act, Act on Organization and Financing of Education

<sup>10</sup> Foreigners Act, Regulation on the Integration of Foreigners

<sup>11</sup> Instructions for adapting the basic school program for Roma pupils (1993), Program of measures to help Roma in the Republic of Slovenia (1995), Instructions for the implementation of the basic school program for Roma students for the 9-year basic school (2000), Strategy for the education of Roma in the Republic of Slovenia (2004) and its updates (2011), National Program of Measures for Roma for the period 2017 - 2021 (continuation of the National Program of Measures for Roma for the period 2010 - 2015)

<sup>12</sup> Strategy for the integration of migrant children and students (2007), Guidelines for the integration of migrant children (2009, 2011, 2012)

two of them. The organisation of education for new minorities or immigrants is additionally mentioned also in the Foreigners Act and Regulation on the Integration of Foreigners.

Moreover, White paper on education covers the Italian and Hungarian educational system in separate chapters whereas Roma minority and immigrants are mentioned in parts of the White paper where the respect of different cultures and multiculturalism is mentioned. Often both minorities are mentioned together. Moreover, there are several other documents, such as instructions, strategies, guidelines, etc., regulating the field of Roma and immigrant education.

Table 1 provides the numerical summary of the information on the legal basis set for the education of minorities in the Constitution of the Republic of Slovenia, special legislation regulating the field of minority protection, legislation in the field of education and other binding and non-binding documents (such as the White paper on education, different strategies, guidelines, instructions etc.). As we can see, the education of Italian and Hungarian minorities is regulated principally in Constitution and laws as opposed to education for Roma and “new” minorities, which is regulated mostly through strategies and instructions. Moreover, there is an imbalance in favour of the Italian and Hungarian minorities in the number of mentions of the education of Italian and Hungarian minorities in the legally binding Slovenian legislation.

### *3.2 Special rights*

The rights that are important for minorities to preserve their identity are defined as special rights in the field of minority education. These include the right to design and develop education, the right to establish basic schools, the right to use the mother tongue in the education, Slovene language learning, and learning about minority culture. The analysis showed that Italian and Hungarian minorities are very much involved in the design and development of their own education, there is a representative of both minorities in the Council of Experts of the Republic of Slovenia for General Education, and both minorities can even establish schools in the areas where Italian and Hungarian minorities live. On the other hand, the Roma national minority cannot establish their own schools. They do however have some say in the design and development of their



own education. Roma Association participated in the preparation of the Strategy for the Education of Roma. The learning language in Italian basic schools is Italian, and the second obligatory language is Slovene. Moreover, also for the Slovenian students living in the area where the Italian minority live, the Italian language is an obligatory second language. On the other hand, the learning languages in Hungarian basic schools are both Slovenian and Hungarian. Regarding the Roma language, the White paper suggests that it should be offered as an optional subject if it is the language of the environment. There is no legal basis for this, only a recommendation. The Strategy for Education of Roma provides two solutions for learning the Slovene language: inclusion of children in pre-primary programmes and a Roma assistant at basic schools. New minorities or immigrants can be provided with the possibility to learn their mother tongue in cooperation with countries of origin. Moreover, there are funds for the organisation of learning the mother tongue and Slovenian language for migrant children in the state budget. Besides, international students are offered additional professional help in basic schools for learning the Slovene language.

Among the aims in the Law on Special Rights of the Italian and Hungarian National Communities in the Field of Education, there is conservation of Italian and Hungarian language and culture. Moreover, the learning about their own culture is embedded in the educational process being conducted in their mother tongues. In terms of learning about the minority culture, schools can offer Roma culture as an optional subject, whereas new minorities or immigrants can be provided with the possibility to learn about their culture in cooperation with countries of origin.

Table 2 provides a summary of the information gathered with content analysis in the field of special rights, such as the right to design and develop an education agenda, establishing basic schools, use of mother tongue in the education, Slovene language learning and learning about a minority culture. Again, the imbalance in favour of Italian and Hungarian minority education is evident. Both minorities have substantial rights in the field of developing their own education agenda and the use of mother tongue. Moreover, for Italian and Hungarian minorities the rights in the

**TABLE 2. SPECIAL RIGHTS**

	<i>ITALIAN NATIONAL MINORITY</i>	<i>HUNGARIAN NATIONAL MINORITY</i>	<i>ROMA NATIONAL MINORITY</i>
<b><i>THE RIGHT TO DESIGN AND DEVELOP AN EDUCATION AGENDA</i></b>		YES	TO A MINIMUM
<b><i>ESTABLISHING BASIC SCHOOLS</i></b>		YES	N
<b><i>USE OF MOTHER TONGUE IN THE EDUCATION</i></b>	YES (LEARNING LANGUAGE IN ITALIAN BASIC SCHOOLS IS ITALIAN.)	YES (LEARNING LANGUAGES IN HUNGARIAN BASIC SCHOOLS ARE HUNGARIAN AND SLOVENE.)	SUGGESTED AS SUBJECT IF IT IS LANGUAGE OF THE ENVIRONMENT
<b><i>SLOVENE LANGUAGE LEARNING</i></b>	THE SLOVENE LANGUAGE IS AN OBLIGATORY SECOND LANGUAGE (IN ITALIAN MINORITY SCHOOLS)	LEARNING LANGUAGES IN HUNGARIAN BASIC SCHOOLS ARE HUNGARIAN AND SLOVENE.	2 PROPOSED SOLUTIONS TO FACILITATE THE LANGUAGE LEARNING - INCLUSION OF CHILDREN IN PROGRAMME - ROMA ASSISTANCE
<b><i>LEARNING ABOUT MINORITY CULTURE</i></b>	LAW ON SPECIAL RIGHTS OF THE ITALIAN AND HUNGARIAN NATIONAL COMMUNITIES IN THE FIELD OF EDUCATION: AMONG AIMS, THERE IS CONSERVATION OF ITALIAN AND HUNGARIAN LANGUAGE AND CULTURE LEARNING ABOUT CULTURE EMBEDDED IN THE EDUCATIONAL PROCESS		SCHOOLS CAN OFFER SUBJECT ROMA CULTURE

<sup>1</sup> Basic School Act, Article 8

<sup>2</sup> Act on Organization and Financing of Education, Article 81

<sup>3</sup> Act on Organization and Financing of Education, Article 81

<sup>4</sup> Basic School Act, Article 8

field of education are systematically implemented, whereas the rights for Roma minority and immigrants or “new” minorities are mostly set in different strategies and instructions and therefore stay on the level of optional subjects, proposed solutions and possibilities.

### *3.3 Factors connected to learning activities*

In the theme named factors connected to learning activities in the field of minority education, several concepts are included: textbooks used, the number of students to create the class, additional professional help offered, assessment and national examination process, and teachers and their professional training in the field of minority education.

The textbooks for the Italian national minority are provided in the Italian language, whereas the textbooks for the Hungarian minority are provided in Hungarian and Slovene languages. The textbooks for Roma national minority and new minorities are provided only in the Slovene language. The number of students to create a class in Italian basic schools and Hungarian basic schools are 21 students, which is smaller than the number of students to create a regular class in a Slovenian school, which is 28. If there are three Roma students in the class, the number of students falls to 16. If there are members of new minorities in the class the number of students to create, the class stays the same.

Roma students are offered additional professional help through a Roma assistant and Roma educational incubators in Romani settlements. Roma assistant is a person at a school who provides emotional and linguistic support to Roma children, he/she establishes and maintains contacts with Roma parents, cooperates in the design of different measures to increase the Roma students’ achievements, helps school professionals in activities aimed at better integration of Roma students, promotes the importance of education in Romani settlements, organises activities for Roma children and their parents in Romani settlements, etc. (CŠODa). Roma educational incubators, on the other hand, are sometimes organised as spaces with content-based programmes or as programmes that take place at school or at students’ homes. They provide programmes for personal growth in different areas, such as student achievement, informal education, developing personal interests, etc. for Roma youth (CŠODb). Both activities are financed through different projects.

For new minorities or immigrant children who join basic school, an introductory workshop of 20 hours is organised before entering basic school. Moreover, additional professional help for the learning of Slovene language is provided at school.

The assessment at Italian and Hungarian basic schools is the same as at regular schools. However, students at the minority schools can choose to be tested in their own mother tongue (Italian or Hungarian) instead of Slovene at national examinations. On the other hand, modes and deadlines of assessing knowledge, the number of grades etc. can be adapted for immigrant students. There can be no assessment in the first year when the minority student joins the basic school. This is organised in agreement with parents and decided upon by the teachers' council. The adjustment can last up to a maximum of 2 years. Moreover, national examinations are voluntary if migrant children joined the basic school in ISCED 2 and if their mother tongue is not Slovene. For Roma students, the assessment and national examinations are the same as for Slovene students.

Teachers in Italian basic schools need to be fluent in Italian as a language of instruction. On the other hand, the teachers in Hungarian schools need to be fluent in both, Hungarian and Slovene, as languages of instruction. In addition, in the course of recruitment the Hungarian schools must ensure a proportional representation of professional staff from the Slovenian and Hungarian national communities. There are no provisions in terms of language knowledge for teachers who teach Roma students or students who are members of "new" minorities. For teachers, there are various seminars of continuous professional training offered by different institutions, who provide support and training in the field of education of Roma and immigrant students. Similarly, to the aforementioned, also in Table 3, the imbalance in favour of Italian and Hungarian minority is evident. Both minorities can be assessed in their own language. Moreover, for these students the language of instruction is always mother tongue. The rights regulating factors connected to learning activities for Italian and Hungarian minority are systemically implemented (these regulations can be found in different laws and rules), whereas for Roma and "new" minorities these arise from different strategies and instructions, which are not legally binding (are written in different strategies and instructions).

**TABLE 3. FACTORS CONNECTED TO LEARNING ACTIVITY**

	<b>ITALIAN NATIONAL MINORITY</b>	<b>HUNGARIAN NATIONAL MINORITY</b>	<b>ROMA NATIONAL MINORITY</b>
<b>TEXTBOOKS</b>	IN ITALIAN	IN SLOVENE AND HUNGARIAN	IN SLOVENE
<b>NUMBER OF STUDENTS TO CREATE A CLASS</b>	- 21 STUDENTS (AS OPPOSED TO 28 FOR A REGULAR CLASS) - 16 STUDENTS IF THERE ARE 3 ROMA STUDENTS IN THE CLASS		- 21 STUDENTS IF THERE ARE 3 ROMA STUDENTS IN THE REGULAR CLASS - 16 STUDENTS IF THERE ARE 3 ROMA STUDENTS IN THE REGULAR CLASS OR HUNGARIAN BASIC SCHOOL
<b>ADDITIONAL PROFESSIONAL HELP</b>	NO SPECIAL MEASURES	NO SPECIAL MEASURES	- ROMA ASSISTANT - ROMA EDUCATIONAL INCUBATORS IN ROMANIAN SETTLEMENTS
<b>ASSESSMENT AND NATIONAL EXAMINATIONS</b>	NATIONAL EXAMINATIONS: ITALIAN LANGUAGE TEST	NATIONAL EXAMINATIONS: HUNGARIAN LANGUAGE TEST	THE SAME AS FOR ALL STUDENTS
<b>TEACHERS</b>	FLUENT IN ITALIAN AS A LANGUAGE OF INSTRUCTION	FLUENT IN HUNGARIAN AND SLOVENE AS LANGUAGES OF INSTRUCTION + PROPORTIONAL REPRESENTATION	
<b>ADDITIONAL PROFESSIONAL TRAINING FOR TEACHERS</b>			VARIOUS SEMINARS OF COURSE PROVIDED BY VARIOUS INSTITUTIONS

### 3.4 System-level resources

System-level resources cover special projects in the field of education and sources of financing. Table 4 provides a summary of information on the system-level projects and system-level financing of the minority education.

As we can see, there are four different projects in the field of Roma education and seven different projects in the field of immigrant education that are financed by the Ministry of Education, Science and Sport and that provide support for all – Roma and immigrant students and teachers. Besides financing through projects, additional learning support for Roma and immigrant students, 20-hour introductory workshop for immigrant students, as well as in-service training for teachers are financed or co-financed by the ministry. On the other hand, the education for Italian and Hungarian national minorities is financed from the state budget.

**TABLE 4. SYSTEM-LEVEL RESOURCES**

	<i>ITALIAN NATIONAL MINORITY</i>	<i>HUNGARIAN NATIONAL MINORITY</i>	<i>ROMA NATIONAL MINORITY</i>	<i>»NEW« MINORITIES/ IMMIGRANTS</i>
<i>SPECIAL PROJECTS IN THE FIELD OF EDUCATION</i>			4 DIFFERENT PROJECTS FINANCED BY THE MINISTRY OF EDUCATION, SCIENCE AND SPORT	7 DIFFERENT PROJECTS FINANCED BY THE MINISTRY OF EDUCATION, SCIENCE AND SPORT
<i>FINANCING</i>	FROM THE STATE BUDGET		MOSTLY THROUGH PROJECTS, TO A LESSER EXTENT ALSO FROM THE STATE BUDGET	

## 4. Discussion

As can be seen, the Italian and Hungarian national minorities in Slovenia have a rather similar regulation of educational policies. The rights of both minorities derive from the Constitution, where both minorities are specifically protected, moreover, the Constitution gives both the right to use mother tongue in education. In the area of special rights in education, it can again be seen that Italian and Hungarian national minorities enjoy high protection – they can develop their own educational agenda, they can establish their own schools, they are allowed to use their mother tongue in

the classroom, they have the right to participate in the Council of Experts on General Education and learn about their culture during their basic education. There are no specific recommendations or instructions in the field of inclusion or promotion of the Italian and Hungarian national minorities to attend basic schools, as there is no need for this. In the field of the language of instruction, teachers in Italian schools have to master Italian as the language of instruction, and teachers in bilingual schools have to master both languages as languages of instruction, Slovene and Hungarian. Based on the theory presented at the beginning of the article (Luciak, 2006) the policy model in use for regulation of Italian and Hungarian minority education in Slovenia is the model for autochthonous minorities, where the education maintains and supports the learning of minority language and culture and often includes the learning of the majority language and culture. The model is systemically well-regulated, mostly financed from the state budget and thus reaches the highest standards of minority protection (Rončević, 2009).

On the other hand, even though the Roma national minority is mentioned in the Constitution, it does not enjoy the same rights as the Italian and Hungarian national minorities. The education in general, learning of Roma language and learning about Roma culture for Roma minority in basic schools is regulated within different strategies, recommendations and projects (eg Roma language as an elective subject, if it is the language of the environment; recommendation on the inclusion of Roma children in the pre-primary education for learning the Slovene language; Roma assistant at basic schools). In the integration and participation of Roma pupils in basic schools, assistance is provided in the form of Roma assistants and Roma educational incubators in Roma settlements. Both forms of assistance are not foreseen within the system and are financed through various projects, although they have proved to be very successful (Vonta et al., 2011).

The "new" minorities and immigrants (allochthonous minorities) are not even mentioned in the Constitution. The learning of Slovene language and additional professional assistance is offered to members of "new" minorities, which is financed by the state budget. In addition, the Elementary School Act provides for learning about the immigrant culture and language, but in cooperation with the country of origin. In order to

integrate immigrant children into basic schools, the Ministry of Education, Science and Sport recommends a two-stage model with an introductory workshop and a follow-up workshop.

Teachers, who teach Roma pupils, do not need to speak or understand Romani or the languages of immigrant children if they are in their classrooms. Teachers, however, have a wide range of additional in-service training programs in the field of Roma education and in the field of immigrant and/or "new" minority education. It can be seen from the analysis that there are many different projects funded by the Ministry of Education, Science and Sport in the field of education of Roma children and immigrant children, which in some ways regulate both areas and offer assistance to both pupils and teachers.

It could be observed that the field of education of Roma and "new" minorities is less regulated than the field of education of the Italian and Hungarian national communities. In this area, however, several strategies and instructions have been adopted for both groups, which are not legally binding. It is evident from the document analysis that the policies in the field of education for the Roma national minority and immigrants or "new" minorities are poorly regulated, with diffuse and incomplete legislation. The area is regulated through different measures targeting both groups in different fields and financing through various projects. This is in line with Kislev's (2016) description of policy model that provides targeted assistance, which includes special linguistic (and cultural) programs, and serve primarily for the integration of migrants and (in the Slovenian case) Roma pupils, and offers the learning of the mother tongue as a second and (in case of Slovenia for Roma pupils) elective language. Moreover, additional professional help offered to immigrant children, Roma assistant and Roma educational incubators in Roma settlements are a different type of targeted assistance in other subjects, where these students face difficulties to reach learning standards, which also confirms that this approach towards regulating minority education is in line with the model of targeted assistance (Crul, Schneider, and Leile, 2013; Gofen, 2009, Gofen and Blomqvist, 2013).

We can conclude that Slovenia is a clear example of East European EU member states, where autochthonous minorities enjoy the highest protection of minority rights, which includes minority schooling.



Moreover, as all new member states, Slovenia similarly struggles with the recent increase in migrant population (EMN, 2017) and therefore is trying to establish a suitable approach to include migrant students in education. As already stated, the chosen approach at the moment is the model with targeted assistance. Unfortunately, in the documentation analysed for this research, there is no trace of implementing an intercultural environment, no broader attempts at introducing intercultural education in schools on a system-level or creating an intercultural curriculum. Nevertheless, there are some attempts of implementing intercultural education within some smaller-scale national projects, which are co-funded by the Ministry of Education, Science and Sport (Ministry of Education, Science and Sport, 2019; Vižintin, 2017). Moreover, there is the question of Roma minority, which is mentioned in the Constitution as an established minority, but which does not enjoy the same level of rights in the field of education as Italian and Hungarian national minorities.

## **5. Conclusion**

The article's main objective is to analyse and compare the policies in the field of minority education in Slovenia and to determine which of the three models, identified in the research literature (Kislev, 2016; Luciak, 2004; Luciak, 2006; Luciak and Binder, 2005; Rončević, 2009) is in use in the field of education for each of the Slovenian minorities. We can conclude that Slovenia is the typical representative of Eastern European countries, where the most prevalent minority education model is the education model for autochthonous minorities - for the Italian and Hungarian minorities. Both of these minorities were historically present in Slovenia and additionally enjoy high protection in all areas of national legislation (Rončević, 2009). On the other hand, Roma minority does not enjoy the same rights as Italian and Hungarian minority, even though it is recognised as a national minority in the Slovenian Constitution. The policies regulating Roma education are more similar to policies regulating the education of "new" minorities, where the targeted approach is implemented. Moreover, all measures taken in this area lack systematical support.

With this in mind, we need to be aware that the education for children belonging to “new” minorities and Roma minorities are not just the learning of Slovene language and providing learning support, but also successful inclusion of these students in the school environment and the development of intercultural dialogue at school (Vižintin, 2014, 2017). It is of utmost importance that Slovenia starts to adapt to new circumstances in the field of education caused by the increasing migration and consequently, a more and more intercultural environment. Slovenian educational policies should promote contents related to ethnic minorities and inter-ethnic relations, which should become part of the learning content of the majority population as well. Moreover, they should strive to enhance equity and equality, to preserve the diversity and at the same time reduce discrimination and other forms of segregation on the system level. Policies in the field of education should support anti-discrimination and should ensure positive protection of the collective rights of all minorities, thus creating a multicultural and inclusive educational environment.

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## Politike reguliranja obrazovanja manjina: slučaj Slovenije

### Sažetak

U Sloveniji su priznate tri nacionalne manjine (talijanska, mađarska i romska) koje uživaju različita kolektivna prava. Međutim, u Sloveniji postoje i imigranti ili "nove" manjine. Članove ove skupine uglavnom čine doseljenici iz zemalja bivše Jugoslavije. Uglavnom su to ekonomski migranti te izbjeglice koje su došle u Sloveniju tijekom rata na Balkanu te ondje i ostali (Ribičič, 2004). Posljednjih godina broj izbjeglica koji su došli u Sloveniju s Bliskog istoka također je u porastu (EMN, 2017). Mnoga istraživanja pokazuju da obično postoje razlike u školskim postignućima između različitih etničkih skupina ili manjina u zemlji i učenika koji pripadaju većinskom stanovništvu (Luciak, 2006), stoga bi zemlje trebale osigurati inkluzivno i jednako obrazovno iskustvo za sve učenike. U svjetlu tih promjena, cilj je članka analizirati i usporediti politike na području obrazovanja nacionalnih manjina i useljeničkoga ili "novoga" manjinskog obrazovanja te odrediti elemente specifičnih modela politike koji se koriste u Sloveniji na području obrazovanja manjina.

**Ključne riječi:** *manjinska prava, Slovenija, "nove" manjine, nacionalne manjine, politike obrazovanja manjina*

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## **Teachers' Professional Identities and Attitudes towards Students' Educational Disadvantages**

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### **Abstract**

Teachers have always been the most influential institutional professionals involved in the educational trajectories of students. However, in the knowledge society, the teaching profession is increasingly confronted with social and emotional dilemmas in educating pupils for an individualised life course, which implies a lifelong learning approach. The goal of this paper is to analyse whether and to what extent teachers perceive the growing importance of these new challenges and whether they pay attention to the disadvantages that affect some groups of students. The paper is based on the qualitative analysis of 38 teachers' in-depth interviews and 12 focus groups with 45 teachers in total. The interviews were carried out in Finland, Germany, Italy and the Netherlands as these countries are representative of different school systems (comprehensive vs. selective) and transition regimes. This international sample contributed to addressing the purpose of this paper, which is to contribute to a greater understanding of the complex nature of educational disadvantages and the role teachers play in mitigating or reproducing them.

**Key words:** *knowledge society, teacher identity, disadvantaged students, educational system, discourses on education*

## 1. Introduction

In knowledge societies, the educational trajectories of young people have become longer and much more complex due to increasing societal expectations connected to skills and knowledge creation in general and school education in particular. Therefore, more and more students from diverse cultural, social and ethnic backgrounds try to stay longer at school. These developments have produced a situation of students' heterogeneity and diversity of needs and learning. According to a new OECD report, the academic performance gap between advantaged and disadvantaged children develops from as early as 10 years old and widens throughout students' lives (OECD, 2018).

Children from more disadvantaged economic backgrounds are more likely to leave education early despite high educational aspirations. Furthermore, in contemporary European societies, education alone does not guarantee stable career possibilities or safe and secure employment. This means that students' wishes, plans and aspirations are subject to external fluctuations of capital in society (current economic, cultural and social prospects) and demands in the labour market. In order to enable, assist and encourage all students to cope with the challenges they encounter in school, multiple types of support are needed: learning and subject – related, psychosocial and, above all, counselling with regard to decision-making at transition points. This complexity has resulted in new challenges in education, leading to new tasks for schools and an ethic duty to provide all children and young people with *equitable* opportunities to participate in our society (OECD, 2012). The OECD defines two dimensions of equity in education:

1. *Fairness*, which means ensuring that personal and social circumstances do not prevent students from achieving their academic potential.

2. *Inclusion*, which means setting a basic minimum standard for education that is shared by all students regardless of background, personal characteristics, or location.

More and more actors are nowadays involved in education within and outside the school; however, in this changed framework teachers remain the most influential institutional representatives and professionals



involved in the educational trajectories of students. They prepare students for transitions; they assess their achievements and eventually compensate for their failures. While (individual) teachers can potentially become “significant others” for (individual) students, they above all represent the school system, that is, the standardized curriculum as well as the meritocratic function of school. However, this function of “gate-keepers” has changed.

On the one hand, education seems to be the only way to secure life chances in knowledge societies. This functional meaning of education creates a growing pressure on teachers, who are expected by families and the society as a whole to transmit the right knowledge and competences (Cuconato et al., 2016). On the other hand, compared to the Fordist era when schools had to produce future workers who were proficient in basic reading, writing, and arithmetics for the labor market (Cuconato and Walther, 2015), contemporary schools and teachers do not know any more what kind of knowledge and skills are relevant for students' subsequent entry to the labour market (Walther et al., 2002; Beck, 1992; Mayer and Svallfors, 2005) and for their life courses.

Contemporary young people are expected to learn how to *shape* and *reshape* their biographies and adapt their educational courses to changes on the labour market, thereby looking for new opportunities and taking autonomous decisions about their skills and academic or vocational abilities (Diepstraten et al. 2006; Cuconato 2011). As the knowledge society equates to a lifelong learning society, in which knowledge and competences evolve permanently, the tools of the teaching profession are no longer limited to subject-related knowledge/skills and didactical expertise. Teachers are increasingly confronted with social and emotional dilemmas while educating pupils for an individualized life course that is empowering them to learn throughout their whole lives and in all aspects of learning: learning to know, learning to do, learning to live with others, learning to be.

The goal of this paper is to analyse whether and to what extent teachers perceive the growing importance of these new challenges and whether they pay attention to the disadvantages that affect some groups of students. Educational sociology has been concerned about the fact that education has proved to be a key factor in reproducing structures of social

inequality (Bourdieu and Passeron, 1977). While up the 1970s this meant that working - class children 'inherited' the working-class jobs of their parents (Willis, 1977), nowadays low education implies risks of social exclusion (Castel, 2000; Field, 2002). Being an indispensable prerequisite of social inclusion, education can however no longer predict the entry to specific careers. Labour markets are more flexible and, consequently, life courses become de-standardised (Walther et al., 2002; Beck, 1992; Mayer and Svallfors, 2005). Neither access to education and an ability to successfully cope with it, nor the relevance of education can be taken for granted (Young, 1998, 2007). The following diminish students' possibilities to cope with educational requirements and put them at a higher risk of dropping out: coming from families with low education, negative attitudes towards the relevance of education, inability to be financially supported and coming from poverty-stricken single-parents' families. Evidence indicates that family environments have deteriorated over the past decades (Heckman, 2008). The number of children living in households earning less than 50% of a country's median income increased in the decade up to the mid-2000s in most countries (OECD, 2012). Today a greater proportion of children are being born into disadvantaged families, many of them coming from minorities and immigrant backgrounds (Heckman, 2008).

The research questions leading our research were the following: Are teachers aware of the inequalities that exist within the educational contexts of which they are a part and of the challenges and barriers faced by individual students or by diverse populations of students? Do they try to mitigate or move around the structural meritocratic rigidity of the system they represent or do they simply reproduce it? The questions derive from the interactionist assumption that the role a teacher plays in the reproduction or transformation of inequality is, on the one side, determined by the education system he/she functions in (external factors). On the other side, it derives from his/her perception of students' (individual) disadvantages and his/her professional commitment in supporting students' educational transitions in a life - course perspective.

The paper is structured as follows: After a short explanation of the methodology (section 2), it presents the findings related to the professional teachers' identities emerging from the interviews (section 3),

trying to detect whether there is a connection between these and the education system, which frames teachers' attitude towards disadvantaged students. Section 4 presents some theoretical remarks on educational disadvantages before introducing the emerging results on teachers' interpretation of them, complying with or diverging from the different discourses emerging in the knowledge society. The findings will then be interpreted in section 5.

## 2. Methodology

This paper draws on findings deriving from a wider EU-funded research project: *Governance of Educational Trajectories in Europe* (GOETE), which concerned the mechanisms of decision-making underlying the educational trajectories of young people (10-16 years old) in different European educational systems. Starting from the interactionist assumption that students' educational trajectories are the result of complex interactions between societal asset (structure) and individual-subjective action (agency), a special focus was set on the transitions of the students classified as "disadvantaged" in their respective contexts, from lower secondary to general/vocational upper secondary education, and on labor-market oriented schemes and courses.

The GOETE project has collected data from eight EU member states: Finland, France, Germany, Italy, the Netherlands, Poland, Slovenia and the UK, representing selective vs. comprehensive education system and different transition regimes (Walther, 2006). Hypothesizing that institutional arrangements influence the access to further general or vocational educational paths (Tikkanen et al., 2015), this paper is based on empirical (qualitative) data collected in four out of the eight GOETE countries (Finland, Germany, Italy and Netherlands) as these four countries are representative of the larger group, both in the context of school systems - differentiated/selective (Germany and Netherlands), and comprehensive (Finland and Italy) - and the transition regimes (Tikkanen et al. 2015), which offer different support to students in transition.

In the framework of qualitative case studies, taking place in 12 schools (3 in each city of the 4 countries) we conducted 38 teachers' in-depth interviews and 12 focus groups with 45 teachers in total. According

to what is stated by the Ethical Committee of the University of Bologna, before deciding to participate in the study, teachers had been informed about their rights, the purpose of the study, the procedures to be undertaken, and the potential risks and benefits of their participation. Teachers who chose to participate had signed an informant consent.

The interview' procedure was based on a common interview protocol, asking teachers about the obligations they feel they have in supporting students, especially those they recognize as disadvantaged and about their perception of the meaning of "educationally disadvantaged". Individual interviews and focus groups are not homogenous in length: they last from 45 mm to 2 hours, depending on the speaking attitudes of the participants. They were audio recorded and fully transcribed.

According to the principles of "grounded theory" (Glaser and Strauss, 1967), we analysed the interviews directly after having conducted them, writing down first impressions in memos and discussing newly-emerging topics firstly within the national research group and secondly between the national teams. A specialized software (NVivo) was used to code all interview transcriptions. We developed a joint code tree and used it to re-read and analyse the materials, methodically confronting differences and similarities (Cuconato and Walther, 2015).

### **3. Teachers' reflection on their professional identities**

National education systems and institutions are the result of long historical processes of institutionalisation of cultural, social and political assumptions, values and norms of a particular society. In European countries, different education systems provide students with different 'opportunity structures' (Roberts, 1984) in terms of levels of access to and accessibility of education, of varying degrees of support of coping with its requirements and of different ways of balancing the societal and individual relevance of education throughout educational trajectories. In the context of trajectories of students, it has been noted that Germany and the Netherlands start tracking pupils after primary school at the ages of 10 and 12 respectively. In Finland and Italy, all students go through the same basic education until the ages of 15 and 14 respectively. Such institutional

arrangements influence the relationship between students (and their parents) and teachers, especially at transition points.

Considering these different institutional frameworks, the two questions we tried to answer were: 1) Whether and to what extent do structural possibilities influence the teachers' attitudes to reproduce or to mitigate inequality in the transition of their students in schools located in disadvantaged city areas or at the lower end of the educational scale? Is there a connection between their perceived professional identities and the way in which they interpret their task to the disadvantages of students?

Teacher identity represents a complex notion that is still insufficiently researched and defined (Beijard et al., 2000). Akkerman and Meijer (2011) provide a review of the existing literature on the topic, from which three main characteristics of teacher identity emerged: 1) multiplicity that refers to multiple sub-components of it (subject, didactic and pedagogical expertise), 2) discontinuity that highlights the ongoing process of identity building, and 3) social nature that suggest its development according to the social context and relationships.

In defining teachers' identity, we refer to the above – mentioned characteristics, and found out that all three emerged in teachers' interviews. In fact, when asked to reflect on the main orientation characterising their understanding of their professional identity, teachers expressed three main polarized attitudes:

*Topic orientation*, teachers perceive themselves mainly as disciplinary experts:

*"I am a knowledge producer. We are not trained to deal with all these mad kids. I did not study special needs education and I don't get their pay"* (German teacher).

*Didactic orientation*, teachers aim to activate students' learning process through an inspiring educational setting:

*"I make use of several games and strategies and I've seen I can better catch them"* [student, authors] (Italian teacher).

*Socio-Educational (Pedagogical) orientation*, with teachers feeling committed to supporting pupils while taking into account the students' out - of - school living conditions and problems:

*“Here (at lower vocational school) we pamper them... Most teachers are very dedicated to the students and repeat and repeat tests, come on, try again”* (Dutch teacher).

Independent of selective or comprehensive school systems, in each school team there are teachers of all three types and, naturally, in most cases traits of all three ideal types mix in an individual teacher (multiplicity). However, from our interviews it emerges that teachers who work in lower secondary schools have a more general pedagogical attitude towards their students (who are at the beginning of lower secondary still children), while in higher grades teachers approach their students with a more neutral and subject-oriented professional attitude. At vocational schools, and definitely in schools with many different groups of disadvantaged students, the classic subject teacher is in minority. Better represented are the teachers who accept to deal with a multitude of not strictly subject or curriculum - related problems and who are trained to deal with specific disadvantages, like language insufficiencies or students' psychological or behavioral problems.

This finding confirmed, in an international dimension, the results of the research on 80 Dutch teachers conducted by Beijaard et al. (2000), assuming that “teachers derive their professional identity from (mostly combinations of) the way they see themselves as subject matter experts, pedagogical experts and didactical experts” (Beijaard et al., 2000, p. 751).

Another finding confirms that teachers' identity emerges as a dynamic process (discontinuity), which evolves due to different teaching trajectories and the biographical reinterpretation of these. It derives from the interplay between their assessment action, functional in a specific teaching context, and the ongoing process of individual decision-making and choice related to the experiences and relationships they experience in it (social nature):

*“To me the teaching profession at this school has been transformed. I would say it is 60, 70% about social work. This is to me something which I have learned now, these social-pedagogical aspects. And this is in my opinion much, much more important in a school like this, to have good relationships with students, to empower them, so that they get strong not only in regard to their marks but also as persons”* (German Teacher).

#### 4. Teachers' perception of educational disadvantage

The concept of disadvantaged youth is used as an umbrella category, comprising those young people, who have fewer chances than their peers do to acquire education or societal positions. Definitions of disadvantage vary widely between countries. The EU has chosen the concept of early school leaving as a benchmark for policy making in supporting disadvantaged youth, with the EU countries adopting other terms like *youth-at-risk*, *vulnerable youth*, *disconnected youth* or *socially excluded youth* to describe the social inequality existing among young people (Bendit & Stokes, 2003). In different countries, the issue connected to social inequality is addressed according to the emphasis put on *structural* or *individual* factors in explaining disadvantage. In the field of education, young people are either considered as disadvantaged because their educational transitions are affected by a segmented education system or their education and transition problems are explained in terms of education and socialization deficits. Empirically, access to education and transitions in the life course are structured by categories of social inequality such as socio-economic and cultural background, gender and ethnicity. These affect the educational and career options available to a young person in an inter-sectional way and lead to different forms of social inclusion and exclusion. Overcoming a disadvantage in this context means the elimination or mitigation of the given obstacle (Mayer, 2003). Educational disadvantage comprises *inequalities* of three dimensions:

- *Opportunities*: this refers to the access students have to resources and facilities available to them, as well as to effective teachers.
- *Experiences*: this includes students' relationships and interactions with teachers and fellow students, their sense of belonging to their school, and their experience of classroom discipline.
- *Outcomes*: how the students turn out in terms of individual development, as well as the skills and knowledge they gain.

Differences in educational outcomes between individual students are natural as all children and young people have different abilities, motivations, interests and aspirations. However, these differences become

inequalities when they are consistent between groups of students or between particular types of schools. In the following text we present the findings related to teachers' analysis of the obstacles students have to face in coping with school requirements. We try to highlight the societal discourses underpinning their definition, as the OECD (2012) reminds that the focus of "disadvantage" is always set on a value judgement based upon a particular set or system of values.

#### *4.1 Teacher interpretation of disadvantage in the framework of societal discourses*

Asked to specify what they regard as "disadvantage", many teachers seem to be aware that disadvantage does not derive from only one or few causes, but from many. In addition, it emerges a large agreement among teachers with the kind of students they define as disadvantaged. The first groups of students they refer to are *children with special needs* and certified disabilities regarding mental and/or physical deficiencies. Teachers compare them to the rest of students and define them in terms of *deficiencies*, in comparison to *normal* student-behaviour and cognitive potential.

The guidelines for teachers' judgements for this group of students is implicit in the *discourse of normalcy* that come to the fore - albeit with different moral underlying values - in other teachers' definitions of disadvantage regarding *misbehaving students*, who do not comply with the educational norms governing schools and teaching. Regardless of country or education system (i.e. comprehensive vs. selective systems), most teachers retain *disrespect* of students most hurtful personally, as it questions their professional identity. Only in rare cases do teachers look for other reasons which might explain students' disrespect, such as schematic school rules and sanctions, which students regard as unjust.

Another category of disadvantage comprises students with a *low aspiration*. Many teachers assume that their students could do better or that they are too lazy to move to another neighbourhood or city in order to get a better training place or job (German teachers). Such judgements find ideological expression in the contemporary *discourse of individualization*, used to analyse social changes in modern society (Giddens, 1984; Beck, 1992; Baumann, 2001). In education, that discourse warns students that



they themselves are responsible for their school career and success in further life. If they fail, it is their own fault. This new discourse transfers systemic risks to the individual learner, absolving the education system from the task of closing students' educational gaps at school entrance, which is inherent to the *discourse of educational equality*. The discourse of individualization clashes also with the *discourse of lifelong learning* and the exploitation of human talent needed in European knowledge societies (EC 2012). Teachers, in defining and dealing with low achievers, have to reconcile these two discourses. As they work in lower vocational schools, they have by definition more low-achievers in their classes than the teachers in general education. Therefore, they are expected to instill learning motivation in their students, convincing them of the relevance of education.

According to teachers, a new group of students at risk has entered European schools with the arrival of *immigrants*. There are two groups of students with migrant backgrounds; one group is not so new anymore but has lived with their families in their host countries for two or even three generations. The other group is comprised of recent immigrants such as war-refugees or other endangered groups. Teachers refer to them as the main group of real or potential students at risk because of many problems with integration, with language deficiencies being the most urgent one.

Dutch, Italian and German teachers complain that their national school systems have not been able to respond to these "newcomers" with adequate and successful adaptations of the curriculum and teaching methods. Individual and flexible approaches like those reported by Finnish teachers have not been implemented in other countries and migrant educational transitions are generally very difficult. However, this is not only due to language deficiencies: teachers report that some groups of migrant students demonstrate *alienation* from school. This finding requires further investigation aiming at detailed studies of the migration history of different migrant groups, which is different in each country.

Dutch teachers complain about the effect of the growing *discourses of segregation/integration* following the rise of right-wing parties and an increasing turn to market liberalism. The effects of such political changes do not affect educational institutions immediately, however teachers highlight indirect effects: "white" parents would, if they

could, send their children to private or other schools with low or no percentage of immigrant students; and they do if they can.

All teachers mention failing or *insufficient communication* between school and home as the result of students' disadvantage. However, what emerged from their narratives is that *teachers* know relatively little about their students. They are better informed about their (occupational) aspirations, which they often consider as being unrealistic (and which go along with their support and motivation for realistic vocational training for socially disadvantaged students). On the one hand, this may seem as the reason for teachers' attitudes in guiding students' transition towards vocational schools. On the other hand, this reveals their interpretation of the meaning of education for further life of disadvantaged students: according to them, these ones should "use" education in order to maintain their current social status, avoiding future deviant behaviour and social exclusion. Here again, one important issue comes into play: the knowledge teachers have about their students' lives is much too general. They think they know that they are from difficult and socially disadvantaged family backgrounds, that they have language deficits and/or are migrants, that they are displaying behavioral problems and that they are not getting enough support at home. They think they are familiar with these circumstances because they often ascribe them in a stereotyped manner to many students from these socially disadvantaged districts and schools that are labelled as disadvantaged. At the same time, teachers do not know these districts in depth as they usually do not live there and have to refer to general assumptions or even prejudices.

## 5. Discussion

Having detected the same three basic teachers' identities in four different European countries, the analysis does not confirm the starting hypothesis that teachers' identities are dependent on national education system (differentiated vs. selective), school type (vocational vs. academic), school culture and students' population. From the narratives of teachers, it emerges how difficult the work of a teacher of lower secondary (general as well as vocational) is. He/she does not only develop a professional identity according to own pedagogical convictions (and training), but has to

reconcile it with the individual wishes and visions of their students as well as the school's policies and labour market demands.

Nevertheless, some differences emerge in the four countries, which need to be interpreted. Italian lower secondary school teachers in particular show high levels of care and protection for their students, also looking for partnerships with other local socio-educational institutions to help students make appropriate decisions.

*"Students are aware of living in a protected context here (...) they are afraid of just crossing the ring-road bridge: there is a weird world over there, a world which they feel they are not admitted to"* (Italian teacher).

This can be due to the young age of their pupils (13 years) although Dutch pupils are even younger (12 years) and so are German children (10 years). That Italian teachers are so particularly committed to their pupils (not representative though) may have to do with the lack of social-pedagogical schools' infrastructure in Italy as opposed to Germany, the Netherlands and Finland. Italian teachers try to compensate for that lack.

It is Italian teachers again who underline the importance of having a sincere dialogue with students and therefore especially regret the enormous turnover in staff every year, which has negative effects not only on the cognitive development of students but also, and perhaps even more so, on the relational one. They are focused on the transmission of tools and skills aimed at social integration and thematize more than teachers from other countries that relational and life skills are the very basis for acquiring academic knowledge.

In Germany and the Netherlands with selective school systems, teachers refer to the labour market and the chances it provides or withholds for school leavers. They know very well that general education pays off better than (lower) vocational education on the long run, however in different countries they encourage or "cool out" (Goffmann, 1952) students to enroll to upper secondary education according to the nature of the labour market and the education and training requirements needed to enter it (occupational versus organizational labour market).

A teacher from a school in Amsterdam during a focus group discussion:

*“Many parents expect that their children will continue with higher professional education... children must become lawyers or something with medicine. But that is certainly not for everybody.”*

On the other side there are Finland and Italy, both with comprehensive systems: Italian teachers might be more ‘pedagogically minded’ than their Finnish colleagues, who, although showing a very high level of teacher professionalism, do not need to be so ‘caring’ due to a better labour market and to the presence of school professionals appointed to support pupils needing particular attention. Thinking about the precarious condition of the labour market, an Italian teacher remarks:

*“If they [students] feel frustrated in their working ambitions from the very beginning, they will disengage as soon as they meet the first learning difficulties. Pupils should have more self-esteem; actually, they seem to be very severe on themselves. We should try to teach them to be more open-minded and to stay curious”.*

Summing up, teachers of lower secondary schools oscillate in their professional self-perception between preparing their students for the labour market in an instrumental way, and giving way to the students’ present wishes and inclinations, thereby supporting their self-confidence and learning motivation. We have proof of both attitudes in all our country cases. We quote *pars pro toto* a Finnish teacher who is in favour of the latter attitude:

*“I always tell the students to go and get a profession or a vocation that makes them happy (...). If they go to places where they don’t want to be and don’t feel comfortable, they will get frustrated with their lives”* (Finnish teacher).

All teachers are aware that the educational system alone cannot solve the problem of disadvantaged students. Teachers admit to feeling powerless as their possibilities of paying specific attention and coaching to disadvantaged students are restricted. They do not have either financial or extra human resources allocated to organize individual learning activities and do not usually get extra time to work individually with disadvantaged students.

Cross-sector politics are needed to develop an integral governance structure to solve the complex problems of city development, demographic changes, (local) labour market needs, migration integration, and everything

related to education policies and practices. Many teachers complain about a lack of consideration of policy makers, who tend to avoid confrontation with their educational expertise and ideas about the governance of education. If all actors do not share a common vision on the relevance of education, it becomes difficult to cope with educational challenges in a complex society.

The responsibility for our future generations' education cannot be placed only on the individual school professionals, while the socialization of youth cannot be placed only on their families: there must be a basic societal change at every level. Moreover, we can assume a gap in terms of explicit European (and in some cases even local) legislation to involve local authorities and child protection agencies more effectively in order to provide support to young people staying in education after its compulsory stage in order to prepare them for better working careers.

## **6. Conclusion**

The main purpose of this paper was to analyse *how* teachers deal within their respective school contexts with the reality and problems of (disadvantaged) students, who need to be prepared for coping with the (educational) challenges of advanced knowledge societies. In earlier times, the destiny of students later in their lives seemed to be determined very early and clearly thanks to the qualifications achieved in their (much shorter) school trajectories. Today, they face a much more open situation, which is rich in transitions and decision-making moments due to the prolonging of students' educational trajectories and the uncertainty of the labor market requirements. The support (or lack of support) of teachers is therefore of high relevance for students. This paper reveals how teachers define their work as professionals and how they interpret students' disadvantage. This analysis does not pretend to draw any representative or even systematically comparative conclusion; however, it highlights some general topics and problems which are significant for the work of teachers in knowledge societies and might be valuable for teacher trainers as well.

In view of the EU discourse about high quality teaching and lifelong and life-broad learning, it is conspicuous how much European teachers are focused on the inside of school and to what extent they

disregard the surrounding conditions and life situations of their students, disregarding in this way the other EU discourse on *equity* of education. Most importantly: teachers feel, without (country) exception, not sufficiently prepared and trained for dealing with new learning demands emerging in heterogeneous school environment.

The Italian case study teachers referred more to the subjective side of learning, where it seemed they were more engaged with their students than their colleagues in the other three countries; they approached them not only as school-learners but also as people yearning for broader experiences. This finding reminds us of a crucial feature of contemporary schools, and that is a far-reaching division of labour between teachers and other non-teaching personnel. Italian schools do not have social work related to schools and therefore do not know of that division; teachers may or must perform social-pedagogical tasks as well. In the four countries, teachers are aware of that division, evaluating it either affirmatively (a teacher is meant to teach and not to take care of family or other problems, which should be done by other professionals) or rather doubtfully and in a demanding manner (a teacher should find a balance between pure teaching and paying attention to other needs of their students). Some say that they work side by side with social and other personnel without problems, while others communicate that they suffer from over-bureaucratization and feel that their actual teaching work is endangered by too many non-teaching professionals and institutions who participate in the school organisation.

Although multicultural classroom teaching is a regular practice in many European schools and certainly in our countries (the least in Finland), teachers generally feel unprepared to adequately support and teach immigrant students and students with various migration histories and backgrounds. They orient their teaching practice to the average “native” student who is not anymore the norm in the European classrooms. Language problems are seen by all teachers as the main obstacle for the learning advancement of non - native speakers.

Teachers who teach in the lower tracks or classes of schools are in particular confronted with social and emotional needs of their (very) young students and realise more than their colleagues in higher classes that learning progress depends on good coaching and support in many respects, not only cognitive one.

Vocational teachers are heavily dependent on labour market conditions in their work. The less responsive labour markets there are for inserting students with vocational training and possibly low academic credits, the more (potential) influence economic interests have on the vocational curriculum.

According to the “agency theory” (Bandura 2001), individuals have a capacity to make positive adaptations within a context of significant adversity (Luthar et al., 2000), and an ability to adapt along appropriate developmental pathways despite their family and/or social difficulties. Young people are active in building their own human, economic and social capital and these internal factors could be emphasised by external factors (Kasearu et al., 2010). In this perspective, education represents one possible way to increase a feeling of empowerment that can help young people, if institutionally supported, to realise their potential. Teachers, together with parents and civil society organisations, can uncover underexploited capacities and actively engage young people in the process of designing a personal project of education. Certain reflections emerge from our findings about teachers' challenges within a context of educational disadvantage. First of all, there is the need to focus on its causes and implications in order to identify and support different educational needs of all students by planning and implementing appropriate courses of action. However, the most important thing is to optimise the educational experience, achievement and holistic development for all involved participants.

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## **Učiteljski profesionalni identiteti i stavovi prema obrazovanju učenika koji su u nepovoljnom položaju**

### **Sažetak**

Učitelji su oduvijek bili najutjecajniji profesionalci uključeni u obrazovne putove svojih učenika. Pa ipak, u društvu znanja, učiteljska profesija se sve više suočava s društvenim i emocionalnim dilemama u poučavanju učenika u svrhu kreiranja njihovog vlastitog individualiziranog životnog puta, što pretpostavlja primjenu pristupa cjeloživotnog učenja. Cilj je ovog rada analizirati ukoliko i u kojoj mjeri učitelji razumiju rastuću važnost ovakvih novih izazova i pridaju li pažnju zakidanjima koja pogađaju neke grupe učenika. Rad se zasniva na kvalitativnoj analizi dubinskih intervjua provedenih s 38 učitelja i 12 fokus grupa, sveukupno 45 učitelja. Intervjui su se provodili u Finskoj, Njemačkoj, Italiji i Nizozemskoj s obzirom da ove zemlje utjelovljuju različite školske sustave (neselektivan nasuprot selektivnom) i tranzicijske režime. Ovaj internacionalni uzorak pridonio je razradi svrhe ovog rada, tj. doprinosu boljem razumijevanju kompleksnog karaktera zakidanja u obrazovanju i uloge koji učitelji imaju u njihovom ublažavanju ili reprodukciji.

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## **Application of Modern Technology for the Evaluation of Balance in Children of Lower Forms of Primary School**

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### **Abstract**

In the world of fast progress of information and communication technology, teachers have a responsibility to use technologies. Technological advances do not shy away from being applied in Physical Education classes because quality diagnostics of motor skills is the foundation of planning and programming transformation processes. The purpose of this paper is to determine whether there is a difference between boys and girls in expressing static balance on an individual (unilateral) leg of the dominant leg (reflex leg) on the application of modern technology as an example of good practice. 80 children in lower forms of primary school (38 boys and 42 girls, 7-10 years of age) participated in this research. Measurements of the static unilateral balance were carried out using the Gyko Inertial System (Microgate, Bolzano, Italy). The unilateral test of static balance was performed, with three attempts in 20 seconds. The following variable was total body trajectory in the unilateral balance test and morphological variables: body weight and body height. For all variables, the baseline descriptive parameters were calculated and the non-parametric method of the Mann-Whitney U-test was used to determine the statistical significance between boys and girls. Data analysis showed a statistically significant difference between boys and girls in the unilateral balance test. Girls showed a lower overall variability, i.e., smaller body trajectories than boys. The research results point to significant gender differences in the performance of the unilateral balance tests in children aged 7-10 years in favor of better results in girls. Further research should include an analysis of a larger sample of older children, closer to puberty.

**Key words:** *modern technology, balance, early school-aged children*

## 1. Introduction

Today's education of children as well as educational workers is increasingly moving in the direction of "digital learning," which is in line with the technological changes that are happening nowadays at a high speed. What we experience as modern technology can be as normal to our students as the TV is to us. Technology is everything that surrounds us, and it defines and shapes our history, everyday life, and the future. As educators in a digitized world, we have the moral responsibility to deal with technologies so that we can direct the students towards their proper use (Jandrić, 2014). Technological advancements are not left out from Physical Education classes because quality diagnostics of motor skills are the foundation for planning and programming transformation processes. Although there are sophisticated measuring instruments that offer more detailed diagnosis of children, they are generally not purchased due to a large number of limiting factors.

Given the fact that balance is the ability responsible for the successful performance of almost all movements or motor tasks that must be manifested through muscle activation (Zekić and Vučetić, 2016), the importance of its diagnostics has been recognized. The first sensory system developed in a child is the vestibular system, which controls the sensation of movement and balance and is considered the most important system that affects the daily movement and action against gravity (Hannaford, 2007). The central nervous system uses information obtained from the vestibular, visual system, and peripheral receptors to create a kind of algorithm based on which it plans and performs movements to maintain a balanced position (Trošt Bobić, 2012). Consequently, functional balance in children is defined as the ability to maintain the center of mass with respect to the base of support during typical childhood activities of daily living, school, and play (Franjoine et al., 2010). Milanović (2013) defines balance as the ability manifested in the establishment and retention of the balance position by successfully counteracting the forces that disturb the balance, and it can be defined as *dynamic* balance and *static* balance. Pejčić and Trajkovski (2018) describe balance as the ability to maintain the body in a balanced position and the correction of movements by gravitational action, which hampers the balanced position through external factors (active

disruption factors). According to Vidović (2008), balance is the ability to maintain a static position while keeping the eyes closed as well as open, that is, it is the ability to oppose gravitational forces. Balance is also the ability to maintain stable movement (dynamic balance) in strictly determined and defined conditions. Nougier et al. (1998) note that the period between the first and seventh years of age is crucial for the development of postural control, and some authors advocate the extension of this period to eight or nine years of age (Roncesvalles et al., 2005). Children use visual information for balance control differently from adults, and only after seven years do they start approaching a similar use (Riach and Hayes, 1987).

Some of the new technologies for estimating balance diagnostics include: Nintendo Wii console, BIODEX “Balance System”, Fitro sway check system, Huber device, Optojump-Microgate Gyko system, TEKSCAN system, and the F-SCAN mobile device. The following standardized tests are often used in educational systems: Standing on both legs longitudinally on the balance bench with open eyes (MBAU2O), Standing on one leg longitudinally on the balance bench with open eyes (MBAU1O), Standing on two legs across the balance bench with open eyes (MBAP2O), Standing on one leg across the balance bench with open eyes (MBAP1O), Standing on both legs longitudinally on the balance bench with eyes closed (MBAU2Z), Standing on one leg longitudinally on the balance bench with eyes closed (MBAU1Z), Standing with two legs across the balance bench with eyes closed (MBAP2Z), and Standing on one leg across on the balance bench with eyes closed (MBAP1Z) (Zekić and Vučetić, 2016). However, with the development of modern technologies, more detailed and more precise yet easy to use and financially affordable information can be obtained and, today, they are finding their place in sports, recreation, and kinesiotherapy.

In “our” educational system, it can be stated that balance has lost its relevance to other motor skills such as coordination, strength, flexibility, and speed. In the classroom as well as subject teaching, i.e., in the entire vertical hierarchy of the educational system, the evaluation of the balance level is not mandatory but rather depends on the will and evaluation of teachers and PE teachers. By entering the educational system, the time a child spends engaged in physical activity suddenly decreases, while the

number of sedentary hours increases because school obligations have increased. During early school age (lower forms of primary school), PE education takes place three times a week in the duration of 45 minutes, which is 135 minutes a week (2 hours and 15 minutes). This fact indicates at not enough movement that would maintain a high quality health status of an individual if the child does not engage in some extracurricular physical activity through his/her own volition. The problem continues because the number of PE hours in the later stages of schooling is reduced to two hours a week and is carried out very often under very limited conditions.

A timely diagnostics of motor abilities can prevent motor deficits and lateral asymmetries, for example, of the ankle or knee joint, which increase the risk of more serious and frequent injuries in later stages of growth. Practicing balance is also essential in the rehabilitation of injuries to the above-mentioned joints (ankle joint and knee joint). In addition to prevention and rehabilitation, balance practice is also used to improve motor performance, especially muscle strength (Taube, Gruber, and Gollhofer, 2008). Balancing practice encourages adjustments in all sensory systems that assist in postural control, such as vestibular, visual, and somatosensory systems, as well as in muscular output control systems (Taube, Gruber, and Gollhofer, 2008). The importance of determining differences in the balance between boys and girls is reflected in identifying possible deficits in a particular group or a group with which the program is implemented. Given that balance as a capability is the basis of the development of other motor skills and of the acquisition and refinement of motor skills, it is important to deal with this issue. Identifying gender differences in the balance level can provide information on whether the program that is being implemented is going in the desired direction or not. Often, staff in physical education predominantly give activities such as playing football or basketball to boys, while girls are given activities of dance structures or gymnastics, i.e. those that dominantly develop balance, which results in expectedly better results in balance. In this way changes in exercise programs can be made timely so that backlog does not become even greater.

Based on the aforementioned, the importance of early balance diagnostics in children of lower forms of primary school has been

recognized and, given the “modern” way of life, the aim of this paper is to present the results of research encompassing the use modern technology as an example of good practice. In further research, balance should be analyzed on a larger sample and on multiple variables (e.g., anterior-posterior and medio-lateral body trajectory estimation) and older children, closer to puberty.

The purpose of this paper is to present the results of the research on the application of modern technology as an example of good practice, i.e., to analyze and present the differences between boys and girls in the unilateral static balance of the dominant leg (reflex leg).

## **2. Methods**

### *2.1. Sample of participants*

Eighty early-school-aged children (38 boys and 42 girls): 10 years; 14 girls and 12 boys, 9 years; 17 girls and 18 boys, 8 years; 10 girls and 8 boys, 7 years: 1 girl and 0 boys participated in this research. The participants are the members of the “Kvarner” athletics club from Rijeka.

### *2.2. Pattern of variables*

From the morphological variables, two variables were observed: body weight and body height, and total body trajectory in the unilateral reflex leg balance test.

### *2.3. Measurements*

Parental consent was obtained before conducting the research. Prior to the beginning of the test, the participants conducted a 10-minute standardized warm-up and were familiarised with the test protocol. The measurement of the static unilateral balance with the dominant leg (reflex leg) was performed using the Gyko Inertial System (Microgate, Bolzano, Italy). Three attempts were measured in 20 seconds. The participant’s reflex leg was determined earlier in the training sessions. The Gyko sensor was placed on the trunk (picture 1), and on the sound signal the participant began with the activity of raising the leg from the base, while a sound signal was given after 20 seconds.

## 2.4. Data processing

Data processing was carried out using the program package Statistica 14.0. Baseline descriptive parameters were calculated for all variables and the non-parametric method of the Mann-Whitneyev U test was used to determine the statistical significance between boys and girls.

## 3. Results

Table 1 shows the basic descriptive parameters: arithmetic mean, minimum and maximum score, and standard deviation in two morphological variables: body weight and body height. Girls are on average taller (134.94 cm) than boys (134.23 cm), while boys are slightly heavier (31.32 kg) than girls (30.58 kg). In the minimum values, the girls and the boys have almost the same values in body height (BH\_ming = 121.1, BH\_minb = 121.2), while girls still have less minimal bodyweight values than boys (BW\_ming = 18.8, BW\_minb = 22,70). The girls' maximal values are lower (BH\_maxg = 151.50) than the boys' values by 3.5 cm (BH\_maxb = 154.00) and, accordingly, the boys are heavier than the girls (BW\_maxb = 44.80, BW\_maxg = 47.30)

**TABLE 1. DESCRIPTIVE PARAMETERS OF THE MORPHOLOGICAL VARIABLES**

		<i>MEAN</i>	<i>MINIMUM</i>	<i>MAXIMUM</i>	<i>STD. DEV.</i>
GIRLS AND BOYS TOGETHER	BODY HEIGHT (CM)	134.59	121.10	154.00	8,13
	BODY WEIGHT (KG)	30.93	18.80	47.30	6,46
GIRLS	BODY HEIGHT (CM)	134.94	121.10	151.50	7.64
	BODY WEIGHT (KG)	30.58	18.80	47.30	6.93
BOYS	BODY HEIGHT (CM)	134.23	121.20	154.00	8.71
	BODY WEIGHT (KG)	31.32	22.70	44.80	5.96

Descriptive statistics of the values obtained were performed when measuring the total body trajectory. In Table 2 it is evident that the girls and the boys achieved best results in the first attempt ( $G_1 = 152.03$ ,  $B_1 = 222.00$ ), while the highest variability in boys was recorded in the third attempt ( $B_3 = 248.20$ ), with girls' variability slightly higher in the second ( $G_2 = 171.42$ ) compared to the third attempt ( $G_3 = 171.31$ ). In the



minimum values, the girls achieved better results than the boys in the first two attempts ( $D\_L\_1\_ming = 59.77$ ;  $D\_L\_1\_minb = 69.47$ ;  $D\_L\_2\_ming = 61.10$ ;  $D\_L\_2\_minb = 77.34$ ), while in the third and last attempt the boys achieved better minimum values than the girls ( $D\_L\_3\_minb = 57.73$ ;  $D\_L\_3\_ming = 60.50$ ). Maximum values show the highest variability that occurred during the execution of the tasks. In girls, the highest variability appeared in the second attempt ( $D\_L\_2\_maxg = 932.68$ ), while in boys it occurred in the last, third attempt ( $D\_L\_3\_maxb = 1116.28$ ). With regards to the maximum values, both boys and girls achieved the lowest variability in their first attempt ( $D\_L\_1\_maxg = 443.04$ ;  $D\_L\_1\_minb = 686.77$ ).

**TABLE 2. DESCRIPTIVE PARAMETERS OF THE TOTAL BODY TRAJECTORY**

VARIABLE	MEAN		MINIMUM		MAXIMUM		STD. DEV.	
	G	B	G	B	G	B	G	B
D_L_1 (cm)	152.03	222.00	59.77	69.47	443.04	686.77	82.95	143.8 2
D_L_2 (cm)	171.42	234.15	61.10	77.34	932.68	802.88	139.8 2	169.3 2
D_L_3 (cm)	171.31	248.20	60.50	57.73	913.51	1116.2 8	140.7 9	187.0 9
Sum_D_L (cm)	494.76	704.34	183.94	204.5 4	1808.78	2458.8 4	294.4 2	465.6 8

(D\_L\_1- total length of the trajectory obtained as the sum of the distances from one point to the next, G-girls, B-boys)

From Table 3, which shows the results of the Mann-Whitney test, it is evident that the values in all variables are significant. The girls have significantly lower values ( $p < 0.05$ ) in the variability of the unilateral reflection foot balance in each separate attempt ( $D\_L\_1$ ;  $U = 505.00$ ;  $Z = -2.818$ ;  $D\_L\_2$ ;  $U = 541.00$ ;  $Z = -2.471$ ;  $D\_L\_3$ ;  $U = 474.00$ ,  $Z = -3.117$ ) but also sum up all three attempts ( $Sum\_D\_L$ ;  $U = 514.00$ ,  $Z = -2.731$ ).

**TABLE 3. MANN-WHITNEY U TEST**

Variable	Rank Sum_girls	Rank Sum_boys	U	Z	2*1sided
D_L_1	1408.00	1832.00	505.00	-2.818	0.004
D_L_2	1444.00	1796.00	541.00	-2.471	0.013
D_L_3	1377.00	1863.00	474.00	-3.117	0.002
Sum_D_L	1417.00	1823.00	514.00	-2.731	0.006

#### 4. Discussion

Nonparametric statistics was performed since the distribution of the variables does not meet the normality conditions, which was expected given the small sample and the high sensitivity of the measuring device. In this research, it was established that girls between the ages of 7 and 11 have a significantly better level of unilateral balance (reflex leg) than boys aged 7-10. Similar results were obtained by Alves Facó et al. (2013), who investigated the relationship between the gender and the level of system development responsible for postural balance in children between the ages of 6 and 10 years of age. They found that postural balance is better in girls than in boys, especially in eight-year-old girls. These results may indicate earlier maturation of the responsible systems in girls, which is related to their earlier entry into puberty. Erkut Atilgan et al. (2012) compared the effects of gender differences in children between the ages of 9 and 11 in performing static balance. The children were not involved in any form of organized physical exercise. 60 children took part in the research, in which bilateral and unilateral static balance were measured. The main results of this research indicate that bilateral and unilateral static balance in boys is statistically significantly better than in girls. They explained their findings with the possibility that boys are more physically active than girls, which increases muscle strength and positively affects the balance. Saygn et al. (2006) and Arabaci (2009) supported this argument by noting that, in their country, boys lead a more active life than girls. In the research of Nolan, Grigorenko, and Thorstensson (2005), which focuses on determining gender and chronological differences in static balance, it was found that boys aged 9 to 10 show higher oscillations in the center of pressure (COP) variable.

In his research, Cratty (1970) points to the possibility that the maturation of neurological, visual, vestibular, and proprioceptive systems occurs earlier in girls, which enables a more effective performance of more complex tasks such as unilateral balance. Malina (2002) states that girls of any age usually have a higher level of maturation when compared to boys of the same chronological age. Moreover, research conducted by Smith, Wong, and Ulmer (2012) and Lee and Lin (2007) found that girls aged 8-12 and 9-11 have better postural stability than boys. Dorneles, Pranke, and

Mota (2013) compared the level of balance of boys and girls aged 10 to 19 due to the fact that this stage of growth is characterized by accelerated individual growth and development. They concluded that girls had better postural control than boys. They found that the obtained results are a product of differences in anthropometric characteristics between the sexes. Certain anthropometric characteristics may also have an effect on balance distortion such as the body height, center of gravity height or body weight. In the aforementioned research, boys were on average taller than girls, pointing to a more distant center of gravity from the ground and greater oscillation in boys. Rivas and Andries (2007) and Lemos et al. (2009) stated that the body mass of women is differently distributed due to the morphological characteristics, leading to a lower center of gravity compared to males of the same body height, thereby reducing the value of postural oscillations. Lee and Lin (2007) point out that higher body weight can lead to poorer results in boys. In the research carried out by McGraw and et al. (2000), a decrease in medio-lateral stability while standing was observed in pre-puberty boys with excessive body weight compared to boys with normal body weight. Although this research did not determine the effect of body weight on the balance level, Table 1 shows that differences in body weight between boys and girls do exist. On average, boys (31.32 kg) are slightly heavier than girls (30.58 kg), which would in some way confirm the hypothesis proposed by Lee and Lin. Furthermore, in their research, Steindl et al. (2006) compared the sensory organization with postural control among children and adolescents with regards to the adult age. The results indicate that boys under 10 years of age are less focused and more agitated. All of these facts point to the complexity of this ability. Research carried out by Sá et al. (2018) leads to the conclusion that postural stability and adaptations related thereto were related to age and were under the influence of sensory manipulation. The ability of antero-posterior adaptations was more apparent, and the sensory maturation was first observed in the visual system, then in the proprioceptive system, followed by the vestibular system, reaching functional maturity at the age of nine. Though the same chronological age, girls and boys are quite different when it comes to their biological age. The girls reach the peak height velocity approximately two years before boys (Malina et al., 2004), which is an indicator of the biological maturity of the child and coincides

with the year of the greatest development of the majority of the child's cognitive abilities (Erceg et al., 2013). It is, therefore, logical to conclude that biologically mature children have more developed cognitive, motor, and functional abilities, reach their peak height and weight gain earlier, and have better emotional control. Determining the static unilateral balance in early school age is important because children with a low level of static balance lack the "stabilizing framework" necessary for the development of basic functional activities (Tsai et al., 2008). Research conducted with pre-school children are in line with the obtained results that girls and boys differ significantly in their balance ability, whereby girls achieve better results than boys (De Privitellio et al., 2007, Caput Jogunica, Lončarić, and De Privitellio, 2009, Jertec, 2010). Apart from the fact that relevant systems achieve maturation earlier in girls, some of the arguments can also be analyzed in the context of the activities of children aged 7-10. Boys are mostly focused on activities like football, running, jumping, climbing, while girls pay more attention to the so-called "calmer" activities that require rhythm, coordination, balance, and precision (dance, rhythm, elastics, hopscotch, walking on a balance bench). Fujiware et al. (2011) found that the increase of postural adaptability may be related to physical and sports experiences. From a kinesiological point of view, it is desirable that girls and boys engage in as many different contents as possible to achieve a multitude of developments, regardless of the social gender paradigm based on the content, although such differences are very noticeable in children of lower forms of primary school. Multifaceted development is the foundation for further motor skills improvement.

Furthermore, Table 2 shows that both girls and boys achieved best results in the first attempt ( $G_1 = 152.03$ ,  $B_1 = 222.00$ ), while the highest variability in boys was recorded in the third attempt ( $B_3 = 248.20$ ), and in girls the variability was slightly higher in the second attempt ( $G_2 = 171.42$ ) when compared to the third one ( $G_3 = 171.31$ ). Such results were expected, most likely due to the participants' muscle fatigue and, with fatigue signs appearing slightly sooner in girls than in boys. Muscular fatigue is a key factor that can affect the weakening of proprioception and postural control. Fatigue impacts the ability to create muscle strength, which ultimately leads to reduced task performance (Shimpi Apurv et al., 2014). The same authors conducted a study aimed at the uncovering the

effects of induced muscular fatigue on the balance and core strength. The study included 60 participants aged 18 to 25, who were tested before and after the training session. The participants who had suffered from muscular-bone lesion of the lower extremities or head injury in the last six months could not be included in the study. It was concluded that fatigue most certainly plays a role in the reduction of static balance, dynamic balance, and lumbar strength. Furthermore, Gribble and Hertel (2004) carried out a study of the effects of fatigue of the lower extremities on postural control during the implementation of unilateral static balance. The results of this study indicate that knee and hip fatigue leads to a distortion of postural control in the frontal plane, while ankle joint fatigue does not. In the sagittal plane, fatigue in all three lower extremities (ankle joint, knee joint, and hip) contributes to the distortion of postural control.

Assaiante et al. (2005) point out that, while observing the appearance of postural strategies in maintaining balance, it is necessary to differentiate the results that can be explained by biomechanical reasons from those that reflect the maturation of the central nervous system.

The participants were measured using the Gyko system, whereby, besides the measured variables on the total body trajectory, we can gain insight into more detailed balance diagnostics such as anterior-posterior (AP) and medio-lateral (ML) body trajectory. In addition to these variables, the system is also commonly used for evaluations of stability and balance in maintaining a stable posture, in movement, or in different types of jumps according to measurement protocols. In this regard, the main data obtained in the research of Tsai et al. (2008) was that the ability to control balance in both directions, AP and ML, was poorer in students with the Developmental Coordination Disorder than in children with normal development. In accordance with the previous research, a need is highlighted to establish more detailed variables regarding the unilateral static balance at early school age in order to identify possible deviations or asymmetries of the locomotor system. The application of modern technology has become a necessity in PE classes (in the educational system) and not just for sports, recreation, and rehabilitation purposes. Although the new curricular reform should contribute to this, the fact is that according to the results of the research “The European Childhood Obesity Surveillance Initiative, Croatia 2015/2016” (six through nine years

of age), 31% of girls and 38.7% of boys in the Republic Croatia have excessive body mass and weight. According to the statistics, we are among the top five European countries with this problem. The Gyko system can in particular give precise insight into random bodies in all ways, which cannot be obtained by traditional tests. Such feedback can help guide the implementation of exercise plans and programs in the selection of motor content, while the examples of traditional tests can only indicate a level of balance in general. Furthermore, it was the children in the vest clouds that contained the sensor and the sound signal that marked the beginning and end of activity, which aroused great interest and motivation among the children. Furthermore, immediately after completing the test, the results are immediately visible to the computer in a numerical and graphic form, while the easy-to-save system remembers all the results. In this way, they can monitor the results very precisely and see in which way progress has been made.

## **5. Conclusion**

In this research, modern technology (Gyko system) was used to evaluate the unilateral balance of the reflex leg. The application of “modern” technology sparked the interest of children, parents, and employees at the club. The task was carried out quickly, without delay, with great motivation and a willingness of the participants to perform as well as possible. Balance values obtained on a computer can be immediately compared. The Gyko system is easy to use – the participant puts on a waistcoat that contains a sensor and waits for the measurer’s instructions. It was found that girls have a significantly better level of unilateral balance (reflex leg) than boys aged 7-10. According to previous research, indications for such results originate from the earlier maturation of the systems responsible for successful establishment of postural control. Some research is based on morphological characteristics: in this research, it was found that boys are on average heavier than girls, which was to be expected. It was also found that best results were achieved in the first attempt in both girls and boys due to the likely occurrence of expected muscular fatigue. In further research the balance should be analyzed on a larger sample and with multiple variables (e.g., anterior-posterior and

medio-lateral body trajectory evaluation) and in older children, closer to puberty. The sedentary lifestyle increases upon enrollment at school while physical activity decreases. After a number of years of such a life different physical compensations may occur. These compensations make the movement dysfunctional, and the educational system is the ideal platform for introducing preventive and developmental tools given that, in classroom teaching, PE classes take place three times a week. Motor skills are interdependent, so, for example, reduced stability and balance affect the reduced active mobility in the functional task, power and strength as well as speed. Improvement of balance is done by sensory-motor training, with an adjustment of the content according to the age of the population with which the exercise is being conducted. Balance can also be developed in pre-school age with a variety of content that, at this age, should often be changed so as not to reach unwanted monotony in the work, which ultimately results in a lack of interest and motivation. Therefore, various aids should be included, but as the conditions and means for their application in training are often limited, workshops that include children can be organized through which practice or physical exercise aids can be created, which can be extremely interesting to children as a form of creative expression. To conclude, practicing balance is important for the development of the entire motor space, and the early school age is an ideal time for its improvement and the prevention of motor deficits.

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### **Primjena suvremene tehnologije za procjenu razine ravnoteže kod djece rane školske dobi**

#### **Sažetak**

U svijetu brzog napretka informacijske i komunikacijske tehnologije učitelji imaju odgovornost baviti se tehnologijama. Tehnološki napredak se nužno mora primijeniti u nastavi Tjelesne i zdravstvene culture, jer kvalitetna dijagnostika motoričkih sposobnosti predstavlja temelj za planiranje i programiranje transformacijskih procesa. Svrha rada je utvrditi postojanje razlika između dječaka i djevojčica u iskazivanju statičke ravnoteže na pojedinačnoj (unilateralnoj) nozi dominantne (odrazne) noge primjenom suvremene tehnologije kao primjer dobre prakse. U istraživanju je sudjelovalo 80 djece rane školske dobi (38 dječaka i 42 djevojčice; 7-10 godina). Mjerenje statičke unilateralne ravnoteže provedeno je pomoću Gyko inercijskog sustava (Microgate, Bolzano, Italy). Unilateralni test ravnoteže proveden je u tri pokušaja po 20 sekundi. Promatrana je ukupna putanja tijela, kao i morfološke varijable: težina tijela i visina tijela. Za sve varijable izračunati su osnovni deskriptivni parametri, a za utvrđivanje statističke značajnosti između dječaka i djevojčica koristila se neparametrijska metoda Mann-Whitneyev U test. Obradom podataka utvrđeno je da postoji statistički značajna razlika između dječaka i djevojčica u testu unilateralne ravnoteže ( $p < 0,05$ ). Djevojčice imaju manji ukupni varijabilitet tj. manju putanju tijela u odnosu na dječake ( $AS_{\text{ž}} = 494,76$ ,  $AS_{\text{m}} = 704,34$ ). Rezultati ove studije pokazali su da postoje značajne spolne razlike tijekom izvođenja unilateralnog testa ravnoteže kod djece od 7-10 godina u korist boljih rezultata kod djevojčica. U daljnjim istraživanjima razlike bi trebalo analizirati na većem uzorku i kod djece starije životne dobi, bliže pubertetu.

**Ključne riječi:** *suvremena tehnologija, ravnoteža, djeca rane školske dobi*

## Children of an Early Age: Preferences with Regard to Different Types of Motor Contents and Multimedia during Their Realisation<sup>1</sup>

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### Abstract

The aim of the study is to determine whether children of an early age take equal part in all offered types of motor contents and various types of realisation accompanied by multimedia. The sample of examinees comprised 63 children who were on average 2.3 years old and who attended the regular integrated programme in Kindergarten Rijeka. The variables are formed by types of motor content which can be performed during kinesiological activities: biotic motor knowledge, kinesiological games, preparatory games, motor content accompanied by multimedia. The activities were recorded by a video camera; the observation method and the chi-square test were applied. Results show that there is a statistically significant difference in the children's involvement regarding the types of motor contents and the application of multimedia. The highest involvement was present in the following contents: mastering obstacles, handling objects, individual kinesiological games, general preparatory exercises in place, while regarding the multimedia, during the realisation of motor contents children mostly preferred music. The lowest involvement was in the following contents: mastering resistance and team kinesiological games.

When planning kinesiological activities with children of an early age, it is necessary to respect their interest which will then increase motivation and efficacy in organised physical exercising.

**Key words:** *preferences; motor contents; kinesiological activities; early age; multimedia*

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## 1. Introduction

Physical activity is usually defined as “each movement of the body linked to muscle contraction which increases energy consumption to a higher level than during inaction “(Heimer and Beri, 2013: 54). This definition is very wide and comprises all forms of physical activity, and THUS the kinesiological activity of early and preschool-aged children. A kinesiological activity is any controlled working process with a characteristic flow of information between the controlling system and the controlled system (Prskalo, 2004). Physical activity and health are closely related, so it is important to form the habit of daily physical exercise as early as possible (Petrić, 2016; Novak et al., 2014). A lack of adequate physical activity has an unfavourable influence on children’s growth and development and jeopardises the normal functioning of organs, organic systems and the overall health (Sindik, 2008). Every child who, as an individual, develops his genetic potential for various sports activities from the early age, has a greater chance that his potential will continue to develop in the future (Trajkovski Višić and Višić, 2004).

Early preschool childhood is a period in which physical exercise and sport represent joy and challenges to children (Petrić, Kostadin, and Peić, 2018). In this period children are fast to acquire new and different motor contents which they store as motor memory. The fast acquisition of new and varied contents and patterns is enabled by the susceptibility of the nervous system to learning (Živčić, Marković and Breslauer, 2011, according to Alić, Petrić and Badrić, 2016). Content-wise, before all, great importance is given to the acquisition of natural forms of movement like walking, jumping, carrying, crawling, rolling, bowling over, catching, shooting, crawling through, etc. The significance of the game is very high in childhood. Therefore, kinesiological activities in early and preschool age have to be enriched by a multiplicity of contents from this category. Implementation of the game in kinesiological activities with children of early and preschool age elicits positive emotions in children (satisfaction, happiness, laughter, joy), but also allows for the development of various types of knowledge, skills and habits used by children in everyday life (Findak, 2001, according to Alić, Petrić and Badrić, 2016). Because of that, preschool teachers can create a physical exercise habit for young children

through the game. Šagud (2000) states that games are the primary medium for developing some abilities by activating children's intellectual, physical, social and emotional resources. Children are mostly interested in and happy about all disciplines because through socialization, they primarily meet other children and can learn something new through playing and having fun. They learn basic forms of movement typical for certain sports; coordination is enhanced, speed, balance and flexibility, too. The National Curriculum for Early and Preschool Education (2014) stresses the importance of the aforementioned and its provisions are closely related to the integration of kinesiological activities at children's early and preschool age. One of the characteristics of the National Curriculum for Early and Preschool Education is integration. Children's activities are not structured according to separate methodological areas and are in no way separated by content or time period. This represents a departure from the positivistic concept of learning, i.e. using monitored teaching methods and transmitting of fractioned fragments of knowledge for the benefit of purposeful activities for children, ensuring the quality of their experience and achieving a dynamic approach to learning (National Curriculum for Early and Preschool Education, 2014. p. 14).

Considering the practice so far, physical activities are most often performed with children of preschool age rather than early age. However, physical activity is important because it reveals the inborn potentials of children with a view to their further development and enrichment (Findak, 1995).

Previous research on this topic (Fazio, 1981; Chen and Zhu, 2005) indicates that children can identify activities which attract them but are not capable of distinguishing their individual preference contents or estimate if a certain activity is part of their individual interest. Because of that, a preschool teacher's task is to monitor the free play, behaviour and activities of the child and to determine children's preferences. After that, the preschool teacher can design a plan and program that includes a variety of motor contents suitable for the child's age. However, children's preferences direct their attention toward a certain content, and so they filter information which will be acquired faster (Renninger and Wozniak, 1985). Kindergarten and home environment variables have a stronger impact than personal variables on children's intuitive interest in physical activity.

Future interventions should focus on strengthening kindergarten physical education and providing a safe home environment to help nurture children's intuitive interest in physical activity (Chen and Zhu, 2005).

There are not many studies about early and preschool-aged children's preferences for certain kinesiological contents. Some results show that polygons are a method which children show preferences for, and they often lead them to situations when they re-examine their competence and skill levels. Through polygons, children develop the sense of common responsibility, the feeling of belonging to the group and the feeling of organised conduction of the kinesiological activity course (Breslauer and Zegnal, 2011). Findak (1999) defines polygon as a form of work that is applicable in almost all conditions, with all age categories and levels of motor ability and skills. It can be used to develop and improve motor skills and children perform tasks in the polygon without pause. Authors Tijan, Tomac and Trajkovski (2018) point out that a polygon involves performing a number of different exercises in a series. Early aged children get extremely tired of some exercise and movements. Due to the rapid change of tasks in the polygon, there is no loss of children's interest in the task. This shows the advantage of polygons over, for example, frontal work.

Besides, research results indicate that the tendency to prefer certain games and kinesiological activity is partly linked to chronological age, but also to belonging to a certain group (Prskalo, Horvat and Hraski, 2014). As a conclusion, if these results are observed as a consequence of forming attitudes as early as at the preschool age, it can be concluded that grouping attitudes occur in primary education, at the same time not diminishing the influence at the preschool age, which should certainly be rich in various stimuli.

This study represents a kind of base for further development and breakthrough in the area of kinesiological activities with nursery, or early childhood, children. During the creation of programmes and the choice of activities the children's age, their abilities and developmental possibilities should be considered to ensure whatever is done with them is serving their health (Petrić, Kostadin and Peić, 2018; Petrić, Bartolucci and Novak, 2016). By thoroughly planning the contents, using different equipment and props, introducing multimedia, having satisfactory facilities (gym), and with the educators' professional approach, as well as a good combination

of all the aforementioned, children's motor achievements can be significantly influenced.

The aim of this study is to determine whether children of an early age are equally involved in all offered types of motor contents and their different types of realisation accompanied by multimedia.

## **1. Methods**

The sample of examinees consists of 63 children of an early age, ON average 2.3 years old, and attending the regular integrated programme in THE Kindergarten Rijeka. 33 children were in the experimental group, and 30 children were in the control group.

The sample of variables is formed by types of motor contents which can be conducted during kinesiological activities, namely: biotic motor knowledge (motor contents for mastering space, obstacles, resistance, handling objects); kinesiological games (individual, catching kinesiological games, team kinesiological games, preparatory exercises (in place, in movement); motor content accompanied by multimedia (music, video recording).

Preschool teachers in the chosen educational groups were introduced to the research details and have participated in the creation and conduction of the experimental programme. They informed parents about the aforesaid at a meeting and requested their written consent. The programme was conducted from November 2018 to May 2019. The physical education activity was especially monitored. In order to make the implementation of the plan possible, we paid attention to the spatial and material conditions in the kindergarten where the program is being implemented. After that, a plan and program was created, which anticipated the realisation of the mentioned activity three times a week and included motor contents from four domains (Table 1.).

All planned motor contents are shown in Table 1 and are sorted by domains. During one activity, two thematic units that had a different effect on the body were performed. In the main „A“ part of the activity the emphasis was on the education and learning some motor contents. During the activity, only one of the two motor contents can be new to the child.

**TABLE 1. A DISPLAY OF MOTOR CONTENTS ACCORDING TO DOMAINS**

<i>DOMAIN</i>	<i>MOTOR CONTENTS</i>
MASTERING SPACE	CRAWLING IN MANY WAYS, WALKING WITH MUSIC RUNNING ON DIFFERENT SURFACES, ROLLING ON MATS IN DIFFERENT DIRECTIONS, RUNNING WITH MUSIC, CRAWLING THROUGH DIFFERENT SPORT EQUIPMENT, WALKING BETWEEN DIFFERENT SPORT EQUIPMENT
MASTERING OBSTACLES	CRAWLING THROUGH THE FRAME OF THE SWEDISH BOX, JUMPING IN DIFFERENT WAYS, JUMPING ROPE ON THE FLOOR, CRAWLING THROUGH A TUNNEL, CRAWLING THROUGH A HOOP, DROP JUMPS, DEPTH JUMPS AND HOP JUMPS ON AND FROM DIFFERENT SURFACES, PASSING OVER OBSTACLES IN VARIOUS WAYS.
MASTERING RESISTANCE	LIFTING AND CARRYING VARIOUS OBJECTS, PUSHING THE BALL WITH ARMS, PUSHING THE BALL WITH LEGS, PUSHING A PLASTIC STICK WITH ARMS, PULLING A PLASTIC STICK, MOVING WITH ARMS FRONT, HANGING ON A ROPE
HANDLING OBJECTS	THROWING THE BALL TOWARD A WALL, THROWING THE BALL UPWARDS WITH TWO ARMS, THROWING THE BALL INTO THE MARKED SPACE, CATCHING THE BALL WITH TWO ARMS, THROWING THE BALL TO THE GROUND WITH AN ARM, THROWING THE BALL THROUGH A HOOP, DIRECTING THE BALL WITH THE LEG

During the planning and implementation of motor content, great attention is paid to the gradualism as one of the principles of educational work in the kinesiological methodology. It is planned to acquire new motor skills on already well-trained and knowledge-based activities. Additionally, physical exercise started with easier, or simpler, children's motor skills that later lead to adopting more difficult and complex ones. After designing the program, it was determined which contents can be used in a particular part of a kinesiological activity. For the introduction, kinesiological games and catching kinesiological games were chosen. In the preparatory part of the activity, general preparatory exercises in place, in movement and with music were used. The contents of the main "A" part were previously mentioned in the plan and program while the contents for the main "B" part of the activity included polygon, kinesiological team games and dance and music movements. The final part of the kinesiological activity included content such as reading a story, using video, health and hygienic procedures, etc.

During activities, various kinesiological games were created from these contents, while certain contents were realised accompanied with



music or a video recording which was displayed on a big screen (according to Vujičić, Petrić, and Pejić Papak, 2018).

Data were processed and analysed in the programme Statistica 12.5. Results are presented as absolute frequencies and percentages. Activities were recorded by a video camera, and to determine the participation of a child in the performance of motor contents, the observation method was used. Differences in the frequency of children participating or not participating in certain types of motor contents were determined by the chi-square test. Statistical significance was tested at the level of 0.01 %.

## 2. Results

Based on the involvement of children in the offered motor contents, or their active participation in a certain motor task, it can be concluded whether a child is interested or not in said contents. Table 2. presents the results of children's active participation in line with motor contents in frequencies, while the graph shows the same in percentages (%). In Graph 1. it can be noticed that among the motor contents divided into domains, children were the least interested in contents for mastering resistance, while there were 84 % (84 – 89 %) of children who actively participated in the remaining three domains.

Most of the children were actively involved in motor contents based on handling objects, such as: throwing balls into the wall, throwing balls through the rim, throwing balls into the marked area, pushing the ball with the foot or catching the ball with two hands. Also, a lot of children were involved in motor contents based on mastering obstacles, such as: jumping in different ways, jumping over the spit on the floor, pulling through the tunnel, rolling through the rim, overcoming obstacles in different ways, etc. 84% of the children were included in motor contents based on space mastering, such as: crawling in different ways, walking with music, running on different surfaces, rolling on the mattress in different directions, running with music, crawling through different sports equipment, walking between different sports equipment etc. Some of the contents which are based on mastering resistance, and which include the

smallest number of children, were: pushing mats, pulling mats, lifting and holding the ball.

**TABLE 2. RESULTS OF PARTICIPATION IN MOTOR CONTENTS  
PRESENTED IN FREQUENCIES**

<i>TYPES OF MOTOR CONTENTS</i>	<i>CHILDREN'S PARTICIPATION</i>
MASTERING SPACE	53 / 63
MASTERING OBSTACLES	55 / 63
MASTERING RESISTANCE	33 / 63
MASTERING THE HANDLING OF OBJECTS	56 / 63
INDIVIDUAL KINESIOLOGICAL GAMES	55 / 63
CATCHING KINESIOLOGICAL GAMES	45 / 63
TEAM KINESIOLOGICAL GAMES	30 / 63
PREPARATORY EXERCISES IN PLACE	54 / 63
PREPARATORY EXERCISES IN MOVEMENT	40 / 63
MOTOR CONTENTS WITH MUSIC	61 / 63
MOTOR CONTENTS WITH VIDEO RECORDINGS	58 / 63

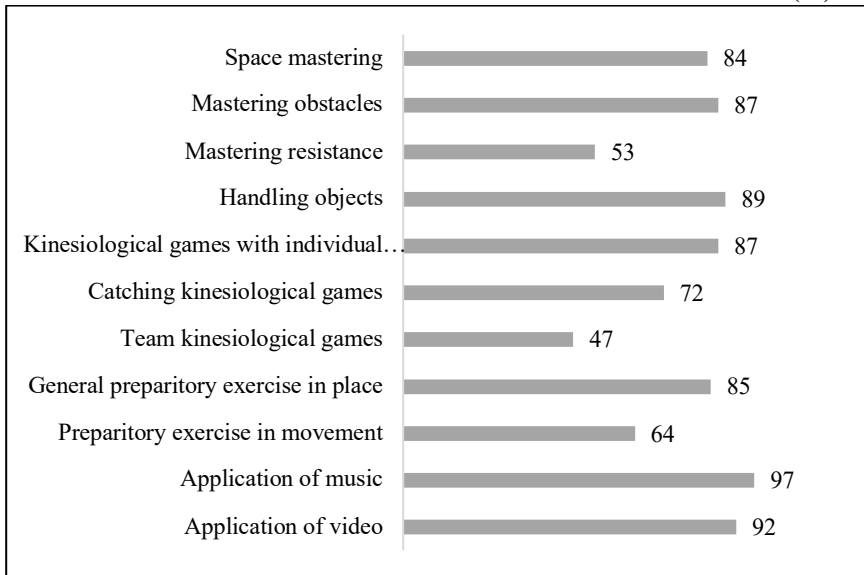
Early aged children found individual kinesiological games (87 % of involvement) especially interesting. These are games where children perform a certain motor task themselves, without direct cooperation of other children. Here is one example: Every child in the group stands in his place behind the line. The line represents the start. On the preschool teacher's sign, each child should kick the ball to the other side of the hall. There is no winner in the game; the goal is for every child to do the best they can.

Catching kinesiological games showed to be a somewhat weaker challenge for children and achieved only 72 % of active involvement. An example of this type of game is: Child needs to hold his friend's hand, and with the second hand he needs to keep a ball. A ball is a sign of a hunter in this game. They catch other children in pairs. When they touch someone, he or she "freezes" in his or her current position. The game is finished when everyone gets caught/frozen.

Kinesiological team games, where children need to cooperate with others, proved to be the least interesting for them, with only 47% of their involvement. Here is one example of team kinesiological games: Children need to hold their hands and make a circle. The preschool teacher needs to

stand in the middle of the circle and throw a balloon. Children need to keep the balloon in the air as long as possible using only their heads. If there are too many children, they can be placed into several groups.

**GRAPH 1. RESULTS OF PARTICIPATION IN MOTOR CONTENTS (%)**



Preparatory exercises in place (85 %) showed to be more interesting than their realisation in movement (64 %), and children were more eager to get involved for more than 20 %. The ways motor contents were realised accompanied by multimedia also proved to be especially interesting to early aged children. Their interest for contents with multimedia trespassed 92 %, and music, along which almost all children (97 %) happily participated in the physical exercising process, imposed itself greatly. Motor contents with music included songs that are already familiar to children and which the group has already encountered. Music is used in all parts of the kinesiological activity, for example games with music in the first part of the activity, dancing with music in the main "B" part of the activity or relaxing with music in the final part of the activity. Also, video materials, such as cartoons, have been used. Participation in that content was 92%.

**TABLE 3. RESULTS OF DIFFERENCES IN THE CHILDREN'S PARTICIPATION AND INVOLVEMENT IN CERTAIN TYPES OF MOTOR CONTENTS**

<i>Chi - square</i>	<i>Degrees of freedom (df)</i>	<i>p - value</i>
69.04	8	<b>0.00</b>

The number of actively involved children differs significantly ( $p=0.00$ ) in relation to the type of motor contents offered to them (Table 3). Although children participated in all motor contents, the results showed that their interest in the following contents was particularly the greatest: contents of mastering obstacles, mastering the handling of objects, individual kinesiological games, general preparatory exercises in place and the realisation of motor contents accompanied by multimedia (where interest was especially expressed). According to the developmental characteristics of children, their abilities and opportunities at an early age, the results were analysed.

### **3. Discussion**

The greatest children's involvement (>85 %) was present in mastering obstacles and handling objects. Research and practice showed that early-aged children have significant potential for learning and exploring space around them (Gopnik et. al. 2003, Bruner, 2000 et al., Vujičić, 2013). They learn through exploring the world around them, doing, watching, and participating in activities. It is important to create a supportive and challenging environment for learning and researching (Vujičić, 2013). Children of early age are curious and are interested in space around them and how they can handle some objects.

Children start exploring from the moment of their birth, and as they grow, their need for exploration also grows. It is known that early aged children are curious, brave, learn by doing and express a strong urge to explore their environment (Martinović, 2015). Also, children have an inborn sense of wonder and a strong desire to explore; they just need a supportive adult who can keep their spirit alive. They can often be seen touching various objects, throwing them, palpating, rolling them and listening to their movement. Besides, they often explore their bodies' possibilities and try what they can and are capable of. They do that by jumping, walking, running, furthermore they throw themselves, bowl over

and roll. That is why mastering obstacles and handling objects are two domains which are extremely interesting to children, and represent new challenges and stimulate their actions. Through the observations of children, we can see them moving around the hall during kinesiological activities. Also, it can be seen that activities initiated by children are related to the domains of handling objects and space mastering. Activities initiated by children positively affect all aspects of their development. To carry out such activities, well-equipped space is very important. Properly equipped spaces for physical activity in kindergarten contribute to everyday natural motion.

Children are biologically ready to learn about the world surrounding them, to walk, speak, etc. Due to this innate ability, they become interested in activities belonging to these two domains whenever they get the chance for it (Conezio and French, 2002; Vujičić, 2017). Early-aged children do not like kinesiological team games, and most of them get involved in individual kinesiological games. Such results can be corroborated by the fact that early aged children are not ready enough to cooperate with others. Later on, in the preschool period, from the fourth to the sixth year of age, there is a developmental task ahead of the child to be involved in the world around him/her to a greater extent, to form relationships with other children, to cooperate and be active. Social interactions include a number of social skills; thus socially competent children coordinate their behaviour with others' by finding a common language, exchanging information and cooperating (Brajša Žganec, 2003). Two-year-olds are still characterised by their egocentric phase. Egocentrism can be manifested in two forms: as an early form and as a late form. For early egocentrism, it is typical that a child does not have a clear sense of separation from the environment, and the environment becomes part of it. In the late egocentrism, children slowly start to distinguish themselves from the environment, but they cannot yet understand that they are different from others, they cannot understand common rules. They are also putting themselves into the centre of everything, and it is difficult for them to join team games. Due to egocentricity, the child is not completely ready to cooperate and does not know the limit between himself and the external world (Berk, 2008). Children aged 1 to 3 are not capable of reaching common agreements, of negotiating and maintaining self-control

during such games, so they often choose and prefer individual kinesiological games. Children need to know some rules to be able to participate in team kinesiological games. Games with the rules are games that are based on pre-established rules. These games can be cooperative so children can also learn about teamwork and collaboration with others, about helping and sharing. Moreover, children learn how to abide by rules and learn about the community. Games which require this are typical for school-aged children (Klarin, 2017). Egocentrism disappears between the ages of 6 and 7 (Starc et al., 2004). This fact is important for clarifying the involvement of children in team kinesiological games.

Results indicate that early aged children prefer general preparatory exercises in place. Early aged children can direct their thoughts toward a certain task, but their attention span (the amount of time a person can spend concentrating on a task without becoming distracted) is much shorter than that of older children or adults. Therefore, early aged children cannot remain concentrated for a longer time to perform movement exercises or exercises accompanied by music. Older children have longer concentration-time than children of an early age. There is also a close connection between concentration (being able to focus attention) and self-regulation. Children who are better at self-regulating display more positive social behaviour. As adults, we need to be patient and understanding with children. Music and movement can draw their attention from general preparatory exercises, which are then not performed in the right way. During early childhood, children develop the ability to imitate and are better in solving simple tasks (Berk, 2008). With regard to this, they mostly prefer general preparatory exercises in place when they follow movements and instructions given by educators and repeat what is assigned without additional stimuli and tasks which could deconcentrate them. Children's preference for general preparatory exercise in place can be increased by the implementation of stories about some topic that is very interesting to children. For example, a preschool teacher can create a story about animals who are going for a walk. The first in a row is a giraffe who may move its neck. It encourages children to try to practice as a giraffe. Also, the preschool teacher can implement stories including toys, nature, vehicles, etc.

The children's interest in content with multimedia was 92%. Children prefer music, and almost all children (97%) were happy to participate in the physical exercise process. Multimedia contents linked to movement are extremely stimulating for the realisation of motor contents with children of early or preschool age (Vujičić, Petrić and Pejić Papak, 2018). This fact was also confirmed by the results of this study. Multimedia is an indispensable part of everyday life, with music that activates, encourages, stimulates and strongly influences men from the earliest age (Šamanić, 2011). Motor contents accompanied with music were especially emphasized, which in the context of all pedagogic concepts of education are an unavoidable path toward children's holistic development. If children are stimulated with music from the earliest age, it is possible that they make experience patterns (Šamanić and Petrić, 2017). For early and preschool-aged children, music is primarily a feeling they express by movement. It is known today that the music intended for perfecting the children's motor contents should be of a tempo (speed) which adequately complements their abilities (Šamanić and Petrić, 2017). It can be chosen from all genres available to the educator but has to be rhythmically clear and dynamically moveable for the realisation of the planned goal. Music allows children to express their emotions freely, which they transfer from personal experience to movement and motor activity, which is especially important in this age at which they insufficiently express themselves verbally.

In the continuation of this research, it would be good to include a larger number of examinees for the results to be surely generalised. This study has shown that with early and preschool-aged children it is possible to conduct organised kinesiological activities like physical education, and it offers guidelines in the choice of motor contents for which children show significant preferences.

#### **4. Conclusion**

Organised kinesiological activities in early education institutions represent for many children in their developmental phase the only chance to engage in physical activities. This fact emphasizes the invaluable importance of physical activity in the contemporary world, where sedentary life predominates (Petrić, 2016). Besides, regular physical

activity from the earliest age is a crucial factor for a healthy life; therefore, physical exercise and kinesiological activities should play an important role in a child's overall activity set (Petrić et al., 2012). Motor knowledge and the abilities which a child acquires from the earliest age fulfil his/her biotic need for movement and contribute to the development of motor potentials.

The results obtained by this study indicate the possibility of working with children of an early age who can achieve significant results in adequate conditions, with qualified professionals and their support. Children showed special interest for activities of mastering obstacles, handling objects, individual kinesiological games, general preparatory exercises in place and the realisation of motor contents accompanied with multimedia. When planning kinesiological activities with children of an early age it is necessary to respect their interest because the efficacy of physical exercising is then more significant. They should be used to increase the motivation toward organised physical exercising, but attention should also be paid to not neglecting other adequate motor contents which allow for the overall development of children.

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### **Djeca rane dobi: uključenost s obzirom na različite vrste motoričkih sadržaja i multimedije tijekom njihove realizacije**

**Sažetak:** Cilj istraživanja je utvrditi sudjeluju li djeca rane dobi podjednako u svim ponuđenim vrstama motoričkih sadržaja i različitim vrstama njihove realizacije koje omogućuje i multimedija. Uzorak ispitanika činilo je 63 djece prosječne dobi od 2,3 godine koja su pohađala redoviti integrirani program u Dječjem vrtiću *Rijeka*. Varijable su formirane tipovima motoričkih sadržaja koji se mogu izvoditi tijekom kinezioloških aktivnosti: biotičko motoričko znanje, kineziološke igre, pripremne igre, motorički sadržaj uz multimediju. Aktivnosti su snimljene videokamerom, a primijenjene su metode uključivale promatranje i hi-kvadrat test. Rezultati pokazuju da postoji statistički značajna razlika u uključenosti djece u pogledu tipova motoričkih sadržaja i primjene multimedije. Najveća uključenost zabilježena je u sljedećim sadržajima: svladavanje prepreka, rukovanje objektima, individualne kineziološke igre te opće pripremne vježbe na mjestu, dok u kontekstu multimedije tijekom realizacije motoričkih sadržaja djeca uglavnom preferiraju glazbu. Najmanja uključenost zabilježena je u sljedećim sadržajima: svladavanje otpora i timske kineziološke igre. Kod planiranja kinezioloških aktivnosti u djece rane dobi potrebno je poštivati njihov interes, što će povećati motivaciju i učinkovitost pri organiziranoj tjelesnoj aktivnosti.

**Ključne riječi:** *preference, motorički sadržaj, kineziološke aktivnosti, rana dob, multimedija*

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## **Training orientation in female educational paths. The gender gap in STEM fields**

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### **Abstract**

Throughout the twentieth century education was, particularly in Western society, marked by the idea of gender differences, thereby conveying sexist stereotypes and outlining a culture that declared itself neutral. In reality this culture did nothing but "shape" the female gender based on the male prototype, which was considered to be superior. Differences in the skills of both sexes have, until today, been interpreted as consequences of "innate" inclinations, thus girls were directed towards certain activities and trajectories, while boys were directed towards others. Today we see a clear separation in the study directions, which has been defined by gender gaps: women opt for human and social sciences, while men prefer technical disciplines. The consequence of this, which is visible in many areas, is that women were considered "inadequate" to respond to the growing technological progress precisely because the culture they lived in had not prepared them to confront it. In particular, the obstacles felt by women in approaching the STEM area could be attributed to an "inner prohibition" of sorts, which is the result of an everlasting cultural legacy. Furthermore, school curricula are still directed towards gender conformation, thus leaving little space for individual differences, orienting males and females towards stereotypical choices, which do not always correspond to their own desires. On the other hand, female presence within the scientific and professional pathways of the STEM area, as well as their career advancement, are significantly lower than the one of males, as confirmed by the most recent Italian data as well as international literature, highlighting, even today, the persistence of an unfriendly approach to female presence in the digital world. The present study, which takes the form of a review of the current state of the art on the topics in question and is based on the epistemological paradigm of the critical feminist pedagogy, attempts to decode the implicit principles in the field of individual education. It also strives to demonstrate historical differences in knowledge transmission according to the traditional and patriarchal pattern of understanding female and male characteristics, thereby affecting the attitudes of men and women and influencing their educational choices.

**Keywords:** *STEM, gender gap, critical feminist pedagogy, education, orientation.*

## 1. Introduction

The gap between men and women in the workplace and academia, known as the gender gap, is now a widely known phenomenon, but not yet sufficiently explored.

The low female presence in the technical-scientific labor market has effects not only on a socio-cultural level, but also on an economic one, since part of the most qualified human capital is dispersed and with it a potential increase in productivity and in the consumption of products and services is lost.

Although Italian women graduating in STEM area disciplines are still less numerous than their male counterparts, it should be emphasized that these tend to have better university results both in terms of academic results and in terms of completion times. (Liccardo et al., 2010).

The gender gap in the academic and professional paths, therefore, in addition to perpetuating segregating logic, generates two kinds of problems: firstly, because it concerns professions that enjoy a high level of work, with salary levels often higher than the national average, which should prompt more women to specialize; secondly, because these sectors are the frontier of innovation, and therefore would benefit from a greater diversity of views and heterogeneity in the approach to the STEM disciplines. Furthermore, greater female participation in the STEM sectors would favor a more effective use of human resources, regardless of gender.

The slow, albeit gradual increase in the number of women in the STEM sectors represents a strong signal of policy effectiveness at European level. In fact, female participation in technological and digital progress is one of the objectives of the Europe 2020 Strategy and, more precisely, among the key points of the Horizon program (European Commission, 2010a).

Faced with the multiple advantages that women's expertise would bring to the well-being of society as a whole, on the one hand the resistances that comes from education are still strong, still based on stereotyped models, calibrated on socially deemed inclinations more suited to men or women; on the other hand, we find inner resistances to the

women themselves, who shy away or consider themselves unfit to undertake so-called “non-traditional” trajectories.<sup>1</sup>

This paper is part of this context of reference, and intends to provide a certainly not definitive representation of the universe underlying the relationship between women and the STEM area, both disciplinary and professional. Therefore, the first paragraph will outline a theoretical and political framework that is certainly not exhaustive of the subject in question; in the second paragraph will be provided a photograph of women who have chosen technical-scientific careers; in the third paragraph we will analyze the obstacles, sometimes invisible, that lie behind the scarce presence of women in the scientific training courses; the fourth paragraph presents new configurations of inequality and segregation at work level; finally, the fifth paragraph intends to propose possible gender equality itineraries in training orientations for girls and boys, presenting some good practices already implemented by different Italian cities.

## **2. Women and STEM: theoretical and policy framework**

Rapid technological advancements and digitalisation are transforming the world of work and how we live our day-to-day lives. There is an increasing demand for digital skills and higher qualifications across a wide variety of sectors. Information and communications technology (ICT) specialists are in particularly high demand, with employment growth more than eight times higher than the average employment growth in the EU (Eurostat, 2017). Recent forecasts predict a shortage of more than 500 000 ICT specialists by 2020 (Korte et al., 2017). However, only around 17 % of the almost 8 million ICT specialists are women, and the number of women graduating from ICT studies has been decreasing over the last decade (EIGE, 2017a). The vast underrepresentation of women in ICT shows a waste of highly qualified human resources and has larger implications for the wider economy. In particular, it threatens the EU’s innovative and economic potential in the future and contradicts the EU’s highest political priority of smart, sustainable and inclusive growth. It is estimated by EIGE that attracting more women to

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<sup>1</sup> Note that the two factors are closely related to each other, in a relationship of reciprocal causality, so if women perceive themselves as inadequate for certain disciplinary sectors, it is due to the influence of the cultural legacies that have long underpinned the education.

the STEM sector would lead to economic growth, with more jobs (up to 1.2 million by 2050) and increased gross domestic product over the long term (up to EUR 820 billion by 2050) (EIGE, 2017b).

From the point of view of European policy, the Europe 2020 strategy (European Commission, 2010b) is the EU's main strategic document for growth and jobs for the current decade. The strategy sets out the headline target of 75% employment for women and men aged 20-64. This implies reinforcing education and training for women, particularly in sectors where they are under-represented. The evidence of persistent skills shortages in the ICT sector in spite of high unemployment levels in many Member States shows that there is a vast pool of untapped potential, especially among women, as well as a waste of resources and a lack of investment in human capital.

A wide range of other EU policy initiatives, such as the digital agenda for Europe (2010), the Grand coalition for digital jobs (2014), the recently updated digital single market strategy and the new skills agenda for Europe (2016a) address the Commission's highest political priority, "a new boost for jobs, growth and investment". The shortage of ICT specialists and the vast under-representation of women in this fast growing sector are well documented. The new skills agenda for Europe acknowledges that tackling the skills deficit will require significant policy efforts and systemic reforms in education and training. It also seeks to ensure that people have the right skills throughout their lives, not only to improve their prospects in the labour market, but also to enable them to fulfil their potential as confident and active citizens (EIGE, 2018).

From what has been said so far, it can be seen that the phenomenon of female underrepresentation in scientific training courses is similar to the tip of an iceberg, in other words as part of a broader set of social inequalities that the various policy and governance systems must necessarily take into account (OECD, 2017). In fact, the question of the gender gap is at the center of work-family balance policies in many European Union countries.

As evidenced by the OECD data (2015a), countries with the highest shares of women working from home also have the highest maternal employment rates, while no such relationship emerges for men. Moreover, evidence from the United States shows that gender pay gaps

tend to be lower in industries where working arrangements are more flexible (Goldin, 2014).

In the labor market, a greater possibility of employment certainly depends on the possession of specific skills and, consequently, from having a high educational qualification (Arntz et al, 2016); from this point of view women are undoubtedly advantaged, being more educated than men (OECD, 2016a). However, they remain disadvantaged compared to those occupational areas that offer a wider career margin, such as the STEM area. In particular, in the OECD countries there is a percentage gap of 4 points between men and women employed in sectors that require specialized ICT skills (OECD, 2016b). Investing in women's education in this area therefore represents, especially in the Italian context, an educational emergency since 88.000 new jobs that will require ICT specializations will create between 2018 and 2020 (Assinform, 2018).

### **3. Women in non-traditional paths**

The female presence in the study paths in the scientific area and in the professional sectors of the STEM area is generally lower than that of men; despite this, in recent years it has been constantly growing. It is a non-homogeneous but rather articulated, differentiated and moving presence. The women who today live professionally in the STEM fields tell us something about the transformations that took place over time in gender trajectories within training systems, in labor markets but also in social systems as a whole.

At European level, out of the total number of graduates in the 25-34 age group, STEM graduates represent, in fact, 23% with a trend that clearly shows, in the comparison between cohorts of different ages, how the new generations are progressively approaching these disciplinary fields. At the same time, female employment is also growing within these camps with women who now represent 43% of those employed in the STEM sectors (OECD, 2015b).

At the base of the female underrepresentation in the “non-traditional” paths, which also accounts for a certain resistance to the change of the phenomenon, there would be several reasons, including the problems that women encounter not so much in reference to obtaining the degree or

entering in the labor market, but rather to working conditions, the quality of working life and the possibility of career advancement. (De Vita, 2013) If on the one hand the low presence of women in these fields remains the reason for the persistence of the status quo of organizational practices, marked by the male, on the other hand the hierarchization of the same hinders women to reach top positions (Sala, 2003; Simonazzi, 2006).

The “challenge” represented by the choice of women to undertake countertrend paths, first of all engineering, is not accidental, but is motivated primarily by the fact that it is the sector, among the scientific ones, in which the imbalance between males and females is deeper. As well as from the fact that traditionally for the SET disciplines (science, engineering, technology), the conviction is still strongly rooted that these sectors are governed by exclusively meritocratic criteria, in which the evaluation based on the results and on the personal contribution to the growth of knowledge would exclude any gender bias (Etzkowitz, Kemelgor and Uzzi, 2001).

However, rather than inserting themselves in these fields because of a desire for emancipation as happened in the past (when traditionally the training paths of girls and boys were determined by gender stereotypes, so the girls were oriented towards care professions and boys towards technical and scientific disciplines), these women respond to new market demands by introducing new spaces of action in ways of doing science and building innovative knowledge territories. Moreover, the profile that emerged from a recent research (Bianchieri, 2010) shows that the new generation of engineering students is represented by motivated and determined girls who aim to acquire a solid wealth of knowledge and skills, in line with market demands. Not only that, women who move on border knowledge (for example physics and mathematics), would be bearers of a plural and interdisciplinary competence, differently from traditional scientific careers, above all male, that in the past built their expertise mostly within disciplinary fields with more marked boundaries (such as that of pure mathematics).

The trajectories in which women participate in science today are therefore characterized by the hybridization of knowledge and a continuous reconfiguration of research fields (De Vita and Viteritti, 2017). Furthermore, they are mobile and flexible trajectories (Elliot and Urry,



2010), suitable to adequately respond to the needs of conciliation, an issue that represents the main problem of employed women. Among the strategies used by women to overcome these career obstacles is the choice to prefer entrepreneurial paths, in order to manage the activities and times of their work independently. Also for this reason the women managers of the hi-tech sector are constantly increasing in Italy<sup>2</sup>. The issue of conciliation between work, family and personal life appears to be crucial from the point of view of professional advancement, in fact, segregation phenomena between the same workers, in particular between those who have families and singles, would be found. Some women entrepreneurs have declared that pregnancy constitutes a cost for organizations (De Vita, 2013), normalizing discriminatory dynamics and showing how masculine culture is somehow accepted by the women themselves.

#### **4. The educational choices of girls: limits or opportunities?**

The female predilection for training courses closer to the humanities and care disciplines is certainly not a novelty, it derives from a series of cultural conditioning, even before being of a socio-economic and family nature, in addition to the tendency to attribute to girls and boys innate predispositions towards certain attitudes (Ulivieri, 2001).

The 2012 PISA data show that a substantial percentage of Italian households tend to direct their children towards educational pathways differentiated by gender. There is a tendency to consider twice as likely a future career in the field of science, technology, engineering and mathematics for male children rather than for daughters, even when the children of both sexes demonstrate identical skills both in mathematics and in other scientific subjects. These choices do not seem to be based on the school performance of young people: on the contrary, Italian boys tend to have less brilliant school performances than those of their female peers (OCSE, 2012; OECD, 2015c).

Every age has associated the difference between the sexes with defined communication and behavioral codes, developing real role models for males and females that reproduce through religion, language and, above

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<sup>2</sup> On the national territory there are 1,287 *hi-tech* companies led by women, Chamber of Commerce data, Milan, 2015.

all, education in the family and in society (Seveso, 2001). These models are transmitted from one generation to another, and training, understood as a process of development, socialization, inculturation, is the main device.

It is no coincidence that the educational practices were in Western culture and, in particular, in the Italian culture, very differentiated on the basis of sex: more or less openly and with different degrees of discrimination. For centuries girls and young women have been the object of a calibrated “pedagogy of ignorance” which exalted in them an alleged emotional, irrational, sensitive, pragmatic nature, lacking in capacity for synthesis and abstraction, proper instead of the male sex (Ulivieri, 1992).

Recent studies (Rebollo-Catalán, Vico-Bosch, and García-Pérez, 2015) have analyzed women's learning skills in relation to information and communication technologies, revealing innovative aspects in information acquisition processes. In fact, women would learn more through informal contexts, turning more to friends, family or virtual resources to learn more about ICT. The research also demonstrates that women use multiple autonomous learning strategies based on experimentation with technology, rather than using collaborative learning strategies through participation in groups, associations or projects. Still, other studies (Sánchez-Vadillo, Ortega-Esteban and Vall-llovera, 2012) have analyzed the factors that influence digital skills from a gender perspective. The authors indicate that, in ICT learning, the influence is drawn from the nearest models and references (family and school), from the media and from the expectations of the girls. They also affirm that gender stereotypes can contribute to women's disaffection with the technological universe, leading to a lack of motivation towards their professional capacity, as well as personal aspirations. The modeling function of the media through the tool of gender stereotypes has also been examined by Marone and Striano (2012) and recognized as a producer of an inequality which in turn generates submissions and social hierarchies. In fact, the alleged female subordination passes through the language and the imagery conveyed by the mass media.

In summary, the studies that focused on how women learn through the use of new technologies have shown that they resort to a multiplicity of learning strategies, such as autonomous or collaborative styles; despite this, they prefer to devote themselves independently for the pleasure of

intuitively experimenting with technologies and above all learning new strategies (Vergés et al., 2011; García-González et al., 2012; Gros, 2015). These evidences, on the basis of cyber feminist approaches (Haraway, 1995; Plant, 1998), arise in contrast with the traditional gender stereotypes that would assume the existence of a sort of technophobia on the part of the female subject. This peculiar self-directed educational process characteristic of women, which is expressed in the preference for autonomous learning of ICT strategies, represents a crucial factor of promotion for digital inclusion, as well as an important element to be taken into account when thinking about programming of university training courses (Jiménez-Cortés et al., 2017).

Although the women who undertake the profession of engineer are increasing, this profile is set in the masculine by definition. The very figure of this professional coincided with the masculine in European society. The engineer, as a male, was entitled to manipulate all the opportunities for acquiring knowledge to play his role as a rationalizer in modernization and industrialization. The feminization of the profession began only within the cultural élites of the late Nineteenth Century, through a difficult and slow inclusion process, in which women still struggle to find spaces for legitimacy (Giannini and Scotti, 2007). The stereotypes linked to the scarce abilities of women in science are associated with the very low familiarity attributed to women in technical matters. Numerous studies have clarified on the one hand the influence of primary socialization processes which, starting from the family to continue with the school, support some models of behavior considered appropriate with respect to gender, (Gianini Belotti, 1973; Marone, 2003), on the other the lack of a real foundation about the alleged inferiority (traced back to a “natural” inferiority) of women in scientific subjects and, therefore, in the “things of men”. (Butler, 1990). What seems to exist is instead a strong conditioning deriving from the presence of these discriminations, the “threat of the stereotype” (Nguyen and Ryan, 2008), which would influence the girls to push them to give up the comparison with peers in science subjects. These conditionings, which find their deep roots in the last century, have been the center of the work of deconstruction carried out by the feminist critical pedagogy towards conventional theories on education (Marone, 2002). This approach aims to promote the reflexivity of the trainees to acquire a new critical awareness

of the basic assumptions that, internalized by each as part of culture, regulate social relations.

## 5. New metaphors of inequality

The category of gender has always been a factor of inequality, used as a tool of power in defining social, political and economic dynamics. The perspective of critical feminist pedagogy has engaged itself precisely in decoding those assumptions that have historically relegated women to a position of subordination with respect to man in the field of knowledge, as well as with respect to the role played in society and in the profession.

In the workplace, concepts such as “vertical/horizontal segregation” are known alongside those of *glass ceiling* to describe the forms of exclusion of women from career advancement and achievement of top positions. Other concepts, reminiscent of Darwinian logic, refer to “tournament theory” (Luciano, 1993), according to which those who have not been selected as potential winning resources will continue to remain outside any further investment. It is an extremely complex and multifaceted phenomenon that in recent acquisitions tends to overcome the metaphor of the aforementioned glass ceiling or sticky floor, to take on broader expressions such as that proposed by Aker (2009) of “inequality regimes” or the “labyrinth of leadership” (Eagly and Carli, 2007). The perplexities derive mainly from the fact that the metaphor of the glass ceiling takes on the one hand the existence of an absolutely impenetrable barrier, while many women have broken it, on the other it implies an orderly progression upwards, abruptly blocked by an invisible barrier only shortly before reaching the finish line. In short, the fact that career obstacles are distributed in every direction and along the entire career path would be underestimated, starting as early as the first entry into the market (Meyerson and Fletcher, 2000).

There are many women who have laboriously conquered positions that it would be legitimate to reach without any effort (or more than men), yet precisely because of the need to defend what has been achieved and to continually demonstrate their skills, these end up taking on professional attitudes marked by aggressiveness, competitiveness, considered typically male (Sala, 2003). It is therefore clear that one’s job and professional

position (especially if this involves high responsibilities) must still be constantly negotiated and legitimized, in spite of the goals achieved compared to the past.

Gender inequality in the workplace is also found through the gender pay gap, whose causes include the low rate of labor participation, the level of segregation (for which a concentration of female participation is observed in certain sectors, basically those less remunerative than those with high male participation) and the dynamics of the labor market (the possibility of providing smart working or part-time contracts) (European Commission, 2016b). Therefore, if the gender gap exists regardless of all professional sectors, in the STEM one it is even more dense, particularly in Italy, probably due to the structure of the labor market and the low rate of female labor force participation (European Commission, 2015a).

## **6. Training orientation and gender equality**

The development of a Country and its success in the global economy can only be achieved by favoring the development of the potential of all its citizens without any gender distinction. In this perspective it is essential to train future generations with knowledge and skills thanks to which they are able to analyze, evaluate and reformulate information and solve complex problems. The role of women in this scenario is as crucial as gender equality understood as the engine of development and well-being of each Country. Therefore, the overcoming of every gender stereotype becomes the main objective of every formative process, since, as has already been said in the present article, the main obstacle that arises between the female contribution and the scientific community in the STEM field is the alleged poor attitude of female students towards these disciplines, which has led to a gender gap in these disciplinary sectors, both within the study pathways and in educational and professional orientation choices. Women, who for a long time constitute more than half of the graduates in Italy (in the academic year 1991/92, for the first time in Italy, matriculated women have surpassed men), represent among the graduates of 2017 59,2% of the total. In the Italian training system there is a strong differentiation in the gender composition of the various disciplinary areas. In the first level courses women make up the

strong majority in the teaching groups (93.9%), linguistic (84.2%), psychological (81.5%) and health professions (70.1%). Conversely, they are a minority in the engineering groups (26.0%), scientific (31.7%) and physical education (34.2%). This distribution is also confirmed within the two-year magistral courses. The majority of women, in fact, tend to attend courses on chemical-naturalistic subjects, to the detriment of computer-engineering subjects, in which these are clearly underrepresented within the individual disciplinary groups (Graph 1) (AlmaLaurea, 2018)<sup>3</sup>.

Similar evidence with respect to gender differentiation of disciplinary groups has also been reported by American research (Mann, Jegewie, DiPrete, 2015), in which the role of primary and secondary education was analyzed in the genesis of gender differences in the development of the propensity to choose a STEM career by women. The study found that, for both boys and girls, a stimulating and competitive school environment is an important factor for the development of a propensity to deepen the study of scientific subjects, a factor that in turn significantly conditions the choice of university courses and careers related to the STEM world, especially if young people are exposed to feedback that highlights their skills in this area. Despite the presence of a competitive environment brings benefits both genders, the research highlights how this competition widens the gender gap related to the mathematical-physical subjects in favor of children and related to the geo-biological subjects in favor of girls. This figure would explain the reason why women with a university degree are almost twice the number of men both in the scientific and geo-biological disciplinary area, while men are double the number of female colleagues in the scientific area and in the area engineering, as evidenced by the AlmaLaurea data.

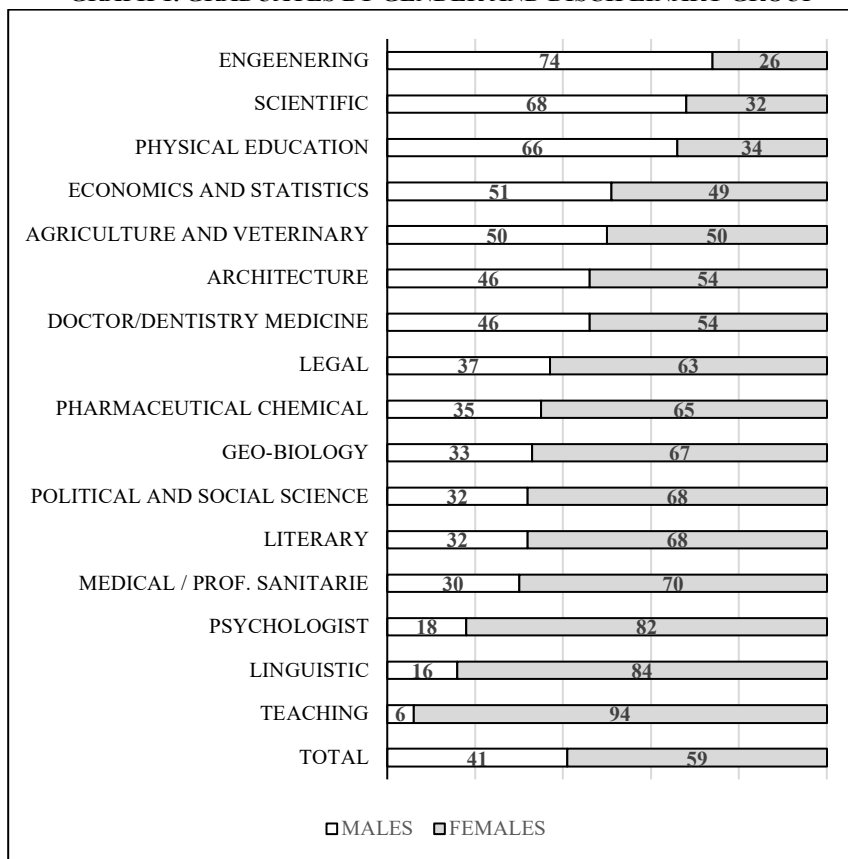
The University of Naples “Federico II” guarantees gender equality and equal opportunities, for this reason, in 2016 the Gender Report was published, one of the few carried out by research centers and universities Italian. The document presents a systematic description of the male and female distribution within the study paths: student population matriculated

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<sup>3</sup> The low representation of women in engineering and scientific study courses also has an impact on employment outcomes, in fact women have a lower propensity to choose jobs related to the world of information systems, as shown by the data reported in the online document “Italian women and STEM careers”. <http://www.minervaonline.org/wp-content/uploads/2016/11/DONNE-E-CARRIERE-STEM.pdf>

(10475 women and 9041 men), registered (46884 women and 36726 men) and graduate (female percentage of 58% of the total); post-graduate education (55% of women in the doctorate, 59% in masters).

**GRAPH 1. GRADUATES BY GENDER AND DISCIPLINARY GROUP**



Source: AlmaLaurea, *XX Indagine Profilo dei Laureati 2017. Rapporto 2018*.

Furthermore, the Report gives a picture of the university composition in which the gender gap still seems to be unresolved. The data highlighted by the Gender Report of University of Naples seems to resume the European ones (European Commission, 2009), in fact there is an increase in the number of women attending university courses up to the doctorate, but top positions in the academy, together with some fields of knowledge, still remain dominated by men. Similarly, the “She figures”

report (European Commission, 2009) shows that women are less numerous in science than male colleagues since the beginning of the training course; the percentage composition between the two genders remains rather stable up to the role of researcher and then gives rise to a substantial divarication of careers in the academic field, with a very low female presence in the most prestigious academic positions. In addition, the academic performances of Italian women are better than those of men, with the same educational background. In general, women graduating in scientific faculties are less numerous than male colleagues, but on average more skilled (they tend to graduate with higher grades than men) (AlmaLaurea, 2018). Immediately after graduation, however, the gap is reversed: only 59.2% of newly graduated women work against 64.8% for men (Istat, 2017). These data provide very clear indications of the existence of cultural and structural obstacles which determine, on the one hand, the abandonment of scientific careers by women and, on the other, the persistence within the institutions of a strong horizontal and vertical segregation, with some areas and positions of prevalence of a single gender.

Although literature and statistics tell us that school results are equal and sometimes exceed those of male students, female students tend to have less self-esteem than boys in STEM disciplines, that is, on average, less confidence in their "scientific" abilities compared to their male counterparts.

It is therefore necessary to invest in education from childhood, allowing children and girls to approach the world of science, technology, mathematics and engineering without sense of fear, inadequacy or anxiety trying to eliminate the gender gap. To pursue this goal, it is certainly important to change the training approach towards STEM subjects, using innovative, active and informal learning models as was done in 2017 by an Italian comprehensive institute (Brindisi, Puglia), thanks to a call of the Department of Equal Opportunities. The project was attended by 33 students, 8 of whom were male and 25 were female, belonging to the last year of primary school and to the first grades of lower secondary school. The methodology used was that of *tinkering*, based on the *think-make-improve* cycle.



This methodology increases the awareness that “by studying, trying and making a mistake we arrive at the desired result”. The mistake is not seen negatively, but as an opportunity to progress and improve learning, instilling in the students’ satisfaction and self-confidence. By playing and exploring, problems are approached through a process in which learners “dirty their hands”, operating on objects (material or virtual) that are perceived as real and for the resolution of which the student feels intrinsically motivated. Precisely these motivational aspects, as mentioned in the introduction, are often the preliminary elements that invalidate the relationship between the STEM disciplines and the female world. The experience has led to positive and satisfactory results from the point of view of the motivation of girls and boys, but also a very good and positive atmosphere, perceived above all by parents.

Among the smartest Italian cities there are Milan, Florence and Bologna (Tab. 2). Milan, leader in the top ten of the annual ICity Rate report (FPA, 2018), is the promoter of numerous initiatives dedicated to overcoming the gender gap in the STEM field. Among the objectives pursued, Milan intends to promote the dissemination of technical-scientific disciplines and new digital technologies as opportunities for the professional future of the new generations. It does this through the organization of events, seminars, training courses, meetings, debates, role modeling sessions and shows, as well as including proposals for nursery schools, primary schools, secondary schools of first and second grade, up to the Universities.

According to the considerations set out in this contribution, it is clear that the success of the training paths constitutes one of the fundamental elements for the growth of a Country and for the success of future generations; therefore it becomes of primary importance to rethink good educational practices from the first grades of education, to carry out projects that encourage female students towards a profession tailored to their own interests and talents, even in those paths that have long been the prerogative of competences and predispositions held prevalently male; a formation free from gender conditioning.

**TABLE 2. GENERAL RANKING OF THE 107 SMARTEST ITALIAN CITIES**

6R.	CITIES	POINTS	R.	CITIES	POINTS	R.	CITIES	POINTS	R.	CITIES	POINTS
1	MILANO	640,2	28	BIELLA	492,7	55	TERNI	434,9	82	SASSARI	334,7
2	FIRENZE	621,6	29	SIENA	492,6	56	CUNEO	434,5	83	ISERNIA	331,7
3	BOLOGNA	620,0	30	RIMINI	491,9	57	VERBANIA	427,7	84	NUORO	328,9
4	TRENTO	583,6	31	BRESCIA	489,5	58	LUCCA	426,5	85	CAMPOBASSO	324,9
5	BERGAMO	567,1	32	LODI	488,0	59	ASCOLI P.	425,2	86	SIRACUSA	323,2
6	TORINO	547,7	33	FERRARA	485,2	60	L'AQUILA	423,9	87	LATINA	322,9
7	VENEZIA	544,1	34	LECCO	482,8	61	ASTI	417,4	88	PALERMO	322,1
8	PARMA	539,1	35	PAVIA	480,2	62	LECCE	408,9	89	CATANIA	312,9
9	PISA	538,6	36	BELLUNO	476,8	63	PESCARA	407,9	90	COSENZA	307,0
10	REGGIO E.	532,8	37	NOVARA	476,3	64	FERMO	405,7	91	ANDRIA	302,7
11	PADOVA	532,5	38	PERUGIA	470,8	65	MASSA	402,7	92	MESSINA	302,5
12	RAVENNA	531,7	39	COMO	469,6	66	ALESSANDRIA	402,1	93	FOGGIA	298,2
13	PORDENONE	529,9	40	AOSTA	468,3	67	BARI	391,6	94	CATANZARO	296,9
14	TRIESTE	523,2	41	PIACENZA	467,9	68	PISTOIA	390,3	95	AVELLINO	296,7
15	ROMA	522,7	42	AREZZO	465,2	69	GROSSETO	385,1	96	RAGUSA	296,2
16	CREMONA	522,6	43	CAGLIARI	459,1	70	MATERA	384,9	97	REGGIO CAL.	292,5
17	MODENA	521,0	44	MACERATA	458,1	71	FROSINONE	381,0	98	BENEVENTO	287,6
18	UDINE	520,6	45	ANCONA	457,0	72	RIETI	369,5	99	CASERTA	283,0
19	MANTOVA	516,0	46	VARESE	455,1	73	POTENZA	362,9	100	BRINDISI	278,3
20	BOLZANO	512,9	47	SONDRIO	455,1	74	VITERBO	360,8	101	ENNA	275,1
21	TREVISO	512,1	48	PRATO	454,7	75	IMPERIA	357,6	102	TARANTO	268,9
22	VERONA	506,7	49	VERCELLI	449,6	76	TERAMO	354,8	103	CROTONE	248,8
23	GENOVA	503,5	50	GORIZIA	446,8	77	ROVIGO	351,0	104	TRAPANI	237,4
24	FORLÌ	500,6	51	PESARO	439,8	78	ORISTANO	350,2	105	CALTANISSETTA	235,9
25	MONZA	496,6	52	LIVORNO	438,5	79	NAPOLI	345,3	106	VIBO VAL.	227,6
26	VICENZA	494,5	53	LA SPEZIA	435,7	80	SALERNO	342,9	107	AGRIGENTO	225,2
27	CESENA	493,7	54	SAVONA	435,6	81	CHIETI	336,6			

Source: Fpa, Rapporto annuale ICity Rate 2018.

In summary, we can affirm that although the number of women enrolled and graduated in the technical-scientific disciplines is progressively increasing over time, together with a more genuine interest in these disciplines, the stereotypes and prejudices are still resistant in both

training and work, as well as the cultural heritage behind the under-representation of women in these areas, and which played a significant role in influencing women's attitudes towards science and technology. The school curricula, through specific educational offers, stages and job orientation paths begin to show a new attention towards an education that is not a harbinger of new forms of gender discrimination; however, the trend of girls approaching the *hi-tech* world remains constant and in any case lower than that of boys (AlmaLaurea, 2018). We must therefore ask ourselves what this resistance to change must be traced.

If education represents the pivotal point for the progress of a Country, it is absolutely essential that a sector historically and "traditionally" dominated by the male gender be enriched and supplemented by the female contribution. For this reason, the objective of reducing cultural (in the belief system and in the consciences of each) and materials (within the organizational and institutional systems) distances between women and the technological universe becomes an educational urgency, achievable first of all through a critical attitude and the questioning of the existing order (Marone, 2002).

On the other hand, according to the evidence from the literature, we can say that, despite the achievements and goals achieved by women in the field of gender equality since the dawn of feminist struggles, this equality seems to emerge even today on a merely nominal rather than substantial level, as shown by the differences in economic treatments, in the forms of vertical and horizontal segregation, and in the difficult conjugation of working and family commitments.

A recent study by the European Commission (2013) has shown that greater female participation in professions related to the digital economy would lead to an increase in EU GDP of around 9 billion euros per year. Given the significant added value inherent in female participation in the STEM sectors, one would expect a greater push from the countries of the European Union to favor this rebalancing. Italy, in particular, which is experiencing a prolonged period of low economic growth and labor productivity, could aspire to progressively overcome the gender gap as a driving force for relaunching the economy and to focus more on high-tech sectors.

In conclusion, some possible positive actions that could be taken to fill the existing gender gap are: promoting female participation in STEM by removing gender bias in curricula and parental attitudes, raising students' awareness about the likely consequences of choosing different fields of study, and facilitating women's access to STEM-related jobs through apprenticeships. Furthermore, the influence that role models, networks and popular culture exert on gender attitudes and stereotypes cannot be excluded. Moreover, another objective is to close gender gaps in access to, and in the use of, new technologies; in fact, about 60% of the world population, in particular women in low- and middle-income countries, still have no access to the internet (ITU, 2017). Still, in order to guarantee equal opportunities between women and men, flexible ways of working using new technologies should be promoted; in particular, governments can help by granting all employees a right to request flexible working time arrangements; encouraging social partners to cover flexible workplace practices in collective bargaining agreements; and helping companies change their work organisation through the exchange of best practice and information campaigns promoting a change in the workplace culture (OECD, 2016c).

Last but not least, it is of crucial importance to adapt social protection systems to the new forms of work: non-standard workers, and thus many women, are unlikely to benefit from the same advantages as those on standard work contracts (European Commission, 2015b).

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## **Trening orijentacija u obrazovnim putanjama žena. Rodne razlike u STEM području**

### **Sažetak**

Tijekom dvadesetog stoljeća, osobito u zapadnom društvu, obrazovanje je bilo prožeto idejom rodnih razlika, prenosivši seksističke stereotipe i ocrtavajući kulturu koja se proglasila neutralnom, ali koja u stvarnosti nije ništa drugo nego "oblikovala" ženski rod na temelju muškog prototipa, koji je smatran superiornim. Razlike u vještinama oba spola interpretirane su kao posljedice "urođenih" sklonosti, stoga su djevojke bile usmjeravane prema jednim aktivnostima i putanjama, a dječaci prema drugima; sve do današnjeg dana, kada vidimo jasno razdvajanje u smjeru studiranja koje je definirano *rodnim razlikama*: žene se odlučuju za humanističke i društvene znanosti, dok muškarci preferiraju tehničke znanosti. Posljedica toga, vidljiva u mnogim područjima, jest da su žene smatrane "neadekvatne" odgovoriti na napredak tehnološkog napretka upravo zato što ih kultura u kojoj žive nije pripremila da se s njime suoče. Posebice, prepreke koje žene osjećaju u pristupu STEM (znanosti, tehnologiji, inženjerstvu i matematici) području mogu se pripisati nekoj vrsti "interne zabrane", koja je rezultat stalno prisutnog kulturnog nasljeđa. Nadalje, školski kurikulumi su i dalje usmjereni na rodnu konformaciju, ostavljajući malo prostora za individualne razlike, usmjeravajući muškarce i žene prema stereotipnim izborima koji uvijek ne odgovaraju njihovim osobnim željama. S druge strane, prisutnost žena na znanstvenim i stručnim putovima STEM područja, kao i napredovanje u karijeri, značajno je manja nego muškaraca, što potvrđuju i najnoviji talijanski podaci, kao i međunarodna literatura, naglašavajući, čak i danas, postojanje neprijateljskog stava prema pristupu žena digitalnom svijetu. Ovaj tekst, u obliku pregleda trenutnog stanja, oslonjen na epistemološku paradigmu kritičke feminističke pedagogije, nastoji dekodirati implicitne postavke u području individualnog obrazovanja i prikazuje povijesne razlike u prijenosu znanja prema tradicionalnom / patrijarhalnom obrascu shvaćanja ženskih i muških karakteristika, a koje utječu na stavove muškaraca i žena te na njihove izbore obrazovnih putanja.

**Ključna riječ:** *STEM, rodne razlike, kritička feministička pedagogija, obrazovanje, orijentacija*



## Interculturality as a Challenge for Accessibility?

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### Abstract

Understanding access to culture for deaf students first of all means understanding the diversity of schooling situations. It is important to question the transmission of knowledge with regard to bilingualism for these students because teaching is based on a conceptualization. There is a lack of empirical data, so we shall try to explore the gap between the needs of students and their teachers and the responses proposed by cultural institutions based on the French case. Two surveys are cross in a secondary analysis process. We want to compare the expectations of special teachers with the proposals of cultural institutions. The key questions and possible answers thus raised, allow for a better knowledge of the specific actions developed to welcome this type of public. First, we will describe the expectations of each of the professionals with regard to their training. We will present the main results that highlight the emergence of new interdisciplinary needs, and question the training of educators in the face of multiple communication difficulties. We will then discuss the answers provided by the Ocelles project based on a multilingual and multimodal collaborative website in Open data. This conceptualization tool, designed from a semiotic triangle, enables participants to construct interculturality in a synchronous and diachronic approach.

**Keywords:** *culture, deaf, multilingualism, professional practices, interculturality*

## 1. Introduction

The French Law of 11 February 2005 on "equal rights and opportunities, participation and citizenship of persons with disabilities" (Act No. 2005-102), laid the foundations for participation for all in society. Thus article 19 states that: "Any child, adolescent with a disability or a disabling health disorder shall be enrolled in the school or in one of the establishments mentioned in article L. 351-1, the closest to his or her home, which is his or her reference school" (Article L. 351-1 la loi n°2005-102 du 11 février 2005.). Deaf students must therefore be enrolled alone or in small groups along with their hearing peers. The same article goes on to state that: "In the education and educational experience of young deaf people, freedom of choice between bilingual communication, sign language and French language, and communication in French language is a matter of right". Another text defines bilingualism in schools as follows: "[...] the use of French sign language is equivalent to oral communication, and written French language is equivalent to written language, [...]" (Bulletin officiel n° 33 du 4 septembre 2008.). It is important to question the transmission of knowledge with regard to bilingualism for these students because teaching is based on a conceptualization (Paivio, 1986). The notion of culture as a complex whole (including representations, values, behaviors...) links with languages as vehicles of meanings (Clanet, 1990; Coste, 2010; Jacquet, 2016). The notion of interculturality conjures up the process made by stakeholders when they build together a common space for discussion, respecting the other person's representation of the world and considering their mutual humanity.

There is a lack of empirical data, so we shall try to explore the gap between the needs of students and their teachers and the responses proposed by cultural institutions based on the French case. In a secondary data analyses, two surveys have been crossed. In order to compare the needs and expectations of special teachers with proposals made by cultural institutions, a holistic perspective has to be performed. Indeed, mechanisms for the transmission of knowledge within the framework of bilingualism can only be explained by taking into account both places of written words and French Sign Language (LSF). The social representations of two languages are put in relation to service offers, training of professionals who welcome deaf people with specific needs... The project

of the Observatory of Concepts and Lexicons in Written and Signed Languages (Ocelles) could be an answer to develop specific actions to welcome the deaf students and their teachers. Jointly supported by the Ministries of Culture, National Education and Higher Education, this conceptualization tool, designed from a semiotic triangle, enables participants to construct interculturality in a synchronous and diachronic approach. One of the objectives of this bilingual collaborative platform, LSF / French writing, is to provide a tool to access specific concepts conveyed by deaf and hearing professionals within these institutions in a context respecting announced and desired multilingualism and interculturality.

## **2. Legacy context – Right to access**

An inclusive society cannot exclusively define its members as those who can physically access collective spaces of work, leisure and common cultural heritage. Beyond openness to differences and the measures taken to prevent discrimination, which determine accessibility as a constituent of human rights, the concrete question can be posed of the roles played by linguistic systems as paths to the appropriation of knowledge arises. This knowledge enables us to build the meaning of those spaces as well as the social and personal identity of the users. Since the 80s, UNESCO has considered language diversity as an essential component of humankind's cultural diversity. As such, it has stressed the importance of assigning a "significant role to minority languages, according to the necessities of contemporary life, at local as well as national and international level". A deaf person belongs to a linguistic minority, for which there are several means of communication: French sign language (French acronym will be used in the text LSF), written French or oral French. (Courtin, 2002), (Mottez, & Vasquez-Bonfman, 1976)

About forty years later, it is important to ask ourselves how the promotion of this diversity, especially conveyed by the United Nations Convention on the Rights of Persons with Disabilities (CRPD) (United Nations, 2006) and the United Nations Declaration on the Rights of Indigenous Peoples (United Nations, 2007), is compatible and coherent with the design and implementation of an inclusive society. In this context, observing linguistic media -through which the contents of information or knowledge is prioritized and conveyed in social spaces - and analyzing the institutional and identity issues attached to this construct is paramount. I

From a legal perspective, within the class group, different modes of communication can coexist. This may include oral and written French for hearing students, French Sign Language (LSF) and written French for deaf people; families choose one or several modes of communication. However, the diversity of the situations encountered remains more complex. Through the following description, we do not claim to explain all French schooling arrangements for deaf pupils... but rather to introduce them. These are still strongly rooted in the historical context of each school, but the reader will be allowed to make a first representation of them.

About 95% of deaf signers were born to hearing parents who do not master LSF (Cuxac & Pizzuto, 2010). The first contact with this language for deaf signing students is most often observed outside the family circle. It is often at school that the first exchanges take place with other children. In 2010, a Certificate of Aptitude for Teachers of Secondary Education (CAPES) in Sign Language was created in order to promote the teaching of this language of the Republic, recognized as such since the law of 2005. Paradoxically, the status of staff holding this diploma nowadays limits them to teach in the first place in secondary schools for middle and high school students. Primary school language courses, as we would expect in a bilingual setting, are not only provided by certified teachers. While the training of specialist teachers in both primary and secondary education is primarily intended to train these professionals to welcome young deaf people into their classrooms and includes a few hours of LSF awareness, it does not aim to teach them this language, which requires a long and dedicated learning process. Teachers may, however, upgrade their competences with nationally initiated training courses, for whose attendance they need their superior's permission.

Indeed, there is no guarantee for a specialized teacher to necessarily hold a full-time or part-time position in a local school. Such question is important because it is linked to ambiguous social representation of the need of children. They need to communicate in LSF during the day. Even if a personalized schooling plan defines the modalities of the schooling process for each pupil, the question of teaching sign language remains.

In this context, in primary school LSF is rarely taught under conditions equivalent to those of French, since the majority of professionals do not have the required diplomas or skills. This situation can in no way be compared to the teaching of a language such as English to

hearing people for whom French is the first language and English as a second language. LSF for deaf signing students is equivalent to the first language and written French to a second one. The intensive and early learning of LSF is often lacking, so it is not uncommon for many deaf people to find themselves in difficulty when acquiring written French, their second language.

In some cases, oral French is the first language for deaf people. In such cases, they may need Completed Spoken Language (CLP) to disambiguate certain phonemes: "This manual technique, when mastered by both parties, allows the student to distinguish unambiguously between the movements of the lips that merge. For the speaker, it consists of accompanying the word with a manual code, positioned around the face, which will help the student to distinguish similar lip movements. Each syllable will be perceived through lip movement and manual code, so that the entire spoken chain can be seen." (Vanbrugge, et al., 2009, p. 11).

Several modes of communication can therefore exist, or even coexist in the same class group: oral French / oral French accompanied by LPC / LSF / written French.

### **3. Possibilities for access in cultural institution for LSF**

In view of this situation, taking into consideration all pupils, including deaf pupils, in a cultural establishment implies these specificities. We have to add that such specificities do not boil down to linguistic needs implied by each language taken separately. It is indeed the mix of groups and the management of intercultural and inter-lingual exchanges in direct or delayed communication that underlies the law of 11 February 2005.

We understand that this is a complex reality for cultural institutions, which cannot yet be fully addressed, even if they are also subject to this law and must promote access to culture in their fields of intervention: "Existing institutions receiving the public must be such that any disabled person can access, circulate and receive the information disseminated therein, in the areas open to the public. Information for the public must be disseminated by means adapted to different disabilities" (Loi du 2005-102 du 11 février 2005 art. L111-7-3.).

Access to history, art, contact with different cultures, traditions, beliefs, thoughts, representations, symbolic forms and so on presented and conveyed by cultural institutions, are therefore a particular challenge for

deaf students, who benefit to a lesser extent from knowledge acquired through impregnation with both familial environment and society.

There is a lack of empirical data, so we shall try to explore of the gap between the needs of students and their teachers the responses proposed by cultural institutions based on the French case. There are two cross- surveys in a secondary analysis process. The aim of this study is to compare the expectations of special teachers with the proposals of cultural institutions.

#### **4. Need for intercultural work**

There are two cross- surveys in a secondary analysis process. We want to compare the expectations of special teachers with the proposals of cultural institutions. The key questions and possible answers thus raised, allow for a better knowledge of the specific actions developed to welcome this type of public.

We will try to identify issues such as complex learning situations and knowledge transmission by comparing the needs and expectations expressed by special teachers, with the offer built by cultural institutions. To achieve this objective, we developed two surveys conducted between April and June 2014. Providing immediate responses to the needs of deaf students entails complexity: exchanges are not systematically limited to a dual relationship between teachers and cultural institutions. This situation of cross-fertilization of competences generates complex results depending on institutional political choices and the possible participation of other social actors such as translators, for example.

Our first survey was conducted among teachers who have become certified special teachers since 2004 or permanent teachers who have completed a national initiative training module in LSF, i.e. about 500 professionals. A total of 25% of participants responded, or 126.

Our second survey focused mainly on the work carried out by cultural institutions (such as the network "museums in France", national monuments and the archives network) about the reception and accessibility of offers and facilities that they made available to the deaf public. Out of approximately 1500 cultural institutions surveyed, 95 responded, namely approximately 6.3%. Among the respondents, 81% are museums, 13% are archives, 3% are monuments and 3% are "other" (a group of museums, departmental sites and museums and a contemporary art center).

While the number of responses remains low, distribution across France is homogeneous and representative: 8.4% are Parisian

establishments, 16.8% are located in the Ile de France region, 74.7% in French continental departments beside the departments near Paris and 3.1% in French overseas departments.

The notion of cultural venue will be limited to museums, monuments and archives, which are most frequently visited by schoolchildren. So, we propose to investigate access to culture in the light of languages of communication and intercultural relations as those occur while visiting a cultural venue with groups of students. Cultural institutions are resources for the teacher as a teaching medium. These visits allow us to question as much as possible the notion of mediation and accessibility for deaf audiences within the whole cultural offer

There are two cross- surves in a secondary analysis process. The crossover referred to herein could highlight that in 2015 (period of achievement of the data) cultural institutions and special teachers agree on several assessments about accessibility criteria.

## **5. Oral Communications: Consideration and Issues**

When cultural institutions are asked about the annual attendance rate of the deaf public (individuals, adults in groups, school and out-of-school audiences), the largest proportion of institutions (29.7% of the various audiences) report receiving fewer than 10 deaf people during the year, including 40.5% for the school population. 8.3% of schools' report receiving between 10 and 30 deaf people, including 12% for the school population. Finally, 4.5% of them report receiving more than 100 deaf people year-round, with an over-representation of individuals (8.3% of institutions).

An important point to note remains the difficulty of measuring the attendance of the deaf public in cultural institutions. Nearly 36% answer this question "don't know", to which are added about 17% of "no answer", including 26% and 15.5% respectively for school population.

The first factor mentioned is so Commonplace, Yet it is always the case with an "invisible disability" (Delaporte, 2000); (Bertin & Corbin, 2010) which can only be identified by the reception team if the visitor declares himself as disabled (Service-Public.fr., 2014, 02 24).

The quantified evaluation of the number of deaf visitors is obviously easier during group visits and is identified as such at the time of the booking. In these circumstances, contact with the mediation team or the public service to prepare the visit or its modalities often takes place.

This reception makes it possible to identify them at least, but this information, which is considered more qualitative, is not necessarily included in the school's attendance statistics. While this approach remains valid for homogeneous groups, what about mixed classes, which represent 50% of classes with deaf students? This deaf audience therefore goes unnoticed, at least in the statistics. How can effective consideration of needs effectively take place under these conditions?

### 5.1 Teacher motivation

The data from both studies were processed by questionnaire in a quantitative univariate and bivariate manner for closed-ended questions and a thematic or content analysis for open-ended questions.

**TABLE 1: DATA TABLE**

<i>ITEMS</i>	<i>N</i>	<i>%</i>
Q1: WHEN YOU CHOOSE A CULTURAL INSTITUTION (MUSEUM, MONUMENT, ARCHIVE,...) TO VISIT WITH YOUR DEAF STUDENTS, ON WHAT CRITERIA DO YOU SELECT IT?		
BECAUSE THE THEME IS PARTICULARLY ADAPTED TO THE PROFILE OF MY STUDENTS, EVEN IF THE RECEPTION AND MEDIATION ARE NOT.	42	35,00
BECAUSE IT OFFERS INFORMATION / AN ADAPTED WELCOME.	9	7,50
BECAUSE IT OFFERS AN ADAPTED GUIDED TOUR (LSF, LPC, LIP READING, INTERPRETER).	31	25,83
BECAUSE IT OFFERS ADAPTED DIGITAL TOOLS (SERIOUS GAMES, TABLET, LSF VIDEO,...).	3	2,50
BECAUSE IT OFFERS EDUCATIONAL WORKSHOPS ADAPTED TO YOUNG DEAF AND HARD OF HEARING PEOPLE.	14	11,67
BECAUSE HE PROPOSES TO PREPARE THE VISIT WITH YOU BEFOREHAND.	21	17,50
Q2: HAVE YOU ENCOUNTERED ANY DIFFICULTIES IN PREPARING A VISIT?		
YES	42	31,17
NO	71	62,83
Q3: DO YOU HAVE AN OFFER OF VISITS IN LSF (FRENCH SIGN LANGUAGE) LED BY A LECTURER PRACTICING THIS LANGUAGE?		
YES	25	27,20
NO	67	72,80
Q4: WOULD YOU BE INTERESTED FOR YOUR DEAF STUDENTS IN A GUIDED TOUR IN LSF BY A LECTURER?		
YES	97	82,20
NO	21	17,80
Q5: HAVE YOU EVER FOLLOWED ANY?		
YES	41	41,80
NO	57	58,20

When we ask teachers about the criteria for selecting a visit with their deaf students, 35% give priority to the theme, even if the reception



and mediation are not adapted. In view of this result, the first hypothesis could be based on a default choice, given the limited number of accessible offers on the French territory. However, the geographical dispersion of the responses informs us that location does not influence this choice. Indeed, the theme remains the determining criterion for 30% of teachers working in mainland departments, 31% in Ile-de-France. We have to notice that up to 75% of accessible establishments are located in Paris, for examples Universcience, the Museum of Arts and Crafts or the Quai Branly. This approach is certainly explained by the pedagogical motivation of teachers who are interested in the content of the visit more than its form in connection with the illustration of one of the elements of the curricula they follow.

However, this choice questions the teachers' motivation to adapt the content of a visit, which does not meet their students' needs. This question remains particularly important and echoes the second criterion of choice cited, that of the adapted guided tour (in LSF, LPC, lip reading or interpreted). Then come the presence of educational workshops for young deaf people, followed by specific information and reception, the possibility of preparing the visit in advance, and finally the use of digital tools.

In view of these results, let us now focus on solutions proposed by schools and those expected by teachers at the two key moments, before and during a visit and/or accompanying workshops.

## 5.2 *The challenges of preparation*

In 63% of cases, teachers feel that they do not encounter any difficulties while preparing for their visit, even if nearly 78% of cultural institutions do not offer any tools. 11% provide teaching sheets and 6% teaching kits, only 3% distribute videos in LSF and 2% with subtitles.

Out of 23 cultural establishments that have declared that they have set up special arrangements for these visits, 13 work with mediators in advance on the specific vocabulary to be adapted for visits with deaf people (for example, the Sainte-Croix de Poitiers museums, open-air museums of the Comté houses of Nacray, the fine arts of Caen, the historical museum of Saint-Rémi in Grenoble, or the National museum and estate of the Château de Pau, etc.). But what about the visibility of this work outside the visit of these cultural institutions? Indeed, the difficulty for a teacher is to visualize the content of the future visit beforehand. One obstacle will be to try to identify the specific lexicon used in mediation in order to find out how it can be signed if necessary. The amount of resources to address this

situation remains very low at this time. Let us note, for example, some initiatives such as that of the Grenoble Museum, which provides a vocabulary database in LSF the day before the tour, or the creation of a Lex'signes collection for the deaf public in order to increase vocabulary in the field of prehistory (Régál, Landais, Cleyet-Merle, Perbost, & Collectif, 2006), the Middle Ages (Erlande-Brandenburg, Perbost, Cantin, Galant, & Collectif, 2008) and Greek and Roman antiquity (Sintès & Collectif, 2010). While in spirit, this type of book can be a valuable aid for anyone looking for specific signs, the paper medium is not able to fully meet needs of a three-dimensional visual-gesture language such as LSF. This type of work, far from that of the teacher, is closer to that of an interpreter who will first ask for the speech notes for the presentation to be signed. As a follow-up to this preparation, it is not always easy to obtain the script of the audio-guide or to meet speakers, while 55% of cultural institutions say they offer a preliminary visit to teachers. However, the time required for preparatory work with the cultural establishment and the timetable or the status of teacher (permanent or on a yearly contract), are often incompatible, all the more so when the teacher is itinerant (i.e. when he or she has to teach in several schools each week) or when he or she is a substitute teacher on a wide territory.

This lack of visibility of the future cultural visits often goes beyond a simple lexicon problem. Indeed, it is not uncommon to find that the number of concepts covered is higher than that mastered or being acquired by deaf students. Therefore, it is essential for teachers to have a global view of the entire itinerary of the exhibition in order to work in advance with their class on the key concepts along which the visit is structured. Thus, several cultural institutions offer materials for teachers. For example, the municipal archives of Fougères and the Musée d'art et archéologie du Périgord offer a preparation session, the Musée de l'Alta Rocca de Lévie in Corsica a preparatory visit, the Musée des arts et métiers and Paris a conversation by webcam and the departmental archives of the Hauts-de-Seine provide all teachers with an educational file.

### 5.3 *Taking interculturality into account*

In the majority of cases (more than 72% of cultural institutions), no LSF visits are offered and only 13.7% are made to school groups, while 82% of teachers say they are interested in this type of visit and 34% have already taken part in one. If no visit is offered in LSF, the teacher or professional in charge of the class is then forced to take on a more complex

role. Indeed, very few schools have a professional interpreter or coder at their disposal. The teacher must then take on two simultaneous missions, that of managing communication between the speaker and his students, while maintaining the class group in a learning process and with an appropriate behavior. In such a situation, the difficulty is more acute when languages or codes used in class are heterogeneous and multiple. This difficulty increases with the specific lexicon of the museum's professional. The discourse used may not be adapted to the students' conceptual field. At this point, the importance of the teacher's preparatory work with the museum becomes most useful.

Our results reveal that there are several options available to cultural institutions that wish to welcome deaf students, taking into account their language of communication. For more information you could see the rapport we present here three categories of ideotypes, which come from data

([http://www.inshea.fr/sites/default/files/Accueil\\_des\\_eleves\\_sourds\\_ou\\_malentendants\\_dans\\_les\\_etablissements\\_culturels\\_0.pdf](http://www.inshea.fr/sites/default/files/Accueil_des_eleves_sourds_ou_malentendants_dans_les_etablissements_culturels_0.pdf)).

The first possibility consists in proposing a joint visit by a hearing lecturer accompanied by a LSF interpreter (as do the art and history museums of Saint-Brieuc, prehistory museums of Nemours, Lodève or the Victor Schoelcher departmental museum in Pointe-à-Pitre...). Other cultural institutions propose a joint visit of a hearing lecturer with a LPC coder (open air museum of the Comtoise houses of Nacray or the Quai Branly museum). Cultural institutions may also consider training a hearing speaker in sign language or LPC. Nevertheless, while such an offer exists, nearly 73% of teachers do not expect this type of service although about 9% have already received it. This fact has to be related to the percentage of the French population practicing and effectively mastering this code. Teachers are aware of this point, because when they use LSF or LPC in class, it is most of the time done occasionally in order to disambiguate some labial doubles and not in a regular and fluid way.

We have to note that some cultural establishments offer visits led by a person with skills in oral intervention by facilitating lip-reading (for examples the Gallo-Roman Museum of Lyon-Fourvière, the departmental archives of Reunion Island, the LAM of Villeneuve d'Ascq...). Choosing such solution must take into account material constraints, which are necessary for a good visibility of the speaker's lips (small group, sufficiently lit space, etc.). Moreover, it is not possible with a class for

which oral French is being acquired. 80% of teachers confirm this principle and they say they do not expect any benefit from such an offer.

Another frequent situation involves a deaf speaker directly as a cultural mediator. Such choice is based on the assumption that it is easier to transfer knowledge to a person who does not initially master it, than to teach a language to individuals who master the content but not the language. It was the choice made by the Cité des Sciences et de l'Industrie in its time. This organizational choice agrees with the semiological model of sign language analysis (Cuxac, Pizzuto, 2010). This theoretical approach states: "a relevance of deafness in the functional and structural organization of French Sign Language (LSF) and Sign language (SL) in general." (Cuxac, 2013, p. 66) and specifies "The only visuogestual means of communication that are authentically linguistic because of their complexity, autonomy, semantic and syntactic independence from the surrounding vocal language, are the sign languages used and invented by deaf populations. This makes us say that sign languages are, in the deepest sense, deaf languages" (Cuxac, 2013).

Let us focus on the dilemma posed, in these conditions, to teachers and to leaders of cultural mediation. We may add that obviously, we do not assume any discrepancy between the content of the discourse conveyed by a deaf mediator or by a hearing mediator, who is familiar with the specific problems of deaf students accompanied by an interpreter.

The most important issue could be resumed with a practical question: should we encourage interculturality or the form of the first language for deaf children? Considering interculturality as a formal objective leads us to consider other methods of intervention in order not to harm oralist students. The cultural establishment may offer, for example, a presentation in LSF interpreted into French (as do the National Museum of *Histoire Naturelle* devoted to Nature, linked with human sciences, or the Grenoble Museum). Overall, we find that teachers are slightly more interested in a visit with an interpreter than in a visit directly in LSF (84.6% versus 82.2%). This fact reveals the difficulties for teachers to take into account linguistic interculturality in the classroom. A direct presentation in LSF for a group of oralist and signatory students refers to the same difficulties as a direct intervention in oral French. It is necessary to take into account the transition from one language to another. The problem soon becomes bijective. The financial issue is also significant, since the cost of

the visit increases (speaker's and interpreter's fees which must be charged to the school).

The results underline that sometimes practices refer to specific specific presentation procedures depending on the language of communication. For example, oralist students are cared for by one professional, signing students by another. Then two mediations take place in parallel in the strict sense of the term, without either of them meeting. Such practices are far from the spirit of inclusion conveyed by the French law of 2005.

One last possibility could be based on a joint presentation by a deaf and a hearing professional. Based on reflections of the public as a mixed audience of deaf and hearers, some gestural visits are offered on the basis of a mixed pair, such as at the MAC / VAL, the museum of contemporary art in the Val-de-Marne. The term sometimes used "sign language visit" and not sign language visit, is significant and refers to an attempt to dramatize the discourse. After the visit, oral communication can be based on situations experienced by the group of learners and the teacher. Here again, we point out the need for the teacher to be able to distance himself from the situation experienced in class. It is especially the case when the communication situation has forced him to take on a role for which he has not been trained. In addition, any visual or written media will be a valuable catalyst for further discussion. In the discussion, we will focus on places and forms of writings offered to deaf students in relation to the resulting bilingualism.

## **6. Ocelles, an intercultural observatory with a heritage and educational vocation**

As we have seen, specific preparatory work for deaf audiences is necessary, both in terms of writing and speaking in all its forms. Teachers expect pedagogical resources adapted to the needs of their students with heterogeneous profiles. Cultural institutions try to answer them even if sometimes teachers' expectations are poorly identified. In this context, it seems necessary to share mutual experiences and expectations from the pedagogical side as from the cultural side. To help us propose an answer that can be implemented, let us rely on the two points raised by Marie-Sylvie Poli, which seem important to us in articulation to this work. The first concerns expographic discourse: "Expographic discourse can be understood as the expression of the overall meaning (or concept)

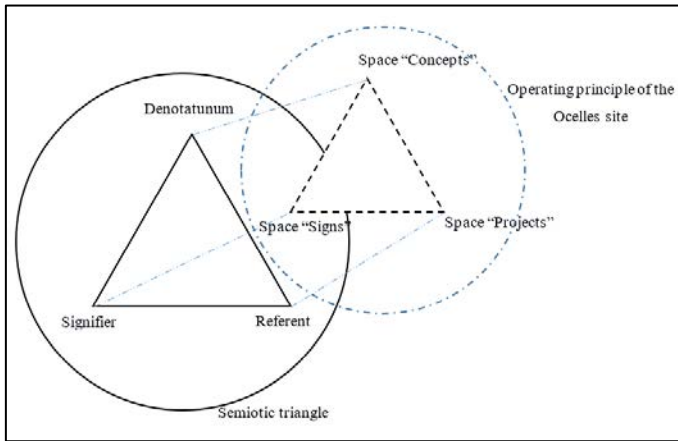
developed by the designers from all the technologies and registers - verbal and non-verbal - implemented in the exhibition." (Poli, 2002, p. 88). The second point is the difficulty of setting up mediation tools in a multicultural context: "This testimony makes it possible to highlight the interest and difficulty in serving the public, to regularly conduct evaluations of mediation tools for children, through qualitative surveys conducted among young visitors and accompanying adults. Françoise Rigat (an Italian linguist and museologist) shows that the translation of texts for foreign visitors can never be limited to a simple automatic translation operation from French into English or Italian. Based on specific examples identified in exhibitions whose multilingual mediation themes and tools she has worked on, she proves that translation deserves to be considered and treated as mediation in its own right, by all the stakeholders in the exhibition, and at all stages of the project." (Poli, 2010, p. 3). The whole issue is the same in our case: identifying the key concepts of a visit and then conveying them to an audience with specific needs in an atypical communication framework for professionals in cultural institutions. Few actors are able to face such a complex situation alone.

We will discuss here the possible answers provided by a conceptualization tool, designed from a semiotic triangle. The Ocelles multilingual and multimodal collaborative project (written, oral and signed languages) (Moreau & Mascret, 2010) could be a tool to help them. It aims to bring together professionals from a variety of backgrounds and with complementary skills (initially pedagogical, didactical, museographical and also linguistic skills) so that they work on common concepts in a collaborative way. Ocelles offers to gather all concepts in all fields of knowledge on a unique and single website (<https://ocelles.inshea.fr>). Based on the same principle as the semiotic triangle described below, this dynamic tool contributes to making the links between systems of different linguistic signs explicit. The website is divided into three types of spaces linked together in the image of the vertices of the semiotic triangle, with a block system inside. Each block may present content according to three modalities: written, oral or signed. Content can be co-authored by several editors and will be validated by a group of experts in the concept, but also in the language in which it is expressed, before being visible to everybody. The amount of contents is unlimited, and each can be labelled by one of three levels of complexity: beginner, intermediate, or advanced.

The space of the website gathers the "concept" pages which allow at least to define the properties of the signified. Therefore, each page has a definition that: (1) must be self-sufficient, without resorting to other pages or other definitions, (2) should begin with a generic term, (3) must not be circular and does not contain a root of the term to be defined as it is sometimes found in some dictionaries, as, for example, in the online dictionary of Cambridge "seller: a person who sells something" (<http://dictionary.cambridge.org/>).

Other contents can be added at will to complete the definition: examples (Guitteny, 2007), linguistic remarks, pedagogical remarks, etc. To strengthen the conceptual involvement of users, links refer to concepts presented on Ocelles which are close or opposite to that of the visited page. This space also contains the different signifiers of the denotata described, each of which refers to the second "sign" space that allows to gather all places, where they are used on a map of illustrating contents. One single concept could be used differently in specific contexts (geographical or linguistic contexts, for example). The map could refer to complementary etymological analyses, specific to each. At last, the "project" space allows for a pedagogical re-use of the contents from the two previous spaces. Here, each user can create a project, by inviting his collaborators, - not making results visible to the other users, if he/she does not wish so -. This space makes it possible to arrange existing contents or create new ones according to the users' wishes. The Space project could host for example (1) creation of courses, creation of contents for visiting a cultural site and (2) creation of practical fact sheets for the explanation of administrative procedures.

This last space is therefore to be paralleled with the third vertex of the semiotic triangle "the referent" (Graph 1.). The site interface can be duplicated in any written language and content can be added in any language, even in those without a writing system. Thus, each signified in a language can be related to equivalent denotata in other languages. This tool was originally conceived to answer to needs of deaf people, thereby contributing to an inclusive society, ready to respond to a much larger spectrum of users. It is intended not only for those communicating in sign language, but also for those communicating with the help of any other written or oral language. Indeed, its use is bijective and can be useful to any citizen wishing to get multilingual support.

**GRAPH 1: PARALLEL BETWEEN THE SEMIOTIC TRIANGLE AND THE OPERATING PRINCIPLE OF THE OCELLES SITE**

It is especially adapted to teachers who can deal with deaf or allophone students or other students attending inclusive education. The collaborative nature of Ocelles and its dynamic architecture also make it possible to foresee people's needs at school, at the university, but also in companies according to a reserved Space project (potentially open to a restricted group of users), so such tool contributes to creating an inclusive society.

## 7. Conclusion

The data mobilized here shown that concerning the capacity of the system to meet the requirements set by the law of 11 February 2005, a majority emerges in favor of a "partial" yes. Previous situations have shown two different approaches to considering and thinking about accessibility in general and bilingualism in particular. The first one is seen as a *posteriori* adaptation of the existing itinerary, or designed as part of an exhibition. This approach, which may be more obvious at first glance, will hardly benefit from the porosity of mutual enrichment, which is beneficial to all, and can be observed when the particular needs of a minority of visitors are questioned. The second approach consists in taking into account from the very beginning of the conception of the museum's discourse by including all actors in it with a view to pooling skills and mutual enrichment. Some partnerships are working in this direction, such as the initiative of the Hunting and Nature Museum in Paris, which plans



to set up joint visits with a teacher familiar with the issues raised by deaf children.

This research focuses on access to culture for deaf students in a bilingual setting within cultural institutions such as museums, monuments and archives. Access to culture obviously encompasses a much wider range of learning and impregnation situations. In this perspective, the challenge of bilingual classes also lies in taking into consideration deaf culture, defined as: "a set of references to the history of the deaf as a linguistic community, the set of symbolic meanings conveyed by the use of a common language, the set of social strategies and social codes commonly used by deaf people to live in a society by and for hearing people" (Virole, 2006, p. 225).

Finally, beyond the transmission of knowledge and learning, culture also includes a dimension of pleasure and delight, and its own characteristics of transmission or conditions of emergence for a deaf audience. New intercultural spaces, such as that proposed by the Ocelles project (Moreau, Vanbrugge, Rincheval, & Destrumelle, 2013) need to be thought out or invented... Only in this perspective, by rethinking these spaces in terms of each individual's needs, and within a common dynamic, may new spaces eventually emerge and touch on the "universal design" defined in Article 2 of the United Nations Convention on the Rights of Persons with Disabilities, adopted in 2006.

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## Interkulturalnost kao izazov za pristupa nost?

### Sa etak

Razumijevanje pristupa kulturi gluhih u enika ponajprije zna i razumijevanje raznolikosti obrazovnih situacija. Va no je preispitati preno enje znanja s obzirom na dvojezi nost tih u enika, jer se pou avanje temelji na konceptualizaciji. Zbog nedostatka empirijskih istra ivanja, usmjerili smo se na istra ivanje raskoraka izme u potreba u enika i njihovih u itelja te odgovora predlo enih od strane kulturnih institucija, na primjeru Francuske. Na temelju dva istra ivanja uspore ena su o ekivanja specijaliziranih u itelja s prijedlozima kulturnih institucija. Klju na postavljena pitanja kao i mogu i odgovori omogu uju bolje razumijevanje specifi nih postupaka razvijenih u svrhu prihvatljivosti ove zajednice. Prvo su opisana o ekivanja stru njaka u odnosu na njihove kvalifikacije. Rezultati nagla avaju pojavu novih interdisciplinarnih potreba. Preispitno je obrazovanje u itelja u svjetlu vi estrukih komunikacijskih pote ko a. Analizirani su odgovori dobiveni u projektu Ocelles koji je utemeljen na multilingvalnoj i multimodalnoj kolaborativnoj mre noj stranici u Open data. Ovaj konceptualni alat, dizajniran iz semioti kog trokuta, omogu uje sudionicima da konstruiraju interkulturalnost putem sinhronijskog i dijakronijskog pristupa.

**Klju ne rije i:** *kultura, gluhi, vi ejezi nost, profesionalne prakse, interkulturalnost*



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## **Razlike između odgojitelja i roditelja djece predškolske dobi u procjeni dječjih socio-emocionalnih kompetencija**

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### **Sažetak**

Rezultati ranijih istraživanja upućuju na povezanost između razvijenosti socio-emocionalnih kompetencija djeteta te budućeg uspjeha u raznim područjima života i doživljaja zadovoljstva životom. Socio-emocionalne kompetencije razvijaju se tijekom djetinjstva u kontekstu različitih interakcija, posebno onih u obitelji, predškolskom i školskom okruženju. Cilj je ovoga istraživanja bio ispitati razvijenost socio-emocionalnih kompetencija djece rane i predškolske dobi iz perspektive roditelja i odgojitelja. Također, istraživanjem se pokušalo ispitati procjenjuju li odgojitelji i roditelji različito kompetencije dječaka i djevojčica, kao i ovise li te procjene o spolu roditelja ili njihovoj razini obrazovanja. U istraživanju je sudjelovalo 347 roditelja i 60 odgojitelja koji su procjenjivali 347 djece u dobi od 4. do 8. godine. Za procjenu razvijenosti kompetencija korišten je standardizirani upitnik te su dobivene procjene roditelja i odgojitelja u četirima domenama: interpersonalnoj, intrapersonalnoj i afektivnoj snazi djeteta te uključenosti u obitelj. Rezultati su pokazali kako i odgojitelji i roditelji visoko procjenjuju razvijenost svih dječjih socio-emocionalnih kompetencija, pri čemu su odgojitelji, u odnosu na roditelje, višim procijenili interpersonalne snage te uključenost u obitelj. S obzirom na djetetov spol, i roditelji i odgojitelji su višim procijenili interpersonalne snage i uključenost u obitelj djevojčica nego dječaka, dok u procjenama intrapersonalnih i afektivnih snaga nisu utvrđene značajne razlike.

**Ključne riječi:** *dijete predškolske dobi; odgojitelj; roditelj; spol; socio-emocionalne kompetencije*

## 1. Uvod

Djetetov razvoj uključuje kontinuirane promjene u tjelesnom, kognitivnom, emocionalnom, socijalnom i moralnom području, pri čemu se izmjenjuju razdoblja intenzivnog i manje intenzivnog razvoja, pa i povremenih stagnacija. Dječji razvoj pod utjecajem je genetskih i okolinskih čimbenika, ali i djetetovih kapaciteta za učenje. Svaka razvojna faza ima svoje specifičnosti i izazove, a zadaća odraslih je pratiti ih i primjereno odgovarati na djetetove signale i potrebe. Dowling (2014) ističe kako su djeca puna potencijala, ali im nedostaje životnog iskustva, pa je u tom raskoraku aktivna uključenost značajnih odraslih od izuzetnog značaja. Poznavanjem faza optimalnog razvoja, roditelji i stručnjaci (odgojitelji, liječnici i sl.) mogu anticipirati i prevenirati neke moguće teškoće, ali i primjereno podupirati djetetov razvoj (Berk, 2008). Pored kognitivnog razvoja, usmjerenost na istraživanje i razvoj emocionalne inteligencije kao preduvjeta zdravih socijalnih odnosa i psihofizičkog zdravlja pojedinca (Goleman, 2007) postaje sve intenzivnija preokupacija znanstvenika i praktičara.

Emocionalni i socijalni razvoj djeteta počinju od rođenja, prvenstveno razvijanjem odnosa privrženosti s primarnim skrbnikom (Bretherton, 1992) pa su u početku ta dva aspekta razvoja neodvojiva. Tijekom prvih dviju godina života dijete razvija cijeli niz emocija, od početnog bazičnog razlikovanja ugone i neugode preko osnovnih emocija do onih složenijih, primjerice emocija samosvijesti ili tzv. moralnih emocija koje se javljaju tijekom ili do kraja druge godine života (Berk, 2008). Dijete kontinuirano razvija i svoje socijalne vještine, kroz interakciju s odraslima, a kasnije i vršnjacima što je posebno izraženo tijekom predškolskog razdoblja. Dijete je socijalno kompetentno onda kada je usvojilo i sposobno je primijeniti društveno prihvaćena ponašanja, kada dijeli, pomaže, surađuje, poštuje pravila i primjenjuje stečene vještine koje mu pomažu u percepciji okoline i prilagodbi na nju (Kralj, 2004). Djetetovi su prvi učitelji roditelji i ostali odrasli koji ga usmjeravaju i vode u njegovu emocionalnom i socijalnom razvoju. Dječje su emocije često jednostavne i spontane, kratkotrajne, snažne i nestabilne što odraslima ponekad može biti zbunjujuće. Upravljanje emocijama, osjećaj za tuđe motive, perspektivu i interese te aktivno slušanje samo su neke od

uspješnih socijalnih vještina (Mulder, 2017) koje djeca uz pomoć i vođenje odraslih trebaju internalizirati.

Važan čimbenik djetetova razvoja je i njegovo samopouzdanje koje ono stječe kada je okruženo ljudima koji ga vole te primjereno i pravodobno odgovaraju na njegove potrebe. Samouvjerena djeca bolje se nose s izazovima odrastanja (Dowling, 2014). Samopoštovanje se uči, a najveći utjecaj na njegovu izgradnju imat će pojedinci s kojima dijete dijeli najčvršće emocionalne veze pa će tako djeca učiti putem afirmacija od svojih roditelja i oponašajući njihova ponašanja (Colverd i Hodgkin, 2001). Roditelji imaju najvažniju ulogu u dječjem razvoju utječući svojim djelovanjima na djetetov kognitivni, psihički, fizički, socijalni, emocionalni i moralni razvoj. Oni pomažu djetetu tijekom svih faza njegova razvoja (Reissland, 2012) i pripremaju ga za životne izazove. U roditeljskoj ulozi, roditelj može biti preplavljen kako pozitivnim tako i negativnim emocijama koje potiču različiti stresori roditeljstva, a koji značajno utječu i na izbore i na učinke roditeljskih ponašanja. U novije vrijeme, kada se sve više razumije važnost pedagoškog obrazovanja roditelja, pomoć u roditeljstvu pruža im se putem različitih programa i izravnog uključivanja roditelja u rad ustanova. Kvalitetno partnerstvo roditelja i profesionalaca važna je stavka suvremenog pristupa odgoju (Ljubetić, 2014). Pedagoški kompetentni roditelji osjećaju veće samopouzdanje, smatraju se kompetentnijima i uspješnijima u svom roditeljskom djelovanju, roditeljstvo ne doživljavaju teretom nego izazovom kojemu su dorasli, lakše i kvalitetnije komuniciraju sa svojom djecom te se bolje osjećaju u roditeljskoj ulozi (Jurčević Lozančić, 2017). Moguće je očekivati kako će upravo kompetentni roditelji (i odgojitelji-profesionalci) biti dobar model djeci za izgradnju njihovih kompetencija.

Kada dijete krene u vrtić, odgojitelji preuzimaju svoj dio odgovornosti za cjelokupan i zdrav djetetov razvoj. Djeca koja su polaznici dječjih vrtića i jaslica trebaju doživjeti toplinu i prihvaćanje od strane odgojitelja, jer na temelju njihovih odgovora i eksplicitnih i implicitnih ponašanja, djeca razmišljaju i zaključuju o sebi (Dowling, 2014). Zadaća odgojitelja je svakom djetetu pristupiti holistički te dizajnirati optimalne uvjete i okolinu koji olakšavaju i podupiru uz ostale, i djetetov socio-emocionalni razvoj. Istodobno, oni su i kreatori okruženja koje omogućuje pozitivne socijalne interakcije među djecom te tako najbolje uče o sebi i

drugima. Odgovornost odgojitelja u pedagoškom smislu je izuzetna pa ono što su roditelji djetetu kod kuće, to bi odgojitelji trebali biti u vrtiću (Colverd i Hodgkin, 2001). Razvijajući djetetove socijalne i emocionalne kompetencije što ranije, omogućuje se njihov budući uspjeh i u ostalim životnim područjima. Brojna istraživanja pokazala su kako su djeca i mladi koji su socijalno i emocionalno kompetentni, sretniji, samosvjesniji i kompetentniji članovi obitelji, učenici, prijatelji i suradnici (Lantieri, 2012).

U središtu su ovoga rada procjene odgojitelja i roditelja o razvijenosti dječjih socio-emocionalnih kompetencija u ranoj i predškolskoj dobi. Istraživanja socio-emocionalnih kompetencija kod djece (i odraslih) predstavljaju svojevrsan izazov u smislu nejednoznačnog definiranja i različitog operacionaliziranja koncepta socio-emocionalnih kompetencija. U literaturi je moguće pronaći različite definicije, modele i operacionalizacije te skupine kompetencija pri čemu obično ne postoji slaganje autora o sadržaju istih. Početak sustavnijeg proučavanja socio-emocionalnih kompetencija moguće je vezati uz Gardnerove koncepte intrapersonalne i interpersonalne inteligencije (Gardner, 1983) te konstrukte emocionalne, odnosno socijalne inteligencije. Salovey i Mayer (1990) su smatrali da je emocionalna inteligencija dio socijalne inteligencije što upućuje na blisku povezanost tih konstrukata. Jedan od najpoznatijih modela socio-emocionalne inteligencije je Bar-Onov model prema kojem je „socio-emocionalna inteligencija presjek međusobno povezanih emocionalnih i socijalnih kompetencija, vještina i facilitatora koji određuju uspješnost u razumijevanju i izražavanju sebe samih, drugih, povezivanju s drugima i suočavanju sa svakodnevnim zahtjevima“ (Bar-On, 2005, 3). Iako ne postoji konsenzus među autorima o tome koje su bazične socio-emocionalne kompetencije ili vještine, u većini modela se spominje samoregulacija emocija, svijest o sebi i drugima, zadovoljavajući odnosi s drugima i sl. Primjerice, prema modelu CASEL (*The Collaborative for Academic, Social, and Emotional Learning*, 2007, 2015) pet je skupina međusobno povezanih socio-emocionalnih kompetencija: samosvijest, upravljanje sobom, socijalna svijest, socijalne vještine te odgovorno donošenje odluka uvažavajući norme i društvene standarde. Samosvijest se pritom odnosi na procjenu vlastitih osjećaja, interesa, vrijednosti i osjećaj



samopouzdanja; upravljanje sobom na izražavanje i regulaciju vlastitih emocija; socijalna svijest na mogućnost zauzimanja perspektive drugih i empatiju; socijalne vještine na uspostavljanje i održavanje zdravih odnosa s drugima, odupiranje neželjenom socijalnom pritisku te konstruktivno rješavanje konflikata (Munjas Samarina i Takšić, 2009).

U ovom je radu korišten model socio-emocionalnih kompetencija koji se temelji na djetetovim snagama koje uključuju interpersonalne snage, intrapersonalne snage, afektivne snage te uključenost u obitelj (Epstein, 1999; 2004). Prema autoru modela, usmjerenost na pozitivne snage djeteta, za razliku od usmjerenosti na poteškoće u ponašanju koje su češće predmet istraživanja u ranoj i predškolskoj dobi, ima nekoliko prednosti. Naime, sva djeca imaju snage koje treba prepoznati i na koje se potrebno usmjeriti u radu s djetetom čime je moguće potaknuti njegovu motivaciju i uočiti prilike za razvoj i napredak. Također, prilikom planiranja rada s djetetom, usmjerenog na jačanje njegovih odgojnih, obrazovnih ili kapaciteta mentalnog zdravlja, veća je vjerojatnost da će i dijete i roditelji prihvatiti takav plan ako je on utemeljen upravo na djetetovim snagama, a ne poteškoćama (Epstein i dr., 2002; Epstein, 2004). Instrument koji je korišten u ovom istraživanju – BERS (*Behavioral and Emotional Rating Scale*, Epstein, 2004) izvorno je konstruiran kako bi se u odgojno-obrazovnom kontekstu omogućilo stručnjacima identificirati djetetove snage, vještine i kompetencije u različitim domenama i planirati aktivnosti s djecom na temelju tih djetetovih značajki. Ranija su istraživanja potvrdila njegovu psihometrijsku vrijednost upućujući na visoku pouzdanost i valjanost (Epstein i dr., 1999; Epstein 1999), konvergentnu valjanost u dvjema studijama na uzorcima predškolske djece (Trout i dr., 2003) kao i konvergentnu valjanost na različitim dobnim uzorcima, od predškolske do adolescentne dobi (Epstein i dr., 2002).

S obzirom na osobitu, ali vrlo specifičnu važnost roditelja i odgojitelja u cjelokupnom razvoju djeteta, u ovom se radu pokušalo utvrditi postoje li razlike između roditelja i odgojitelja njihove djece u procjeni dječjih socio-emocionalnih kompetencija. Ranija su istraživanja pokazala da se roditelji i odgojitelji (ili učitelji) razlikuju u procjeni razvijenosti dječjih kompetencija, ali i problema u ponašanju i doživljavanju. Pri tome se obično naglašava veća sličnost u procjenama između dvaju roditelja nego, primjerice, roditelja i odgojitelja (Achenbach,

McConaughy i Howell, 1987; Živčić-Bećirević, Smojver-Ažić i Miščenić, 2003). I dok neki autori navode da učitelji procjenjuju višim dječje socio-emocionalne kompetencije u odnosu na roditelje (Cartledge, Adedapo i Talbert Johnson, 1998), na uzrastu djece predškolske dobi neki su autori utvrdili da su roditelji skloniji višim procjenama socio-emocionalnih kompetencija djece u odnosu na odgojitelje pri čemu je stupanj slaganja različitih procjenjivača nizak do umjeren (Crane, Mincic i Winsler, 2011). Slično su pokazala i istraživanja za stupanj slaganja različitih procjenjivača kada je riječ o internaliziranim i eksternaliziranim problemima djece (Achenbach i dr., 1987). Ranije primjene modela BERS i instrumenta koji mjeri djetetove snage su pokazala visoko slaganje različitih procjenjivača pri čemu je minimalna povezanost iznosila relativno visokih .72 (Epstein i Synhorst, 2008) i utvrđena je za domenu uključenosti u obitelj. Stoga se u ovo istraživanje krenulo od pretpostavke o značajnoj povezanosti između procjena roditelja i odgojitelja o razvijenosti djetetovih snaga. Također, s obzirom na različitu socijalizaciju djevojčica i dječaka te temperamentalne razlike koje su povezane s ponašanjima u predškolskoj dobi (Else-Quest i dr., 2006; Hill i dr., 2006; Maccoby, 1998) i rezultate ranijih istraživanja koji upućuju na više procjene razvijenosti socijalnih vještina kod djevojčica u odnosu na dječake (Abdi, 2010), jedna je od hipoteza bila da će djevojčice biti procijenjene višim procjenama u području interpersonalnih snaga. Kada je riječ o značajkama roditelja i njihovim utjecajima na procjene razvijenosti dječjih kompetencija, u istraživanje se nije krenulo od unaprijed postavljene hipoteze jer ni ranija istraživanja nisu uputila na značajnu ulogu roditeljevog spola ili razine obrazovanja na procjenu razvijenosti djetetovih socio-emocionalnih kompetencija.

Kako bi se ostvario cilj istraživanja i provjerilo navedene pretpostavke, istraživanjem se pokušalo odgovoriti na sljedeće probleme:

1. ispitati razvijenost socio-emocionalnih kompetencija djece predškolske dobi
2. ispitati povezanost između roditeljskih i odgojiteljskih procjena razvijenosti socio-emocionalnih kompetencija djece predškolske dobi
3. ispitati postoje li razlike u roditeljskoj i odgojiteljskoj procjeni razvijenosti socio-emocionalnih kompetencija djece predškolske dobi
4. ispitati postoje li razlike s obzirom na spol djece u procjeni razvijenosti socio-emocionalnih kompetencija

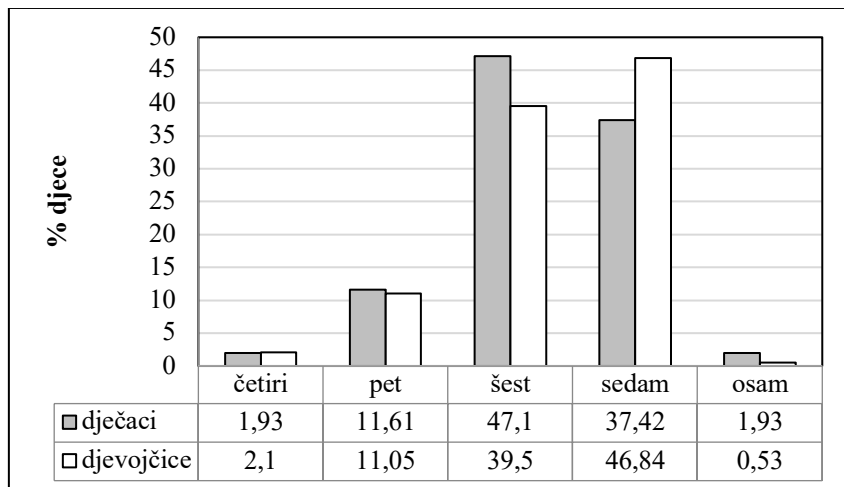
5. ispitati postoje li razlike u roditeljskoj i odgojiteljskoj procjeni razvijenosti socio-emocionalnih kompetencija djece s obzirom na spol roditelja i njihov obrazovni status.

## 2. Metoda

### 2.1. Uzorak

U istraživanju je sudjelovalo 347 roditelja i 60 odgojitelja koji su procjenjivali 347 djece (190 djevojčica i 155 dječaka) u dobi od 4 do 8 godina, no većina je djece imala između 6 i 7 godina ( $M=6.30$ ,  $SD=.77$ ). Raspodjela uzorka djece s obzirom na dob i spol prikazana je na Slici 1.

SLIKA 1. RASPODJELA UZORKA DJECE S OBZIROM NA DOB I SPOL

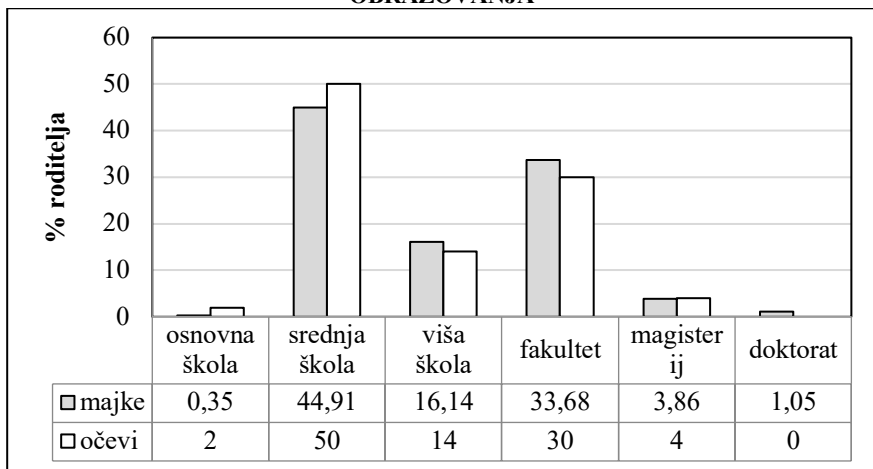


U poduzorku roditelja sudjelovalo je 50 očeva i 291 majka, dok šest roditelja nije navelo spol. Prosječna dob majki u uzorku iznosila je  $M=36.53$  uz  $SD=4.54$  i raspon od 24 do 49 godina. Prosječna dob očeva je bila  $M=38.30$  uz  $SD=5.82$  i raspon od 21 do 51 godine.

Raspodjela uzorka roditelja s obzirom na spol i razinu obrazovanja prikazana je na Slici 2. Većina očeva (92%) je zaposlena, a isto vrijedi i za 70.73% majki. Oko jedne petine majki ne radi (21.2%), a 7.67% radi povremeno. S obzirom na bračni status, većina je roditelja u bračnoj zajednici (92% očeva i 91.81% majki), dok ih je značajno manje u

izvanbračnoj zajednici (6% očeva te 4.27% majki), odnosno u jednoroditeljskoj obitelji (2% očeva i 3.91% majki).

**SLIKA 2. RASPODJELA UZORKA RODITELJA S OBIZROM NA RAZINU OBRAZOVANJA**



Većina očeva i majki ima dvoje djece (majke 57.38%, očevi 64%), oko jedne petine roditelja ima troje djece (20% očeva i 23.67% majke), a 10% očeva i 13.74% majki jedno dijete. Oko 5% majki i očeva ima više od troje djece.

### 2.1. Instrument istraživanja

U istraživanju je korišten Upitnik općih podataka za roditelje i odgojitelje kojim su prikupljeni osnovni sociodemografski podaci te Upitnik za procjenu ponašanja i emocija – BERS 2 (*Behavioral and Emotional Rating Scale*, Epstein, 2004), inačica za roditelje i odgojitelje. Upitnik je namijenjen djeci u dobi od 5 do 18 godina. Svaka se inačica u izvorniku sastoji od 52 tvrdnje koje čine pet podskala: interpersonalne snage, uključenost u obitelj, intrapersonalne snage, školsko funkcioniranje te afektivne snage. Podskala interpersonalne snage obuhvaća 15 tvrdnji koje se odnose na djetetovu sposobnost reguliranja emocija i ponašanja u socijalnim situacijama (primjerice *pokazuje razočaranje na miran način* ili *prihvaća posljedice vlastita ponašanja*). Podskala uključenosti u obitelj sastoji se od 10 tvrdnji koje se odnose na djetetovo sudjelovanje u obiteljskim aktivnostima i odnose s članovima obitelji (primjerice

sudjeluje u obiteljskim aktivnostima ili pokazuje pozitivnu interakciju s roditeljima). Podskala intrapersonalnih snaga obuhvaća 11 tvrdnji koje se odnose na djetetovo poimanje vlastitih kompetencija (primjerice *često se smije ili priča o pozitivnim događajima i iskustvima*). Podskala afektivne snage uključuje 7 tvrdnji kojima se ispituje djetetova sposobnost izražavanja emocija prema drugima i prihvaćanja emocija od drugih (primjerice *prihvaća zagrljaj ili prepoznaje svoje osjećaje*). Podskala školskog funkcioniranja sastoji se od tvrdnji koje ispituju djetetove školske kompetencije (primjerice *redovito ispunjava domaći rad ili redovito pohađa školu*). Budući da je u ovom istraživanju Upitnik primijenjen na uzorku djece predškolske dobi, podskala školskog funkcioniranja izostavljena je iz primjene i analize te su primijenjene inačice upitnika imale 43 tvrdnje.

**TABLICA 1. PSIHOMETRIJSKE ZNAČAJKE PODSKALA UPITNIKA ZA PROCJENU PONAŠANJA I EMOCIJA**

		<i>Cronbach h a</i>	<i>M</i>	<i>SD</i>	<i>raspo n</i>	<i>asimetrično st</i>	<i>splošeno st</i>
RODITELJI	INTERPERSONALNE SNAGE	.91	35.83	6.62	0-45	-1.46	29.45
	UKLJUČENOST U OBITELJ	.75	27.31	3.22	0-30	-4.11	29.45
	INTRAPERSONALNE SNAGE	.82	29.26	3.99	0-33	-3.17	17.71
	AFEKTIVNE SNAGE	.74	18.64	2.62	0-22	-2.93	15.59
ODGOJITELJI	INTERPERSONALNE SNAGE	.94	38.60	7.15	5-45	-1.54	2.63
	UKLJUČENOST U OBITELJ	.64	27.82	2.56	13-30	-1.93	5.69
	INTRAPERSONALNE SNAGE	.83	29.13	4.05	14-33	-1.38	1.81
	AFEKTIVNE SNAGE	.79	18.92	2.55	8-21	-1.55	2.23

Zadatak je sudionika (roditelja i odgojitelja) bio za svaku tvrdnju procijeniti koliko su navedena ponašanja prisutna kod djeteta na skali od 0 do 3, gdje 0 znači „uopće ne opisuje dijete“, 1 znači „uglavnom ne opisuje dijete“, 2 znači „donekle opisuje dijete“, a 3 znači „u potpunosti opisuje dijete“. Prema uputama za bodovanje upitnika, moguće je formirati ukupne rezultate po podskalama kao i ukupni indeks snaga kao sumu rezultata na

pet podskala. Upitnik je normiran na uzorcima djece s i bez emocionalnih i ponašajnih poteškoća (Epstein, 2004) u dobi od 5 do 18 godina.

U Tablici 1. prikazane su psihometrijske značajke podskala posebno za uzorak roditelja i za uzorak odgojitelja. Budući da raspodjela rezultata na svim podskalama za oba procjenitelja značajno odstupa od normalne raspodjele (indeksi asimetričnosti i spljoštenosti veći od 1), u daljnjim analizama rezultata koristili su se neparametrijski postupci.

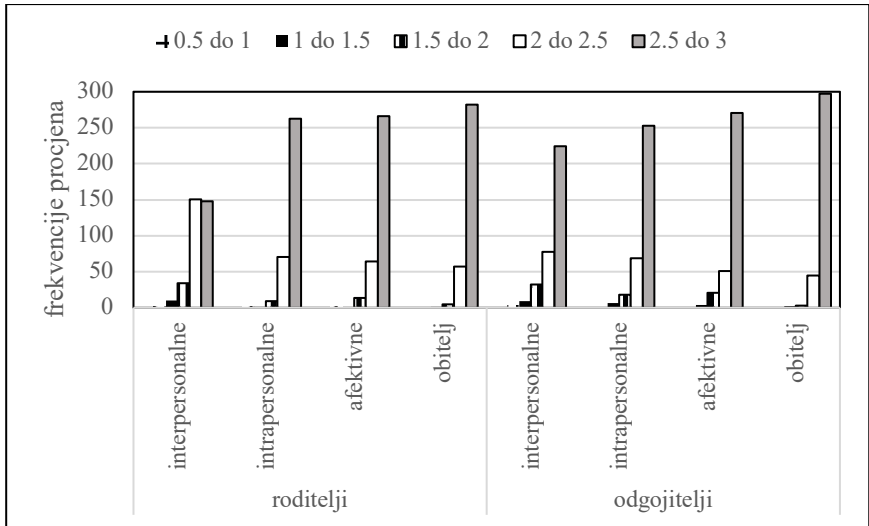
## 2.2. Postupak istraživanja

Istraživanje je provedeno u dječjim vrtićima Splita, Solina, Podstrane, Šolte, Sinja i Kaštela tijekom ožujka i travnja 2019. godine nakon prethodnog dogovora s ravnateljima i stručnim suradnicima, pedagozima dječjih vrtića kojima je objašnjena svrha istraživanja. Pedagozi su instruirani kako informirati odgojitelje o provedbi istraživanja te ih se zamolilo da odgojiteljima podijele upitnike kako bi svaki od njih procijenio po petero djece iz svoje predškolske skupine, a prema kriteriju svako peto dijete u dobi od navršene 4 godine života iz Imenika djece. Odgojitelji su unaprijed dobili šifrirane upitnike (parove upitnika za odgojitelja i roditelja) tako da je svako dijete koje su odgojitelji procjenjivali imalo istu šifru i na upitniku kojega je dobio roditelj. Roditelji su također, putem odgojitelja i pedagoga, bili informirani o svrsi istraživanja i zamoljeni da aktivno sudjeluju u njemu. Roditelji su nakon popunjavanja upitnike zatvorene u omotnici dostavljali odgojiteljima ili u stručnu službu vrtića te je na taj način bila osigurana njihova anonimnost. Nakon što su prikupljeni svi upitnici koje su ispunili odgojitelji i roditelji, prosljeđeni su istraživaču koji ih je kompletirao prema šiframa.

## 3. Rezultati

Na Slici 3. prikazane su raspodjele prosječnih rezultata po podskalama Upitnika za procjenu ponašanja i emocija, usporedno za roditelje i odgojitelje. Vidljivo je da je većina roditelja razvijenost interpersonalnih snaga djece procijenila visokim ocjenama, pri čemu je najviše procjena, njih 85%, u rasponu od 2 do 2.5, odnosno 2.5 do 3. Slično, iako još višim ocjenama, i odgojitelji su procijenili razvijenost dječjih interpersonalnih snaga, pri čemu su odgojitelji interpersonalne snage čak dvije trećine djece procijenili najvišom ocjenom.

**SLIKA 3. RASPODJELE PROSJEČNIH REZULTATA PO PODSKALAMA UPITNIKA ZA PROCJENU PONAŠANJA I EMOCIJA, USPOREDNO ZA RODITELJE I ODGOJITELJE**



Iako visoko procijenjene, interpersonalne snage su ipak, u odnosu na ostale kompetencije, procijenjene nešto nižim vrijednostima. Pri procjeni intrapersonalnih snaga djece (Slika 3), roditelji i odgojitelji su bili usklađeniji u procjenama, pa je vrlo sličan udio djece procijenjen visoko ili vrlo visoko na ovoj komponenti kompetencija. Roditelji su 76% djece (odgojitelji 73% djece) procijenili najvišim ocjenama kada je riječ o razvijenosti intrapersonalnih snaga. I procjene razvijenosti afektivnih snaga djeteta su vrlo slično među roditeljima i odgojiteljima. Tako su roditelji 77% djece (odgojitelji 76% djece) procijenili najvišim ocjenama.

Konačno, uključenost u obitelj je također vrlo visoko procijenjena i od strane roditelja i odgojitelja (Slika 3) pri čemu su roditelji 81% djece procijenili najvišim ocjenama dok su odgojitelji čak 86% djece procijenili najvišim ocjenama kada je u pitanju njihova uključenost u obitelj. Za ovu su komponentu dječjih kompetencija i roditelji i odgojitelji iskazali najviše procjene.

Kako bi se odgovorilo na drugi problem istraživanja te ispitala povezanost između roditeljskih i odgojiteljskih procjena razvijenosti socio-emocionalnih kompetencija djece predškolske dobi, izračunate su korelacije prikazane u Tablici 2. Vidljivo je da su sve korelacije značajne na razini od 1%, pri čemu su procjene po podskalama unutar poduzorka

roditelja očekivano više nego korelacije između procjena roditelja i odgojitelja.

**TABLICA 2. MATRICA KORELACIJA PROCJENA RODITELJA I ODGOJITELJA PO PODSKALAMA UPITNIKA ZA PROCJENU PONAŠANJA I EMOCIJA**

	1.	2.	3.	4.	5.	6.	7.
1. INTERPERSONALNE SNAGE (PROCJENE RODITELJA)							
2. UKLJUČENOST U OBITELJ (PROCJENE RODITELJA)	.70*						
3. INTRAPERSONALNE SNAGE (PROCJENE RODITELJA)	.69*	.72*					
4. AFEKTIVNE SNAGE (PROCJENE RODITELJA)	.64*	.73*	.76*				
5. INTERPERSONALNE SNAGE (PROCJENE ODGOJITELJA)	.35*	.23*	.15*	.16*			
6. UKLJUČENOST U OBITELJ (PROCJENE ODGOJITELJA)	.36*	.48*	.29*	.29*	.63*		
7. INTRAPERSONALNE SNAGE (PROCJENE ODGOJITELJA)	.21*	.23*	.25*	.19*	.58*	.60*	
8. AFEKTIVNE SNAGE (PROCJENE ODGOJITELJA)	.27*	.28*	.25*	.27*	.72*	.67*	.73*

\* $p < .01$

Kako bi se odgovorilo na treći istraživački problem, provedena su četiri Wilcoxonova testa parova za utvrđivanje razlika između procjena roditelja i odgojitelja (Tablica 3). Značajna je razlika utvrđena za procjene interpersonalnih snaga i uključenosti u obitelj, pri čemu su odgojitelji, u odnosu na roditelje, višim procijenili obje komponente. U procjenama intrapersonalnih i afektivnih snaga nisu utvrđene značajne razlike između roditeljskih i odgojiteljskih procjena.

**TABLICA 3. USPOREDBA UKUPNIH PROCJENA RODITELJA I ODGOJITELJA PO PODSKALAMA**

	C <sub>roditelji</sub>	C <sub>odgojitelji</sub>	z	p
INTERPERSONALNE SNAGE	2.40	2.73	7.10	.000
UKLJUČENOST U OBITELJ	2.80	2.90	3.25	.000
INTRAPERSONALNE SNAGE	2.73	2.73	.27	.792
AFEKTIVNE SNAGE	2.71	2.86	1.73	.085

Kako bi se istražilo razlikuju li se roditelji i odgojitelji u procjeni ponašanja i emocija djece s obzirom na spol djeteta te se odgovorilo na



četvrti problem istraživanja, provedeno je osam testova Mann-Whitney U, čiji su rezultati prikazani u Tablici 4.

**TABLICA 4. USPOREDBA PROCJENA PONAŠANJA I EMOCIJA DJECE S OBZIROM NA SPOL DJETETA**

<b>SOCIO-EMOCIONALNE KOMPETENCIJE</b>	<b>C<sub>djevojčice</sub></b>	<b>C<sub>dječaci</sub></b>	<b>U</b>	<b>z</b>	<b>p</b>
INTERPERSONALNE SNAGE (PROCJENE RODITELJA)	2.47	2.33	12503.00	2.41	0.016
UKLJUČENOST U OBITELJ (PROCJENE RODITELJA)	2.80	2.80	12177.50	2.80	0.005
INTRAPERSONALNE SNAGE (PROCJENE RODITELJA)	2.77	2.64	12555.50	2.37	0.018
AFEKTIVNE SNAGE (PROCJENE RODITELJA)	2.71	2.71	13068.50	1.83	0.067
INTERPERSONALNE SNAGE (PROCJENE ODGOJITELJA)	2.80	2.60	11969.00	3.02	0.003
UKLJUČENOST U OBITELJ (PROCJENE ODGOJITELJA)	2.90	2.80	12835.00	2.10	0.036
INTRAPERSONALNE SNAGE (PROCJENE ODGOJITELJA)	2.82	2.73	12957.50	1.93	0.053
AFEKTIVNE SNAGE (PROCJENE ODGOJITELJA)	2.86	2.71	12974.00	1.96	0.050

Kada je riječ o procjenama roditelja, iz Tablice 4. vidljivo je da su razlike između procjena dječaka i djevojčica utvrđene za interpersonalne i intrapersonalne snage te uključenost u obitelj. Roditelji su procijenili višim te snage kod djevojčica u odnosu na dječake. U procjeni afektivnih snaga nije bilo razlika između dječaka i djevojčica. Slično je pokazano i za procjene odgojitelja koji su također višim procijenili interpersonalne snage i uključenost u obitelj djevojčica nego dječaka. Razlika u afektivnim snagama je bila tek na razini značajnosti, a u intrapersonalnim snagama nije se pokazala značajnom (Tablica 4).

Kako bi se odgovorilo na peti problem istraživanja te istražilo razlikuju li se roditelji u procjeni ponašanja i emocija djece s obzirom na spol roditelja, provedena su četiri testa Mann-Whitney U, čiji su rezultati prikazani u Tablici 5. U nijednoj varijabli nije utvrđena značajna razlika između procjena majki i očeva.

**TABLICA 5. USPOREDBA PROCJENA PONAŠANJA I EMOCIJA DJECE S  
OBZIROM NA SPOL RODITELJA**

	<b>C<sub>majke</sub></b>	<b>C<sub>očevi</sub></b>	<b>U</b>	<b>z</b>	<b>p</b>
INTERPERSONALNE SNAGE (PROCJENE RODITELJA)	2.47	2.33	6386.50	1.38	0.167
UKLJUČENOST U OBITELJ (PROCJENE RODITELJA)	2.80	2.80	7124.00	0.24	0.813
INTRAPERSONALNE SNAGE (PROCJENE RODITELJA)	2.73	2.73	7091.00	0.29	0.774
AFEKTIVNE SNAGE (PROCJENE RODITELJA)	2.71	2.71	6382.00	1.41	0.159

Kako bi se istražilo razlikuju li se roditelji u procjeni ponašanja i emocija djece s obzirom na razinu obrazovanja, provedeno je osam analiza varijance Kruskal-Wallis (Tablica 6). Pri tome su roditelji s obzirom na razinu obrazovanja grupirani u tri kategorije. Naime, zbog činjenice da je u trima kategorijama obrazovne razine (završena osnovna škola, magisterij i doktorat) bilo ukupno 18 roditelja (2 sa završenom osnovnom školom, 13 s magisterijem te 2 s doktoratom), ti su roditelji izostavljeni iz analize te su uspoređeni roditelji sa srednjom (N=155), višom (N=55) i visokom (N=111) razinom obrazovanja. Rezultati tih analiza prikazani su u Tablici 6.

**TABLICA 6. USPOREDBA PROCJENA PONAŠANJA I EMOCIJA DJECE S  
OBZIROM NA RAZINU OBRAZOVANJA RODITELJA**

	<b>C<sub>srednje</sub></b>	<b>C<sub>više</sub></b>	<b>C<sub>visoko</sub></b>	<b>H (2,N=321)</b>	<b>p</b>
1. INTERPERSONALNE SNAGE (PROCJENE RODITELJA)	2.40	2.40	2.47	.59	.745
2. UKLJUČENOST U OBITELJ (PROCJENE RODITELJA)	2.80	2.90	2.80	2.99	.223
3. INTRAPERSONALNE SNAGE (PROCJENE RODITELJA)	2.73	2.73	2.73	.05	.973
4. AFEKTIVNE SNAGE (PROCJENE RODITELJA)	2.71	2.71	2.86	2.99	.223
5. INTERPERSONALNE SNAGE (PROCJENE ODGOJITELJA)	2.67	2.80	2.80	6.04	.048
6. UKLJUČENOST U OBITELJ (PROCJENE ODGOJITELJA)	2.80	2.90	2.90	7.43	.024
7. INTRAPERSONALNE SNAGE (PROCJENE ODGOJITELJA)	2.73	2.73	2.73	2.15	.340
8. AFEKTIVNE SNAGE (PROCJENE ODGOJITELJA)	2.86	2.86	2.86	3.68	.158

Zanimljivo je da u roditeljskim procjenama djece nije bilo nikakvih razlika s obzirom na razinu njihova obrazovanja, dok su se odgojiteljske procjene razlikovale, i to za interpersonalne snage i uključenost u obitelj. Pri tome su odgojitelji višim procijenili te snage kod one djece čiji su roditelji imali više ili visoko u odnosu na roditelje srednje razine obrazovanja.

#### 4. Rasprava

Cilj ovoga istraživanja bio je provjeriti razlikuju li se procjene dječjih socio-emocionalnih kompetencija iz perspektive roditelja i odgojitelja. U raspravi o dobivenim rezultatima prvo ćemo se osvrnuti na rezultate procjena koji pokazuju da, općenito, i roditelji i odgojitelji vrlo visokim ocjenama procjenjuju razvijenost svih kompetencija djece koje su zahvaćene ovim istraživanjem. Za sve je kompetencije vrlo mali broj djece procijenjen niskim ili ispodprosječnim ocjenama. Pri procjeni intrapersonalnih i afektivnih snaga te uključenosti u obitelj, odgojitelji prosječnim ocjenama 0 ili 1 nisu procijenili ni jedno dijete, dok su isto učinili za četvero djece kada je riječ o interpersonalnim snagama. Slično, i roditelji su svega troje ili četvero djece procijenili najnižim ocjenama (0 do 1) na svim podskalama kompetencija. Medijalne vrijednosti svih roditeljskih procjena na četiri podskale se kreću od 2.40 do 2.80 (mogući raspon 0 – 3), dok je za odgojitelje taj raspon od 2.73 do 2.90 (mogući raspon 0 – 3).

Rezultati su ovoga istraživanja pokazali kako razvijenost kompetencija ovisi i o spolu djeteta jer su i roditelji i odgojitelji procijenili razvijenost interpersonalnih snaga i uključenost u obitelj višim kod djevojčica nego dječaka, što potvrđuje polaznu hipotezu o razlikama u procjenama dječaka i djevojčica na interpersonalnim snagama. Pored tih razlika, roditelji su i razvijenost intrapersonalnih snaga procijenili višom kod djevojčica u odnosu na dječake. Ove razlike mogu biti odraz stvarnih razlika u kompetencijama djece predškolske dobi koje je moguće pripisati biološkim ili nasljednim specifičnostima vezanima uz temperament. Naime, meta-analiza temperamentalnih razlika između dječaka i djevojčica je pokazala da dječaci u odnosu na djevojčice imaju više rezultate na dimenziji surgencije (Else-Quest i dr., 2006) koju karakterizira visoka impulzivnost, traženje zadovoljstva, visoka razina aktivacije i niska

sramežljivost (Rothbart i Putnam, 2002). Moguće je da se te razlike odražavaju na djetetovo ponašanje u predškolskoj dobi zbog kojeg i roditelji i odgojitelji procjenjuju dječake načelno nešto niže kompetentnima u području socio-emocionalnih vještina. Nadalje, uslijed različitih načina socijalizacije dječaka i djevojčica, pri čemu se kod dječaka više socijaliziraju manje kontrolirana ponašanja i intenzivnija, često i agresivna igra (Hill i dr., 2006; Maccoby, 1998), dječaci u predškolskoj dobi manifestiraju ponašanja zbog kojih ih okolina procjenjuje manje socijalno kompetentnima, posebno kada je riječ o interpersonalnim vještinama. S druge strane, kod djevojčica se obično više potiču igre koje su manje intenzivne i agresivne te uključuju vještine socijalne komunikacije bilo da je riječ o simboličkim igrama ili društvenim igrama koje zahtijevaju uvažavanje drugih, slijeđenje pravila i sl. Ranija istraživanja provedena na uzorcima predškolske djece u Hrvatskoj su također pokazala da odgojitelji djevojčice procjenjuju kompetentnijima u odnosu na dječake u različitim socio-emocionalnim područjima. Tako je jedno istraživanje pokazalo da su odgojitelji procijenili kako djevojčice u odnosu na dječake pokazuju razvijenije socijalne vještine, emocionalnu stabilnost, samokontrolu, asertivnost te uživanje u istraživanju (Tatalović Vorkapić i Lončarić, 2014). Slično, jedno je istraživanje u drugoj kulturi na uzorku djece predškolske dobi (pet do šest i pol godina) pokazalo da i roditelji i odgojitelji procjenjuju djevojčice značajno kompetentnijima u odnosu na dječake u području socijalnih vještina (Abdi, 2010).

Spol roditelja nije se pokazao relevantnim za procjene razvijenosti socio-emocionalnih kompetencija djece, kao ni njihova razina obrazovanja kada je o procjenama roditelja riječ. Ipak, obrazovni status roditelja utjecao je na procjenu odgojitelja o razini kompetencija djece. Iz perspektive odgojitelja koji imaju širi uvid u funkcioniranje odgojne skupine i pojedinog djeteta, pa ih mogu stavljati u odnos, moguće je zaključiti kako razina obrazovanja roditelja utječe na djetetove kompetencije te ih odgojitelji procjenjuju višima kod djece čiji roditelji imaju višu razinu obrazovanja. Moguće je da odgojitelji promatraju i procjenjuju komunikaciju roditelja i djece, njihov odnos i međusobno ponašanje, kao i retoriku te rječnik djece i njihovih roditelja koji je vjerojatno na višoj razini kod visoko obrazovanih roditelja, u odnosu na one s nižom razinom obrazovanja. Moguće je da i veća obrazovanost u osnovnoj struci roditelja

za sobom povlači i veću obrazovanost u području odgoja, roditeljstva, dječjeg razvoja i sl., a što se onda pozitivno odražava i na dječje kompetencije. S druge strane, utjecaj roditeljskog obrazovanja na procjene odgojitelja o razvijenosti kompetencija kod djece može biti dijelom odraz stereotipnih uvjerenja odgojitelja ili viših očekivanja od djece čiji roditelji imaju višu razinu obrazovanja pa svoje procjene prilagođavaju upravo takvim očekivanjima, a manje stvarnim kompetencijama djece. Ovaj bi rezultat kao i njegovo moguće objašnjenje svakako valjalo provjeriti u daljnjim istraživanjima.

## 5. Zaključak

Prije zaključka, potrebno se osvrnuti na nedostatke provedenog istraživanja. U procjeni razvijenosti dječjih kompetencija sudjelovalo je značajno više majki nego očeva, pa iako na razini poduzorka očeva i majki nije utvrđena značajna razlika, u narednim bi istraživanjima valjalo uključiti veći broj očeva ili zahvatiti istovremeno procjene obaju roditelja čime bi se povećala objektivnost dobivenih procjena. Nadalje, iako je većina korištenih mjera pokazala zadovoljavajuće koeficijente pouzdanosti, podskala uključenosti u obitelj imala je nešto nižu pouzdanost kada je riječ o procjenama odgojitelja. To ne iznenađuje s obzirom da je ipak riječ o procjeni kompetencija za koje je dijelom upitno koliko ih točno mogu procijeniti odgojitelji koji vjerojatno te procjene donose više posredno, temeljem drugih djetetovih kompetencija, a manje neposredno, kraćim uvidima u interakcije roditelj – dijete. Ipak, opravdanost korištenja i te mjere proizlazi iz činjenice da je najviša povezanost između roditeljskih i odgojiteljskih procjena utvrđena upravo na toj podskali.

Zaključno, rezultati provedenog istraživanja uputili su na umjerenu povezanost procjena dječjih socio-emocionalnih kompetencija iz perspektive odgojitelja i roditelja. Pri tome su obje skupine procjenitelja vrlo visokim procijenile razvijenost svih kompetencija zahvaćenih ovim istraživanjem. U narednim istraživanjima bilo bi značajno istražiti pozadinu tih visokih procjena. Naime, moguće je da su roditelji (a odgojitelji su to po prirodi svoje struke) osvijestili važnost socio-emocionalnih kompetencija za život djece u aktualnom i budućem životu, pa onda i veću pozornost posvećuju poticanju razvoja upravo tih

kompetencija. Biti kompetentan znači biti sposoban, fleksibilan, znati primijeniti i koristiti stečene vještine i znanja, primjereno djelovati u određenim situacijama i prilagođavati se promjenama koje se događaju, uspješno kontrolirati svoje emocije i razumijevati emocije drugih, snalaziti se u različitim socijalnim situacijama i koristiti svoje potencijale kao motivaciju i poticaje u životu. Važnost razvijanja socio-emocionalnih kompetencija ogleda su u njihovoj povezanosti s kasnijom odgovornošću, osviještenosti o posljedicama svojih ponašanja i emocija te suosjećajnosti s drugima i sklonosti prosocijalnom ponašanju. Odgoj i obrazovanje na svim razinama, a posebice u ranom i predškolskom odgoju, mora biti usmjeren na omogućavanje i poticanje razvoja socio-emocionalnih kompetencija svakog djeteta kako bi se ono afirmiralo i ostvarilo svoje potencijale te time i osnažilo za buduće životne izazove u različitim domenama.

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## **Preschool teachers and parental assessments of children's socio-emotional competencies**

### **Summary**

The results of previous research suggest a correlation between the development of a child's socio-emotional competencies and future success in various areas of life, as well as life satisfaction. Socio-emotional competencies develop during childhood in the context of various interactions, especially those within the family, preschool and school environment. The aim of this study was to examine socio-emotional competencies of preschool children from the perspective of parents and educators. The study also aimed at exploring whether parents and preschool teachers differently assess competencies of boys and girls, as well as whether the assessments depend on the parents' gender and their level of education. The study involved 347 parents and 60 preschool teachers who assessed 347 children between the ages of 4 and 8. A standardized questionnaire was used to assess socio-emotional competencies in four domains: interpersonal, intrapersonal, and affective child strengths and family involvement. The results showed that both, preschool teachers and parents highly rated all of the children's socio-emotional competencies. Still, preschool teachers, compared to parents, assessed children's interpersonal strengths and family involvement higher. With regard to the child's gender, both, parents and preschool teachers rated higher the interpersonal strengths and family involvement of girls than boys, while no significant differences were found in the assessment of intrapersonal and affective strengths.

**Key words:** *preschool aged child; preschool teacher; parent; gender; socio-emotional competencies*



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## Suvremeni modeli i pristupi analizi podataka u obrazovnim istraživanjima

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### Sažetak

Današnja se istraživanja u području obrazovanja zasnivaju na upotrebi odgovarajućih pristupa prikupljanju podataka te suvremenim modelima njihove analize. Metodološki su iskoraci u ovom području znatni, a istraživači u posljednjih nekoliko desetljeća prepoznaju važnost primjene longitudinalnih nacrti u obrazovnim istraživanjima. Također, uviđanje hijerarhijske organizacije prikupljenih podataka i njihova odgovarajuća statistička obrada postaju metodološki imperativ. U ovom je radu pružen metodološki pregled hijerarhijske i longitudinalne organizacije podataka te teorijski okvir njihove statističke analize. Istaknute su najčešće pogreške i poteškoće s kojima se istraživači prilikom korištenja ovih metoda susreću te načini kako ih ispravno prevladati. Kroz jednostavne i svakodnevne primjere pokušalo se čitatelju približiti ove metode i njihovu statističku podlogu te uputiti istraživače u području obrazovnih istraživanja na njihovo adekvatno korištenje.

**Ključne riječi:** *hijerarhijski modeli; longitudinalni nacrti; analiza podataka; obrazovna istraživanja; statistika*

## 1. Uvod

Od devedesetih godina prošlog stoljeća istraživanja u području obrazovanja znatno su napredovala u pogledu njihovih istraživačkih nacrti, primijenjenih metoda uzorkovanja te upotrebe naprednijih statističkih metoda. Takav metodološki napredak omogućio je točniju procjenu učinka obilježja učitelja i škola na postignuće učenika. Danas se svi istraživači u području obrazovnih znanosti slažu da postoje dva metodološka imperativa: prikupljanje longitudinalnih podataka i prepoznavanje hijerarhijske organizacije prikupljenih podataka (Creemers i Kyriakides, 2007). Evidentan razlog tomu je činjenica da su prikupljeni podaci dinamičke prirode, odnosno da se mijenjaju kroz vrijeme. Uvažavanje njihove dinamičke prirode je ključno, jer učinci škola trajno mijenjaju obrazovni razvoj učenika, a sama obilježja učenika, učitelja i školske okoline su promjenjiva. Zato je prikupljanje longitudinalnih podataka (u nekoliko vremenskih točaka) nužno da bi se mogli utvrditi točni učinci učitelja i škola na obrazovna postignuća učenika. S druge strane, promatrane i mjerene pojave nužno se pojavljuju u višerazinskoj, hijerarhijskoj strukturi. Podaci o obilježjima škola prikupljeni su na jednoj razini, podaci o obilježjima učitelja na drugoj, dok su podaci o učeničkom uspjehu prikupljeni na trećoj, najnižoj razini. Dakle, prisutna je višerazinska, hijerarhijska struktura prikupljenih podataka jer je sve učenike jednog razreda poučavao isti učitelj, a svi su učenici, a i učitelji jedne škole, izloženi istoj školskoj okolini te dijele ista, školska obilježja. Očita hijerarhijska organizacija podataka zahtijeva specifične statističke analize koje omogućavaju utvrđivanje obrazovnih ishoda mjerenih na više razina.

## 2. Hijerarhijski (višerazinski) modeli

U istraživanjima obrazovanja postoji nezaobilazna hijerarhijska organizacija podataka. Učenici žive, uče i pohađaju nastavu u određenoj organizacijskoj strukturi. To je hijerarhijski definirana socijalna struktura koja uključuje obitelj, vršnjačku grupu, razredni odjel, školu, općinu, regiju, pa na kraju i državu. Takva višerazinska organizacija podataka uzrokuje nekoliko specifičnih problema kod njihove statističke analize.

Učenici koji djeluju unutar hijerarhijski organiziranih jedinica po svojim su osobinama međusobno znatno sličniji negoli su to slučajno odabrani učenici iz različitih skupina. Primjerice, učenici nekog razrednog odjela petog razreda međusobno su mnogo sličniji nego slučajno odabrani učenici petih razreda na razini grada, županije ili države. Razlog tome je što učenici tog konkretnog petog razreda nisu slučajno odabrani iz cjelokupne populacije i slučajno upisani baš u taj razred. Oni potječu iz istih, geografski određenih jedinica. Oni su iz iste regije, istog grada ili kvarta i po tome su mnogo homogeniji po nizu varijabli. Vjerojatno su homogeniji po socio-ekonomskom statusu (SES-u), etničkoj pripadnosti, obiteljskom nasljeđu ili pripadnosti određenoj religiji nego učenici petih razreda u cijeloj promatranoj populaciji. Nadalje, učenici tog konkretnog razrednog odjela dijele zajedničku školsku okolinu, iste učitelje, razred ili školu, sa svim njihovim fizičkim i organizacijskim obilježjima. To rezultira sličnim iskustvima i dovodi do dodatne homogenizacije tijekom vremena.

Kako se adekvatno nositi s problemom hijerarhijske organizacije podataka? U istraživanjima koja se bave učinkovitošću obrazovanja nakana istraživača je utvrditi kako učiteljeva obilježja i škola, utječu na školski uspjeh uz kontrolu pozadinskih varijabli, poput SES-a obitelji, spola ili ranijeg obrazovnog uspjeha. Najčešće su uspjeh učenika i obilježja njegove obitelji prikupljeni na razini učenika, a ostali podaci na razini razrednog odjela, razreda, učitelja, škole, grada ili regije. Postavlja se pitanje - *Što je adekvatna jedinica analize – učenik, razred, škola, grad ili možda regija?*

Jedna od mogućih strategija je da se sva obilježja razreda, učitelja ili škole svedu na razinu učenika, odnosno da se podaci s više razine svedu na nižu analitičku razinu. Dakle, radi se o postupku disagregacije varijabli s više hijerarhijske razine na onu nižu. Tako bi svi učenici konkretnog petog razreda u varijabli veličina razreda dobili istu vrijednosti, npr. 25 učenika u razredu, ili bi na razini staža učitelja Matematike svi dobili 8 godina radnog staža. Problem ovakvog pristupa je nepostojanje nezavisnosti opažanja, jer svi učenici jednog razreda imaju identične rezultate na navedenim varijablama. Nezavisnost opažanja je jedan od prvih preduvjeta nepristrane i točne statističke analize i podrazumijeva međusobnu nezavisnost sudionika odabranih u istraživanje. Kao što je navedeno, odabrani učenici nekog razreda nisu potpuno nezavisne jedinice

već dijele istu školsku okolinu te imaju donekle slična demografska i obiteljska obilježja. Dakle, u hijerarhijski organiziranim podacima pretpostavka o nezavisnosti jedinki u uzorku je nužno narušena, a sudionici su dodatno homogenizirani. Zato je u analizama u kojima je provedena disagregacija varijabli više razine na razinu učenika standardna pogreška mjerenja znatno podcijenjena, odnosno manja no što bi bila da se radi o nehijerarhijskom ili uzorku potpuno slučajno odabranih učenika. To se najbolje može ilustrirati *napuhanom* veličinom uzorka za pojedino disagregirano svojstvo koje ulazi u analizu. Naime, ranije navedena veličina razreda nije osobina učenika, već razreda i u uzorku se pojavljuje onoliko puta koliko ima razreda. Disagregacijom se povećava broj opažanja te osobine na onoliko koliko ima učenika, a taj je broj nekoliko puta veći. Time se smanjuje procjena varijance pogreške, što posljedično dovodi do veće vjerojatnosti neopravdanog odbacivanja nul-hipoteze i liberalnijeg zaključka o značajnosti predikcije (Osborne, 2000). Drugim riječima, tim postupkom istraživači dolaze do statistički značajnih razlika koje su potpuno netočne (Hox, 2010).

Drugi je pristup sažimanje podataka na razinu razrednog odjela, razreda, škole, grada, ili županije, dakle, *prebacivanje* podataka s niže razine na onu višu. Riječ je o agregaciji rezultata na nekoj varijabli mjerenoj na nižoj razini na višu razinu analize. Tako bi se mogao, na primjer, ispitivati utjecaj prosječnog SES-a roditelja (agregiran s individualne na neku višu razinu) na uspjeh razreda, škole ili županije. Ovaj pristup vezuje uz sebe nekoliko problema. Najvažniji je da je na taj način izgubljen ogroman varijabilitet zavisne varijable, odnosno uspjeh učenika je uvijek uprosječen na nekoj višoj razini. Takvo smanjenje varijabiliteta može dovesti do velikog podcjenjivanja ili pak precjenjivanja korelacijskog odnosa među promatranim varijablama (Bryk i Raudenbush, 1992), a nužno dovodi do smanjenja statističke snage provedene analize (Hox, 2010).

Osim navedenih statističkih pogrešaka, oba pristupa također mogu dovesti do krivih konceptualnih i logički pogrešnih zaključka. Može se dogoditi da istraživač provede analizu na jednoj razini podataka, a donese zaključak na drugoj razini. Najpoznatija pogreška tog tipa je takozvana ekološka pogreška (eng. *ecological fallacy*) do koje dolazi kada se podaci agregirani i analizirani na nekoj višoj razini interpretiraju na individualnoj

razini. S obzirom na to da se agregacijom značenje varijabli sadržajno i suštinski mijenja ne može se više govoriti o tome što je povezano s uspjehom učenika, već što je eventualno povezano s obrazovnim uspjehom razreda, škole ili županije. S druge strane, disagregacijom rezultata s više razine (npr. razine škole) na nižu razinu (npr. razinu učenika) i interpretiranjem tih razlika kao razlika među grupama ulazi se u pogrešku poznatu kao atomistička pogreška (eng. *atomistic fallacy*).

Iz navedenog je vidljivo da svođenje višerazinskih podataka na samo jednu razinu analize (bilo onu višu ili nižu) nosi sa sobom niz evidentnih statističkih pogrešaka, a potencijalno vodi i u moguće pogreške logičkog zaključka. Zato su razvijeni adekvatni statistički postupci koji uključuju varijable različitih razina u jedinstvenu statističku analizu bez gubitka informacija o originalnoj razini mjerenja pojedinog svojstva. Te se analize nazivaju Višerazinskim analizama (eng. *Multilevel Analysis*; Hox, 2010), Višerazinskim modeliranjem (eng. *Multilevel Modeling*; Luyten i Sammons, 2010), Modelima slučajnih koeficijenata (eng. *Random Coefficients Models*; de Leeuw i Kreft, 1986) ili Hijerarhijskim linearnim modeliranjem (eng. *Hierarchical Linear Modeling – HLM*; Raudenbush i Bryk, 2002). Takvi postupci omogućavaju ispitivanje istraživačkih hipoteza koje su postavljene između više razina, odnosno pružaju odgovor na višerazinske probleme. Pod višerazinskim problemima podrazumijeva se utvrđivanje odnosa među varijablama koje su mjerene na različitim hijerarhijskim razinama. Tako je u obrazovnim istraživanjima ključno pitanje kako niz varijabli mjerenih na individualnom (npr. SES obitelji, spol učenika, ranija razina znanja) i grupnom nivou (npr. staž učitelja, veličina razreda, opremljenost škole) utječe na jednu kriterijsku varijablu na individualnom nivou (npr. znanje učenika). Višerazinskim analizama može se utvrditi izravan utjecaj varijabli mjerenih na različitim nivoima na kriterijsku mjeru, ali se i dodatno može utvrditi postaje li neka varijabla s grupnog nivoa moderator odnosa prediktora i kriterija mjerenih na individualnom nivou.

### 3. Metode višerazinske analize podataka

Osnovni statistički koncept na kojem počivaju hijerarhijski linearni modeli (HLM) je klasična linearna regresija koja je modificirana

za upotrebu na hijerarhijski organiziranim podacima. Kao što je rečeno, hijerarhijski organizirani podaci imaju više razina. Najniža razina (obično nazvana razina – 1) je razina učenika, druga razina (razina – 2) može biti razina razreda, treća razina (razina – 3) razina škole, i tako dalje. Ovdje ćemo za početak razraditi primjer dvorazinske strukture u kojoj su učenici ugniježđeni u školske razrede. Na prvoj razini, odnosno koristeći samo osobine učenika, možemo definirati jednostavnu regresijsku jednadžbu prognoze uspjeha učenika kao:

$$Y_{ij} = b_{0j} + b_{1j}X_{1ij} + \dots + b_{kj}X_{kij} + e_{ij}$$

gdje je  $Y_{ij}$  uspjeh učenika koji pripada nekoj grupi  $j$ ;  $b_{0j}$  je konstanta (intercept, odsječak na osi  $Y$ ) za grupu  $j$ ;  $b_{1j}$  je regresijski koeficijent grupe  $j$  (koeficijent smjera pravca) za promatranu varijablu  $X_1$ ; dok je  $e_{ij}$  rezidual (pogreška prognoze) za pojedinca  $i$  iz grupe  $j$ .

Tako u nekom primjeru možemo prognozirati uspjeh učenika ( $i$ ) iz Matematike koji pohađa razred ( $j$ ) na temelju njegovog spola (varijabla  $X_1$ ) i njegove motivacije za učenje matematike ( $X_2$ ). Tada bi regresijska jednadžba izgledala ovako:

$$\text{mat}_{ij} = b_{0j} + b_{1j} \text{ spol}_{ij} + b_{2j} \text{ motiv}_{ij} + e_{ij}$$

Razlika između ovako postavljene regresijske jednadžbe i obične regresijske jednadžbe (eng. *Ordinary Least Squares - OLS*) je postojanje indeksa ( $j$ ) koji govori o pripadnosti učenika nekom razredu. Time se podrazumijeva da pojedini razredi mogu imati različite intercepte ( $b_{0j}$ ) i različite koeficijente nagiba pravca prognoze ( $b_{1j}$  ili  $b_{2j}$ ). S obzirom na to da su intercepti i koeficijenti pravca slučajne varijable koje slobodno variraju od razreda do razreda nazivaju se *slučajni koeficijenti* (eng. *random coefficients*). Ako se vratimo na naš primjer, razredi koji imaju veći intercept imaju i veći prosječni učenički uspjeh iz Matematike. Ako pojedini razredi imaju veće regresijske koeficijente (koeficijente nagiba pravca) u tim je razredima povezanost između spola<sup>1</sup>, odnosno motivacije i uspjeha u Matematici veća.

<sup>1</sup> U ovom se korelacijskom kontekstu govori o povezanosti između spola i uspjeha u matematici, a suštinski se misli na spolne razlike u uspjehu iz matematike

Ako promatramo sve razrede uključene u analizu pretpostavlja se da je distribucija regresijskih koeficijenata približno normalna<sup>2</sup>. Stoga je drugi korak hijerarhijskog regresijskog modela objasniti varijabilitet tih regresijskih koeficijenata koristeći varijable izmjerene na drugoj razini, odnosno razini razreda. Dakle, na drugoj razini, u HLM-u, konstanta (intercept) i koeficijent smjera pravca iz prve razine postaju kriteriji, a njihove se vrijednosti pokušavaju predvidjeti na osnovi rezultata varijabli druge razine, odnosno izraženo jednadžbama, glasi:

Za intercept:

$$b_{0j} = \gamma_{00} + \gamma_{01}W_j + \dots + \gamma_{0k}W_k + u_{0j}$$

Za regresijske koeficijente:

$$b_{1j} = \gamma_{10} + \gamma_{11}W_j + \dots + \gamma_{1k}W_k + u_{1j}$$
$$b_{2j} = \gamma_{20} + \gamma_{21}W_j + \dots + \gamma_{2k}W_k + u_{2j} \quad \text{itd.}$$

gdje su  $\gamma_{00}$  i  $\gamma_{10}$  konstante (intercepti);  $\gamma_{01}$  i  $\gamma_{11}$  predstavljaju regresijske koeficijente (koeficijente smjera pravca) u predviđanju  $b_0$  i  $b_1$  na osnovi varijable druge razine  $W_j$ ; dok  $u_{0j}$  i  $u_{1j}$  predstavljaju pogreške prognoze.

Da bismo pojasnili značenje navedenih jednadžbi, možemo se poslužiti ranijim primjerom. Zamislimo da na razini razreda (druga razina) imamo varijablu veličine razreda. Prva jednadžba u kojoj se predviđa  $b_0$  govori o uspješnosti predikcije razlika u prosječnom uspjehu iz Matematike pojedinih razreda na osnovi veličine razreda. Dakle, ako varijabla druge razine može dobro objasniti ovako definiran kriterij (ako je  $\gamma_{01}$  značajan), to znači da se razredi razlikuju po uspjehu upravo zbog razlike u svojoj veličini.

Drugi set jednadžbi govori o moderatorskom efektu varijabli druge razine na uspješnost prognoze učeničkog uspjeha na osnovi varijabli prve razine. U terminima analize varijance ta nam jednadžba govori o interakciji varijabli dvaju promatranih razina na uspjeh. U prvom primjeru radi se o interakciji spola učenika s prve razine i veličine razreda s druge razine na uspjeh iz Matematike. U drugom slučaju, kako imamo dvije prediktorske varijable prve razine, radi se o interakcijskom učinku motivacije učenika i

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<sup>2</sup> Više o načinima testiranja preduvjeta za provedbu hijerarhijskih regresijskih modela može se pronaći u Goldstein (2003) te Snijders i Bosker (1999).

veliĉine razreda na školski uspjeh iz Matematike. Ako je  $\gamma_{11}$  znaĉajan moŹe se zakljuĉiti da se utjecaj spola na uspjeh uĉenika mijenja ovisno o veliĉini razreda, odnosno da spolne razlike u uspjehu znaĉajno variraju ovisno o veliĉini razreda. Ako je regresijski koeficijent iz druge jednadŹbe  $\gamma_{21}$  znaĉajan moŹe se zakljuĉiti da se utjecaj uĉeniĉke motivacije na školski uspjeh mijenja ovisno o veliĉini razreda. Drugim rijeĉima, u razredima razliĉite veliĉine, utjecaj motivacije na školski uspjeh iz Matematike nije isti.

Na kraju, primjer dvorazinskog modela u kojem postoje dvije prediktorske varijable mjerene na razini uĉenika (spol i motivacija) te jedna mjerena na razini razreda (veliĉina razreda) moŹe se izraziti jedinstvenom sloŹenom regresijskom jednadŹbom koja integrira ranije navedene:

$$Y_{ij} = \gamma_{00} + \gamma_{10}X_{1ij} + \gamma_{20}X_{2ij} + \gamma_{01}W_j + \gamma_{11}X_{1ij}W_j + \gamma_{21}X_{2ij}W_j + u_{1j}X_{1ij} + u_{2j}X_{2ij} + u_{0j} + e_{ij}$$

Ili, ako koristimo sadržajna imena varijabli:

$$\text{mat}_{ij} = \gamma_{00} + \gamma_{10}\text{spol}_{ij} + \gamma_{20}\text{motiv}_{ij} + \gamma_{01}\text{vel}_j + \gamma_{11}\text{spol}_{ij} \times \text{vel}_j + \gamma_{21}\text{motiv}_{ij} \times \text{vel}_j + u_{1j}\text{spol}_{ij} + u_{2j}\text{motiv}_{ij} + u_{0j} + e_{ij}$$

Prvi dio jednadŹbe [ $\gamma_{00} + \gamma_{10}X_{1ij} + \gamma_{20}X_{2ij} + \gamma_{01}W_j + \gamma_{11}X_{1ij}W_j + \gamma_{21}X_{2ij}W_j$ ] sadrŹi fiksne koeficijente i naziva se fiksnim ili deterministiĉkim dijelom modela. Drugi dio jednadŹbe [ $u_{1j}X_{1ij} + u_{2j}X_{2ij} + u_{0j} + e_{ij}$ ] sadrŹi sluĉajne pogreŹke i naziva se sluĉajnim ili stohastiĉkim dijelom modela. Izrazi  $\gamma_{11}X_{1ij}W_j$  i  $\gamma_{21}X_{2ij}W_j$  odnose se na interakciju meĹu varijablama dvaju razina, odnosno na moderatorski utjecaj varijable druge razine na povezanost varijabli prve razine s kriterijem. Takav se tip interakcije u hijerarhijskim modelima naziva kros-razinska interakcija (eng. *cross-level interaction*).

Oĉito je da ovakvo hijerarhijsko modeliranje podataka razlaŹe varijancu školskog uspjeha iz Matematike na dva osnovna dijela. MoŹe se razlikovati varijabilitet izmeĹu uĉenika jednog razreda (osobne razlike meĹu uĉenicima) i varijabilitet izmeĹu razreda (razlike u uspjehu pojedinih razreda). Ako zamislimo model bez ijednog prediktora na bilo kojoj od



razina (tzv. prazni model, nul-model ili eng. *intercept-only model*) tada možemo opću jednadžbu prve razine napisati kao:

$$Y_{ij} = b_{0j} + e_{ij}$$

Dakle, rezultat nekog učenika u uspjehu iz Matematike može se dobiti kao zbroj prosjeka nekog razreda  $b_{0j}$  i odstupanja tog učenika od tog prosjeka  $e_{ij}$ .

Na drugoj razini možemo izračunati intercepte  $b_{0j}$ , odnosno aritmetičke sredine razreda jednadžbom:

$$b_{0j} = \gamma_{00} + u_{0j}$$

Ovdje određujemo aritmetičku sredinu nekog razreda kao zbroj prosjeka aritmetičkih sredina svih razreda  $\gamma_{00}$  i odstupanja tog razreda od prosjeka  $u_{0j}$ . Ako sve uvrstimo u početnu jednadžbu dobivamo sljedeće:

$$Y_{ij} = \gamma_{00} + u_{0j} + e_{ij}$$

Iz navedenog je vidljivo da uspjeh ih Matematike pojedinog učenika ( $i$ ), koji pohađa razred ( $j$ ), možemo izračunati kao zbroj prosjeka uspjeha iz Matematike svih razreda ( $\gamma_{00}$ ), odstupanja prosjeka razreda koji učenik pohađa od općeg prosjeka uspjeha iz Matematike ( $u_{0j}$ ) i odstupanja učenika od prosjeka pripadajućeg razreda ( $e_{ij}$ ). Time se ukupan varijabilitet, odnosno varijanca rezultata učenika razlaže na dvije komponente: varijabilitet niže, učeničke razine analize i varijabilitet više razine, odnosno razine razreda. Unutar termina klasične analize varijance takav bi se varijabilitet mogao nazvati varijabilitetom unutar (eng. *within groups – WG*) i varijabilitetom između grupa (eng. *between groups – BG*)<sup>3</sup>.

Udio varijance više razine u ukupnoj varijanci učeničkog postignuća u obrazovnim istraživanjima od posebne je važnosti. Zato gotovo svaka hijerarhijska analiza obrazovne učinkovitosti započinje s

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<sup>3</sup> Termini varijabiliteta unutar i između grupa preuzeti iz klasične analize varijance s fiksnim faktorima u ovom kontekstu nisu potpuno točni jer bi tada omjer međugrupnog i ukupnog varijabiliteta odgovarao izračunu  $\eta^2$ , a ne ICC-a. Zato se ovdje termin međugrupnog varijabiliteta u stvari odnosi na ANOVA model sa slučajnom nezavisnom varijablom (eng. random model) gdje se međugrupni varijabilitet procjenjuje na populacijskoj razini (Howell, 1997).

procjenom udjela varijabiliteta rezultata učenika koji je uzrokovan varijablama više razine jer se u tom varijabilitetu traži potencijalni učinak varijabli vezanih uz osobine učitelja, razreda ili škola. Jednostavan način izračuna proporcije varijance koja se može objasniti pripadanjem grupama više razine, odnosno određenim obrazovnim strukturama u općem varijabilitetu učeničkog uspjeha, predstavlja izračun indeksa intraklasne korelacije (*ICC*). Indeks intarklasne korelacije obično se označava sa grčkim slovom  $\rho$  i izračunava po formuli:

$$\rho = \frac{\sigma_{u_0}^2}{\sigma_{u_0}^2 + \sigma_e^2}$$

Gdje je  $\sigma_e^2$  varijanca odstupanja (pogrešaka) na najnižoj razini ( $e_{ij}$ ), a  $\sigma_{u_0}^2$  varijanca odstupanja (pogrešaka) na višoj razini ( $u_{0j}$ ). Prema navedenoj formuli može se jednostavno interpretirati dobiveni koeficijent intraklasne korelacije kao udio varijabiliteta vezan uz grupnu pripadnost u ukupnom varijabilitetu rezultata<sup>4</sup>. Na temelju tako procijenjenog parametra mogu se postaviti očekivanja koliko je varijabiliteta teoretski moguće objasniti s prediktorskim varijablama više razine. U kontekstu istraživanja obrazovne učinkovitosti, ukoliko je *ICC* viših hijerarhijskih razina vrlo mali, i očekivanja o utjecaju obilježja učitelja ili škola na obrazovni uspjeh učenika će biti skromna. Ako je pak *ICC* velik, postoji vjerojatnost da upravo obilježja učitelja i/ili škola pridonose objašnjenju školskog uspjeha učenika.

Primjenom višerazinskih modela analize podataka u istraživanjima učinkovitosti obrazovanja može se jasno utvrditi utjecaj varijabli različitih razina analize na obrazovni uspjeh učenika. U dvorazinskoj analizi iz primjera regresijski koeficijenti prve razine govore koliko se varijabilitet učeničkog uspjeha iz Matematike može objasniti na osnovi osobnih razlika među učenicima. Regresijski koeficijenti vezani uz varijable druge razine govore o tome koliko se varijabililiteta u prosječnom uspjehu razreda u Matematici može objasniti na osnovi obilježja razreda, ali i u kojoj mjeri obilježja razreda mijenjaju povezanost osobina učenika i učeničkog

<sup>4</sup> Proporcija dobivena *ICC* indeksom u višerazinskim modelima odnosi se na procjenu koliko bi varijancu na populacijskoj razini objašnjavala grupna pripadnost pojedinoj obrazovnoj strukturi u ukupnom varijabilitetu, a ne na proporciju varijabiliteta dobivenu na uzorku (Tabachnick i Fidell, 2007).

uspjeha. Interakcijski podaci omogućavaju razumijevanje onoga što uzrokuje (moderira) razlike u odnosima između varijabli prve razine i kriterija u različitim grupama sudionika na drugoj razini. Očito je da HLM nudi niz prednosti u odnosu na klasični regresijski nacrt koji je proveden transformacijom podataka na bilo koju od hijerarhijskih razina. Osim toga, ovako postavljen dvorazinski regresijski model može se lako proširiti uvođenjem varijabli mjerenih na dodatnim, višim razinama. Time se u model dodaju novi izravni efekti viših razina te se multiplicira broj zanimljivih kros-razinskih interakcijskih efekata od potencijalnog istraživačkog interesa. U obrazovnim se istraživanjima vrlo često primjenjuju dvorazinski (npr. Frenzel, Pekrun i Götz, 2007) i trofazinski nacrti s razinama učenika, razreda i škola (npr. Zhao, Valcke, Desoete, Verhaeghe i Xu, 2011), a lako je zamisliti i proširenje takvih nacrti na dodatne razine, poput regija ili država.

#### **4. Longitudinalni nacrti**

Osnovno obilježje longitudinalnih nacrti je da uključuju više opažanja ili mjerenja istih entiteta (npr. učenika) u više vremenskih točaka. Prilikom formiranja longitudinalnih nacrti treba obratiti pozornost na točno određenje pojma višekratnih mjerenja. Recimo da želimo izmjeriti školski uspjeh učenika, operacionaliziran školskim ocjenama, u dvije vremenske točke, primjerice, na kraju šestog i osmog razreda osnovne škole. No, istraživanje prevedemo samo na kraju osmog razreda i tada učenike upitnikom pitamo koje su školske ocjene imali na kraju šestog razreda. Takav se nacrt također može nazvati longitudinalnim iako nismo imali provedena dva mjerenja u dvjema vremenskim točkama, već smo podatke o prvoj točki mjerenja dobili iskazom učenika. Ovakav se nacrt naziva retrospektivnim longitudinalnim nacrtom i njime se načelno, zbog same prirode prvog mjerenja, dobivaju podaci nešto niže razine kvalitete od onog kojeg nazivamo prospektivnim longitudinalnim nacrtom (Gustafsson, 2010). U prospektivnom longitudinalnom nacrtu podaci su prikupljeni i u šestom i u osmom razredu, odnosno isti su učenici praćeni kroz promatrano razdoblje. Dvije su jasne prednosti prospektivnog nad retrospektivnim nacrtom. Prvo, podaci prikupljeni prospektivnim nacrtom ne temelje se na sjećanju i samoiskazu učenika koje je podložno grešci.

Drugo, tijekom vremena dolazi do određene promjene u uzorku učenika koju nije moguće lako prepoznati. Naime, neki učenici koji su zahvaćeni mjerenjem u osmom razredu možda nisu dijelili istu obrazovnu okolinu kao ostali u šestom razredu, odnosno možda su se doselili naknadno u tu školu, možda su mijenjali razred, preskočili neki razred (akcelerirali) ili ponavljali neki razred u tom razdoblju. Iako ovakvi slučajevi u pravilu nisu česti, oni umanjuju kvalitetu podataka prikupljenih retrospektivnim nacrtima.

Drugi dio problema longitudinalnih nacrtu vezuje se uz entitete, odnosno jedinice čija se obilježja opetovano mjere. Kao što je već napomenuto, jedno od obilježja obrazovnih istraživanja je da postoje različite razine podataka koji su na određeni način ugniježđeni jedni u druge. Tako imamo razinu učenika, učitelja, škola ili čak širih regija ili država u kojima su te škole smještene. Najčešći pristup u longitudinalnim istraživanjima jest taj da se tijekom vremena prati uspjeh učenika, kao entiteta najniže razine, te da se u istim vremenskim točkama prikupljaju podaci o obilježjima njihovih učitelja, odnosno škola. Takvi su nacrti najčešći i u literaturi se nazivaju panel-dizajnima. No, ponekad je interes istraživača usmjeren na drugu razinu podataka. Često je to razina škola, a istraživačko pitanje koje se može postaviti jest u kojoj je mjeri obrazovno postignuće pojedinih škola stabilno i konzistentno tijekom vremena. Može se, na primjer, promatrati postignuće osmih razreda istih škola kroz nekoliko godina, ali treba biti svjestan da su podaci svake godine prikupljeni na drugim učenicima. Dakle, škole jesu iste tijekom istraživanja ali se učenici osmih razreda kroz generacije mijenjaju. Još jedan čest primjer istraživanja u kojima su jedinice na makrorazini stabilne, ali se jedinice mikrorazine mijenjaju, predstavljaju međunarodna istraživanja obrazovnog uspjeha poput PIRLS-a, PISA-e ili TIMMS-a. U takvim se međunarodnim studijama istraživanja provode svakih nekoliko godina u istim zemljama, a svaki se puta iz populacije škola ili učenika neke zemlje izvlače uzorci na kojima se primjenjuju standardizirani testovi znanja. Dakle, istraživački nacrti su longitudinalni na razini obrazovnih sistema (država), ali naravno nisu na razini učenika. Prvenstvena im je svrha utvrđivanje trenda u razini obrazovnih postignuća kod onih zemalja koje sudjeluju redovito u takvim projektima.

Longitudinalna istraživanja imaju nekoliko jasnih prednosti nad drugim istraživačkim nacrtima, ali imaju isto tako nekoliko prisutnih metodoloških problema s kojima se treba suočiti i pokušati ih prevladati. Prva i najočitija prednost longitudinalnog pristupa je mogućnost utvrđivanja stabilnosti i promjena mjerenih pojava tijekom vremena. U području istraživanja učinkovitosti obrazovanja takvim se podacima može dati odgovor na mnoga pitanja: *Rastu li učinci učitelja i škola na učeničko postignuće tijekom vremena? Jesu li ti učinci konstantni i konzistentni? Jesu li kratkoročni ili imaju dugoročan efekt?* Ove prednosti longitudinalnog pristupa posebice dolaze do izražaja ako ih se usporedi s klasičnim kros-sekcijskim istraživanjem (korelacijsko istraživanje u jednoj točki vremena) koje ima vrlo limitiran istraživački doseg. Nadalje, longitudinalni nacrti pružaju puno više sigurnosti pri donošenju uzročno-posljedičnih zaključaka u odnosu na kros-sekcijski pristup. Naravno, ni longitudinalni pristup ne pruža potpunu sigurnost o uzročno-posljedičnim odnosima, što omogućavaju jedino eksperimentalni nacrti, no ukoliko se zadovolje neki od preduvjeta, izvjesnost zaključaka o uzrocima promjena u učeničkom postignuću znatno raste. U prvom je redu nužan jasan teorijski okvir koji podržava i omogućava razumijevanje uzročno-posljedičnih odnosa među promatranim varijablama u longitudinalnom nacrtu. Drugi element longitudinalnih nacrti koji osigurava veću sigurnost zaključaka o uzrocima i posljedicama je sustavno uvođenje i mjerenje identične nezavisne varijable u svakoj sukcesivnoj točki mjerenja. Nadalje, potrebno je teorijski utemeljeno i sveobuhvatno u istraživanje uključiti i sve ostale pozadinske varijable koje bi pored istraživačke varijable od interesa (nezavisne varijable) mogle utjecati na rezultat u zavisnoj varijabli (kriteriju). Kao što je već navedeno, njihov se utjecaj mora parcijalizirati, ukloniti iz varijabiliteta zavisne varijable da bi se s većom sigurnosti moglo zaključiti o utjecaju nezavisne varijable na kriterij. Milas (2009) daje sličan pregled preduvjeta kauzalnih analiza u longitudinalnim istraživačkim nacrtima. Dakle, ako se longitudinalni nacrt provede u dovoljno vremenskih točaka, unutar jasno postavljenog teorijskog okvira, ako se sustavno mjere obilježja učitelja i škola, ako se koristi pouzdan i valjan kriterij učeničkog postignuća te se sustavno kontroliraju ostale pozadinske osobine učenika koje mogu utjecati na postignuće, moguće je, s velikom

dozom sigurnosti, donijeti zaključak o obrazovnim uzrocima učeničkog uspjeha.

Od metodoloških problema s kojima se treba suočiti tijekom provedbe longitudinalnih istraživanja vjerojatno je najvažniji osipanje podataka tijekom vremena. Pod ovim se ne misli samo na osipanje učenika tijekom višekratnih ispitivanja već i osipanje drugih relevantnih sudionika prisutnih u istraživanjima učinkovitosti obrazovanja. Dakle, učenici, učitelji ili ravnatelji mogu mijenjati škole, razbolijevati se u pojedinim točkama vremena ili napustiti obrazovni sustav. Time se nužno gubi velik dio podataka u jednoj ili više točaka mjerenja. Na sreću, ako takva osipanja nisu jako velika i nisu uzrokovana nekim sistematskim faktorima, sofisticirani statističko-analički programi omogućavaju istraživačima da se relativno uspješno nose s tim problemom. Drugi veliki izazov longitudinalnih istraživanja je kreiranje kriterijskih mjera (najčešće mjera znanja) koje su komparabilne, jednako pouzdane, osjetljive i valjane tijekom višekratnih mjerenja. Dakle, očito je da se moraju razviti različite, a opet po svim metrijskim osobinama usporedive mjere znanja primjenjive kroz višekratna mjerenja. Zato je potrebno veliku pažnju posvetiti razvoju kriterijskih mjera prije provođenja samog longitudinalnog nacrt, a promjena modernih psihometrijskih metoda poput *Teorije odgovora na čestice* (eng. *Item Response Theory – IRT*) mogu pri tom biti od velike koristi (Verhelst, 2010a; 2010b).

## 5. Metode analize podataka u longitudinalnim nacrtima

Suvremena istraživanja učinkovitosti obrazovanja koja počivaju na analizi longitudinalnih podataka odmiču se od klasičnih pristupa ponovljenih mjerenja u analizi varijance (ANOVA) ili analizi kovarijance (ANCOVA). Razlog promjene statističke metode leži u strogosti postavljenih preduvjeta za provedbu analize varijance ponovljenih mjerenja. Naime, prvi problem je u postojanju osipanja podataka kroz opetovana mjerenja koje je, kao što je ranije navedeno, sveprisutno u obrazovnim istraživanjima. Klasični ANOVA modeli tretiraju nepostojanje bilo kojeg podatka u bilo kojoj točki vremena za nekog ispitanika kao potpuni gubitak tog ispitanika u analizi (eng. *listwise deletion*). Dakle, uzorak na kojem se provodi analiza je smanjen i sveden

samo na one ispitanike koji imaju kompletne podatke u svim mjerenjima. Time se bitno smanjuje veličina uzoraka, posljedično i statistička snaga istraživanja, a umanjena je i točnost procjene pojedinih mjera prikupljenih u pojedinim vremenskim točkama. Drugi problem leži u još jednom važnom preduvjetu za provedbu ANOVE ponovljenih mjerenja, a to je očekivanje da su varijance učeničkog postignuća u pojedinim mjerenjima, kao i kovarijance parova mjera učeničkog postignuća u različitim mjerenjima podjednake. Dakle, taj se preduvjet odnosi na homogenost, odnosno sličnost svih parova kovarijaničnih matrica zavisne varijable i naziva se preduvjetom zajedničke simetričnosti (eng. *compound symmetry*; npr. Howell, 2007; Hedeker i Gibbons, 2006). U obrazovnim istraživanjima on je vrlo često narušen jer nije vjerojatno da će korelacije među parovima mjerenja biti uvijek jednake. Često će mjerenja provedena u bližim vremenskim točkama biti povezanija negoli ona u vremenski udaljenijim. Na primjer, povezanost između ocjena iz Matematike u sedmom i osmom razredu bit će vjerojatno veća nego li između ocjena iz Matematike u trećem i osmom razredu. Zbog navedenih ograničenja klasičnih statističkih modela analize ponovljenih mjerenja, istraživači se okreću upotrebi regresijskih modela analize podataka koji počivaju na drugačijim pristupima (Gustafsson, 2010; Hedeker i Gibbons, 2006; Hox, 2010).

U ovom prikazu oslonit ćemo s na primjenu višerazinske regresijske analize u obradi longitudinalnih podataka čije smo osnove objasnili u prethodnom poglavlju. Dakle, prikazat ćemo kako primijeniti hijerarhijske regresijske modele za analizu podataka prikupljenih višekratnim mjerenjima, odnosno longitudinalnim istraživačkim nacrtima. Višerazinska regresijska analiza primijenjena na longitudinalnim podacima rješava oba ranije navedena ograničenja klasičnih statističkih pristupa. Može se uspješno nositi s nepotpunim podacima prikupljenim u pojedinim točkama mjerenja te ne zahtijeva uvjete zajedničke simetričnosti među parovima ponovljenih mjerenja.

Da bismo mogli shvatiti logiku na kojoj počiva primjena hijerarhijskih regresijskih modela u analizi longitudinalnih podataka trebalo bi na početku stvoriti sliku longitudinalnih podataka koja je malo drugačija od one intuitivne i tradicionalno prihvaćene. Primijenivši hijerarhijsku logiku na longitudinalne podatke možemo zamisliti da su

višekratne mjere učeničkog uspjeha u promatranim vremenskim točkama u stvari ugniježdene unutar učenika. U tom pristupu učenici predstavljaju višu hijerarhijsku razinu analize, dok su na najnižoj sve prikupljene mjere uspjeha u različitim vremenskim točkama. Ovakva je logika opravdana jer je jasno da su rezultati jednog učenika u nekoliko mjerenja neosporno određeni upravo njegovim osobinama. Na primjer, obilježje učenika, poput njegova spola ili socio-ekonomskog statusa djeluje na njegov uspjeh u svim opetovanim mjerenjima. Zato se i kod ponovljenih mjerenja može primijeniti logika višerazinske regresijske analize sa svim njezinim obilježjima.

Ipak, prilikom definiranja takvog regresijskog modela treba voditi računa o osobinama varijabli mjerenih na višoj razini (najčešće razini učenika). Postoje takozvane vremenski promjenjive varijable (eng. *time-varying covariate*), odnosno one čija se vrijednost mijenja od mjerenja od mjerenja (npr. razina motivacije ili predznanje učenika). Postoje i varijable koje mogu biti konstantne na višem hijerarhijskom nivou kroz sva mjerenja (npr. spol učenika) i one se nazivaju vremenski nepromjenjive varijable (eng. *time-invariant covariates*). Druga stvar na koju treba obratiti pozornost je da u većini programa za obradu podataka primjena višerazinskih regresijskih modela na longitudinalnim podacima zahtijeva određenu transformaciju početne tablice unesenih podataka. Za klasična ponovljena mjerenja koja obrađujemo ANOVA-om, za svakog ispitanika imamo jedan redak podataka, a njegove rezultate u ponovljenim mjerenjima tretiramo kao varijable u stupcima. U zasebnim stupcima su i bilo koje druge varijable koje se odnose na obilježja učenika. Da bismo mogli primijeniti višerazinsku regresijsku analizu na takvim podacima potrebno ih je transformirati. Za svakog je ispitanika potrebno napraviti onoliko redaka koliko ima rezultata u ponovljenim mjerenjima. Dakle, svaki redak je definiran s rednim brojem ispitanika i s rednim brojem mjerenja. Da bi to bilo moguće, potrebno je formirati i novu varijablu  $T$  koja definira na koje se mjerenje u svakom retku podaci odnose. Za svakog ispitanika imamo  $t$  točaka mjerenja, odnosno  $t$  redaka. Time se broj redaka matrice proširuje na  $n \times t$ . Broj zavisnih varijabli svodi se na samo jednu. Ona je prikazana u jednom stupcu, a za jednog ispitanika poprima onoliko vrijednosti koliko je mjerenja. Ostale varijable razine učenika ili neke više razine prikazane su u pojedinim stupcima. Vremenski nepromjenjive



varijable imaju iste vrijednosti za pojedinog učenika u svim točkama mjerenja, dok vremenski promjenjive imaju varijabilne vrijednosti unutar jednog učenika kroz različite jedinice vremena. Ovakva transformacija podataka je vrlo lako izvediva u većini statističkih programskih paketa za obradu podataka (npr. SPSS).

Tako restrukturirane podatke ponovljenih mjerenja možemo podvrci obradi višerazinskim regresijskim jednadžbama. Na najnižem nivou, prognoza obrazovnog postignuća učenika definirana je jednadžbom:

$$Y_{ti} = \pi_{0i} + \pi_{1i}T_{ti} + \pi_{2i}X_{ti} + \dots + \pi_{ki}X_{ti} + e_{ti}$$

Vidljive su dvije razlike između ove jednadžbe i klasične regresijske jednadžbe. Prva je postojanje grčkog slova  $\pi$ , umjesto standardnog  $b$  ili  $\beta$ . To je standardna nomenklatura regresijskog koeficijenta prvog nivoa u longitudinalnim podacima. Prednost takve nomenklature je u mogućnosti korištenja standardnog  $\beta$  (ili  $b$ ) koeficijenta na drugom nivou analize. Drugi *novi* element je postojanje indeksa  $t$  koji se odnosi na pojedine vremenske točke mjerenja (umjesto  $j$  za pripadanje ispitanika nekoj grupi u klasičnom HLM-u). Nadalje, tu je i postojanje varijable  $T$  koja predstavlja indikator vremenske točke mjerenja. Obično je varijabla  $T$  kodirana brojevanim vrijednostima od 0 do  $t$  (0, 1, 2, 3, ...,  $t$ ) za pojedine vremenske točke mjerenja. Takvim kodiranjem se početak mjerenja postavlja kao točka u kojoj se intercept ( $\pi_{0i}$ ), u takozvanom praznom ili nul-modelu može interpretirati kao prosječna vrijednost zavisne varijable na početku mjerenja (npr. prosjek učenickog školskog postignuća pri početnom mjerenju).

Ako se vratimo na jednadžbu,  $Y_{ti}$  predstavlja rezultat ispitanika ( $i$ ) u vremenskoj točki ( $t$ );  $T_{ti}$  je varijabla vremena koja predstavlja identifikator za svaku vremensku točku ( $t$ );  $X_{ti}$  je vremenski promjenjiva varijabla na razini učenika ( $i$ ) mjerena opetovano u svakoj pojedinoj vremenskoj točki ( $t$ ); dok je  $e_{ti}$  pogreška prognoze za učenika ( $i$ ) u vremenskoj točki ( $t$ ). Treba napomenuti da varijabla  $X$  u ovoj jednadžbi predstavlja vremenski promjenjivu varijablu na razini učenika, pa je zato ubrojena kao prediktor prve razine analize. Regresijski koeficijenti prve razine  $\pi$ , ako nemamo dodatne fiksne varijable na razini učenika imaju

jasno interpretacijsko značenje. Koeficijent  $\pi_{1i}$  daje informaciju koliki se varijabilitet u zavisnoj varijabli može pripisati proteku vremena (može se interpretirati i kao utjecaj tretmana, trend i sl.), dok koeficijent  $\pi_{2i}$  govori o objašnjenom varijabilitetu u kriteriju na osnovi vremenski promjenjivog prediktorskog obilježja ispitanika.

Ako koristimo primjer analogan onome ih HLM-a možemo zamisliti da mjerimo učeničko postignuće iz Matematike svake godine tijekom osnovne škole te da na nivou učenika imamo varijablu spola i varijablu motivacije za učenje matematike (svake godine primjenjujemo motivacijski upitnik). Tada imamo osam vremenskih točaka mjerenja, jednu vremenski nepromjenjivu i jednu vremenski promjenjivu prediktorsku varijablu na razini učenika. Vremenski promjenjiva nezavisna varijabla na razini učenika (motivacija) uključena je u jednadžbu na prvoj razini, dok je druga, kao invarijantna osobina učenika, uvedena na drugoj razini hijerarhijske analize. Jednadžbe druge razine možemo simbolički raspisati na sljedeći način:

Za intercept:

$$\pi_{0i} = \beta_{00} + \beta_{01}Z_i + u_{0i}$$

Za regresijske koeficijente:

$$\pi_{1i} = \beta_{10} + \beta_{11}Z_i + u_{1i}$$

$$\pi_{2i} = \beta_{20} + \beta_{21}Z_i + u_{2i}$$

U ovim jednadžbama varijabla  $Z$  predstavlja vremenski nepromjenjivu varijablu na razini učenika. Pripadajući regresijski koeficijent  $\beta_{01}$  daje informaciju u kojoj mjeri ta varijabla općenito objašnjava razlike među učenicima, odnosno pruža informaciju o glavnom efektu te varijable u terminima ANOVA-e. Koeficijent  $\beta_{11}$  daje informaciju u kojoj je mjeri promjena rezultata u kriteriju tijekom vremena ovisna o varijabli  $Z$ , dok koeficijent  $\beta_{12}$  daje informaciju u kojoj se mjeri, utjecaj vremenski promjenjive varijable  $X$  na kriterij, mijenja pod utjecajem vremenski nepromjenjive varijable  $Z$ . Interpretacija regresijskih koeficijenata kojima se prognoziraju varijacije u nagibima pravaca regresije odgovara interpretaciji interakcijskih učinaka u ANOVA-i.

Uvođenjem jednadžbi s druge razine u osnovnu jednadžbu prve razine dobivamo:

$$Y_{it} = \beta_{00} + \beta_{10}T_{it} + \beta_{20}X_{it} + \beta_{01}Z_i + \beta_{11}T_{it}Z_i + \beta_{21}X_{it}Z_i + u_{1i}T_{it} + u_{2i}X_{it} + u_{0i} + e_{it}$$

Isto zapisano sadržajem varijabli iz primjera izgleda ovako:

$$\text{mat}_{it} = \beta_{00} + \beta_{10}\text{vrijeme}_{it} + \beta_{20}\text{motiv}_{it} + \beta_{01}\text{spol}_i + \beta_{11}\text{vrijeme}_{it} \times \text{spol}_i + \beta_{21}\text{motiv}_{it} \times \text{spol}_i + u_{1i}\text{vrijeme}_{it} + u_{2i}\text{motiv}_{it} + u_{0i} + e_{it}$$

Dakle,  $\beta_{10}$  govori o promjenama u znanju matematike koje se mogu pripisati proteku vremena. Koeficijent  $\beta_{20}$  govori o značajnosti utjecaja motivacije učenika na znanje iz matematike, dok koeficijent  $\beta_{01}$  nosi u sebi spolne razlike u postignuću iz matematike. Ova tri koeficijenta imaju značenje glavnih efekata u klasičnom ANOVA modelu. Koeficijenti  $\beta_{11}$  i  $\beta_{21}$  govore o interakcijskim učincima. U prvom slučaju o tome u kojoj su mjeri promjene u znanju matematike tijekom vremena različite za dječake i djevojčice, a u drugom mijenja li se opći utjecaj motivacije na znanje matematike ovisno o spolu učenika. Osim regresijskih koeficijenata uz prognozu se, naravno, vezuju i određene pogreške [ $u_{1i}T_{it} + u_{2i}X_{it} + u_{0i} + e_{it}$ ] vezane uz slučajni, varijabilni (eng. *random*) dio modela.

U longitudinalnim modelima, kao i kod HLM-a, poželjno je na početku izračunati koeficijent intraklasne korelacije (*ICC*). Njegova vrijednost pruža mogućnost interpretacije odnosa varijabiliteta vezanog uz osobne razlike među učenicima (varijabilitet između ispitanika) i varijabiliteta vezanog uz promjene unutar samih učenika tijekom vremena (varijabilitet unutar ispitanika). Naravno, varijabilitet unutar ispitanika je zanimljiviji istraživačima u području obrazovanja, jer su oni zainteresirani za obrazovne faktore koji potencijalno leže u promjenama učeničkog uspjeha tijekom vremena.

U izračun koeficijenta intraklasne korelacije treba krenuti od praznog modela (nul-modela), odnosno modela bez ijednog prediktora. U jednadžbi na prvom nivou analize preostaje samo  $Y_{it} = \pi_{0i} + e_{it}$ . Ovdje varijanca  $\sigma_e^2$  govori o odstupanjima pojedinca od vlastitog prosječnog rezultata u svim mjerenjima ( $\pi_{0i}$ ). Taj bi varijabilitet u analizi varijance ponovljenih mjerenja odgovarao varijabilitetu unutar ispitanika. Ako predviđamo intercept  $\pi_{0i}$  s prvog nivoa, praznim modelom s drugog nivoa koristimo jednadžbu  $\pi_{0i} = \beta_{00} + u_{0i}$ . Tu  $\sigma_{u0}^2$ , govori o varijabilitetu

prosječnog rezultata pojedinaca u svim mjerenjima oko aritmetičke sredine svih učenika kroz sva mjerenja ( $\beta_{00}$ ), odnosno govori o varijabilitetu između ispitanika. Dakle, ukupni rezultat nekog učenika ( $i$ ) u mjerenju ( $t$ ) može se izraziti formulom  $Y_{it} = \beta_{00} + u_{0i} + e_{it}$ , odnosno izračunati kao zbroj: aritmetičke sredine svih učenika u svim mjerenjima ( $\beta_{00}$ ); odstupanja prosječnog rezultata učenika ( $i$ ) u svim mjerenjima od te aritmetičke sredine; i odstupanja rezultata tog učenika u mjerenju ( $t$ ) od njegova prosječnog rezultata. Time je jasno da se ukupni varijabilitet u stvari razlaže na varijabilitet unutar i između ispitanika što je i ranije poznato iz analize varijance ponovljenih mjerenja.

Koeficijent intraklasne korelacije izračunat prema formuli  $\rho = \sigma_{u0}^2 / (\sigma_{u0}^2 + \sigma_e^2)$  govori o udjelu varijabiliteta između ispitanika u ukupnom varijabilitetu. Kako interes istraživača uglavnom nije usmjeren na taj dio varijance zavisne varijable korisno je izračunati  $1 - \rho$  čime se dobiva udio varijance unutar ispitanika u cjelokupnom varijabilitetu. Ako je u obrazovnim istraživanjima taj udio varijabiliteta relativno velik tada se najčešće može pretpostaviti da se pomak u učeničkom postignuću zapažen tijekom vremena potencijalno može objasniti nekim faktorima vezanim uz učitelje, nastavni proces ili obilježja škole.

U danom primjeru korištene su samo dvije varijable mjerene na razini učenika (motivacija i spol), ali je vrlo lako proširiti ovaj model uvodeći varijable dodatnih hijerarhijskih razina, poput varijabli razine razreda, učitelja ili škola. Potrebno je samo proširiti navedenu regresijsku jednadžbu onako kako je to opisano u ranijim poglavljima, odnosno razviti višerazinski model.

Postoje brojni statistički programi kojima je u potpunosti ili u velikoj mjeri moguće provesti ovakve analize podataka računalno. Neki od njih su opći programi za analizu podataka, široko rasprostranjeni među istraživačima u području društvenih znanosti poput SPSS-a ili STATA-e. Oni su relativno jednostavni za korištenje i svojim sučeljem prilagođeni korisnicima nevjешtima u programiranju ili matematičkim formulama. Ipak, ti programi imaju određena ograničenja i nedostatke kod složenijih hijerarhijskih analiza. Danas su dostupni specijalizirani statistički programi, razvijeni i dizajnirani upravo za provođenje višerazinskih analiza podataka (np. program HLM), dok neki drugi napredni statistički paketi kao što su Mplus, MLwiN ili R s lakoćom obavljaju ovakve analize.

Potonji sofisticirani programi zahtijevaju od korisnika poznavanje specifične sintakse (programskog jezika) za pozivanje određenih analitičkih procedura pa i dodatnu edukaciju za njihovo uspješno korištenje.

Na kraju, važno je napomenuti da su istraživanja učinkovitosti obrazovanja, zbog hijerarhijske i longitudinalne prirode prikupljenih podataka, tijekom zadnjih desetljeća išla u korak s uvođenjem naprednih statističkih metoda. Poticala su njihov razvoj, promicala njihovu upotrebu i informirala znanstvenu zajednicu o njihovoj važnosti. Današnja obrazovna istraživanja izrazito su temeljena na upotrebi najsuvremenijih statističkih postupaka, a daljnji napredak i istraživački pomak u ovom području je nezamisliv bez upotrebe, barem osnovnih, a u ovom poglavlju ukratko opisanih, statističkih procedura.

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## **Contemporary research designs and data analysis techniques in educational research**

### **Abstract**

Contemporary educational research is based on the use of appropriate research designs, comprehensive data assessments and contemporary models of the data analysis. Methodological breakthroughs in this area, over the last few decades, are significant, and researchers have recognized the importance of longitudinal research designs. Moreover, the understanding of the hierarchical organization of collected data and the application of corresponding statistical analyses becomes a methodological imperative. This paper provides a methodological overview of hierarchical and longitudinal data organization and the theoretical framework of their statistical analysis. Most common errors and difficulties in the application of those methods are highlighted, and the approaches on how to overcome it are suggested. Through simple and everyday examples, these approaches are presented to the readers, and educational researchers are directed on how to adequately use it.

**Keywords:** *hierarchical models; longitudinal designs; data analysis; educational research; statistics*

Branimir MENDEŠ:

**Profesionalno obrazovanje odgojitelja predškolske djece. Od jednogodišnjeg tečaja do sveučilišnog studija. Prilozi hrvatskoj pedagoškoj baštini. (Early and Preschool Teachers Professional Education. From One Year Course to University Study Program. Contribution to Croatian Pedagogical Heritage.)**

Zagreb: Golden marketing – Tehnička knjiga, 2018., 304 str.

This book represents a great contribution to the Croatian pedagogic heritage. It brings a holistic review of the professional education of the preschool teachers in Croatia throughout its beginnings until today when a University undergraduate study program and graduate study program have been established. The introduction was written by professor Maja Ljubetić, Ph.D., pointing out the book as a great gift to early and preschool education professional community. Moreover, it makes an important contribution and provides a development review of this important part of the whole education system in Croatia. In this book, the author presents his longtime research on the theme of professional education of preschool teachers which, in this form, hasn't been available until now. The book consists of three parts.

The first part of the book presents the theme *Initial education – basics for preschool teachers' professional development*. The author debates and presents problems with different terms used for preschool teachers, which was changed through history in different shapes. Due to the development of the profession, the author explains different terms used in history. Recently the terms University Bachelor of Early and Preschool Education and Master of Early and Preschool Education are used. The name itself explains its professional development. The author states that the preschool teacher is a profession according to different sources. To contribute to that statement, he states the structural elements of a profession: development of the basic theories and techniques, professional expertise, public recognition and professional organization, alongside professional ethics. The author also added the development of professional ethics. Preschool teachers' professional development has three connected cycles that are highlighted in this part of the book. *Initial education* starts with a selection and entrance examination and consists of professional competence acquisition. As follows, *internship or training for future work*, which is a very important cycle in the teacher's professional development. *Permanent professional learning* is the longest cycle and its goal is to develop and improve gained competences. In this part, the author presents a professional development model by Sheckley and Allen. In the first part the author highlights the competence approach. In the literature, term *competence* is defined differently by many authors, but in the research context in many sciences (Pedagogy, Psychology, Sociology, etc.) competences are an interdisciplinary problem. Preschool teachers' competencies are a very broad field, which is why the author presents them as a very complex pedagogical term.

The second part of the book brings out a historical approach to preschool teachers' professional competences development. It stresses the importance of the historical approach in the context of institutional preschool education. The author

highlights preschool education conceptions and their changes due to science and social context. Preparing teachers for their work or we can say the development of their professional competences is important for institutional preschool education development. Here, the author emphasizes the methodological frame of his research on the problem of historical orientation, which was based on Mirjana Grosse's concept. Speaking on the institutionalization of professional education it is important to track the development of preschool institutions. Therefore, a mention of the first preschool institution on Croatian land goes back in 1969. The next decade brings out first kindergarten teachers' education. The author mentions twelve historical organizational arrangements in initial preschool teachers' education starting with 1880 until 2009. As it was mentioned before in this book, and for better understanding, social and political changes in society are shown from 1880 until the independence of the Republic of Croatia.

The third part of the book presents changes in the initial education of preschool teachers in Croatia. It provides a thorough and vast report on historical research of the problem mentioned earlier. It is possible to track social changes through which twelve conceptions of professional education are realized. Through the stated characteristics of every conception, we can see changes made in the field of preschool education. With his research, the author commingles conceptions with scientific knowledge and with reform systems as he elaborates every conception. The width of the research done before publishing this book compares preschool conceptions and forms of education with other countries. It can be seen, by referred sources, in the conception of professional education for the preschool teachers in faculties (4+2 model). Besides these conceptions, this book provides all study programs from schools, faculties, and universities on this subject.

Preschool teacher is indeed a profession with many roles which are visible throughout different conceptions. It is impossible to talk about professional education without looking into pedagogic conceptions and social relations in society. Therefore, this book represents a holistic review of the development of early and preschool education as an important part of the education system.

Iskra TOMIĆ KASELJ



Vilko PETRIĆ:

**Kineziloška metodika u ranom i predškolskom odgoju i obrazovanju  
(Methodology of Kinesiology in Early and Preschool Education)**

Učiteljski fakultet Sveučilišta u Rijeci. Rijeka, 2019, 155 str.

The concept of the university textbook by Vilko Petrić is very interesting, attractive and understandable. Each chapter contains several subheadings, which are written in the form of smaller or larger rounded sections that should guide students, educators, and those working with early and preschool-aged children to apply certain lessons described in the textbook. The university textbook is in line with the basics of modern kinesiology and the principles of kinesiological education and the National Curriculum for Early and Pre-school Education in the Republic of Croatia, while the textbook updates the current scientific and professional knowledge of the methodology of kinesiology for early and pre-school education.

In the first chapter of the textbook, the author discusses the name, definition, goals and tasks of the methodology of kinesiology in early and pre-school education, as well as its structure, position in science and relationship with other sciences.

The second chapter of the textbook explores the developmental characteristics of children, that is, interpretations of the developmental characteristics of motor skills, morphological characteristics, and motor and functional abilities of children of early and preschool age.

In the third chapter, the author describes the types of kinesiological activities for early and preschool-aged children. The author describes in detail each type of kinesiological activity, namely: physical education activity, stimulating physical exercise, morning physical exercise, physical activity breaks, physical training with parents, walking, excursions, winter breaks, summer breaks and sports training. For each type of kinesiological activity, the purpose, content and organizational aspects of the implementation of the activity are stated, and for each activity, practical examples and pictorial representations or photographs are given.

In the fourth chapter, the author describes the spaces and the equipment, that is, the adequate environment for the implementation of kinesiological activities.

Chapter five is titled *"Motor Content for the Implementation of Kinesiological Activities with Early and Preschool-aged Children"*. This chapter lists all motor contents that are carried out in all types of kinesiological activities for early and preschool-aged children and can be divided into three groups: biotic motor skills, kinesiological adapted biotic motor skills and kinesiology games in early and preschool years.

The sixth chapter of the textbook titled *"Performance Planning and Programming of Kinesiological Activities"* refers to the systematic and meaningful determining of motor skills that will be carried out with children throughout the year, in which the author outlines procedures for performance planning and programming: identifying kinesiology diagnostics, defining goals and tasks, determining material working conditions, creation of motor contents, evaluation of motor contents and distribution of motor contents.

In the seventh chapter the author describes and explains the organization of physical exercise during kinesiological activities, and for the needs of working with children of early and preschool age distinguishes organizational lineups of physical exercise (line, queue, circle, semicircle, arbitrary), simple organizational forms of physical exercise (singles, pairs, triples, fours, fives, etc.) and complex organizational forms of physical exercise (parallel, alternating, parallel-alternating and polygonal).

In the eighth chapter titled "*Working methods for performing kinesiological activities with early and preschool-aged children*" the author describes the methods of work that he divided into 4 groups: presentation methods, teaching methods, training methods and safety methods. Within each group of methods, the author also describes their components, namely oral presentation and demonstration (presentation methods), synthetic learning method (learning methods), interval, variable and continuous training method (training methods), prevention method and aiding method (safety methods).

In chapter nine, the author describes the principles of work that every expert should respect and apply in their educational work, which are based on practical experience and scientific background. These are the principle of upbringing and health, the principle of intelligibility and clarity, the principle of activity and awareness, the principle of systematization and graduality, the principle of diversity and versatility, the principle of appropriateness and applicability, and the principle of individualization.

In the tenth chapter, the author describes the preparation of educators for kinesiological activities and divides the preparation of educators in a methodological sense into personal and organizational aspects. The personal aspect of the preparation of educators is considered through the theoretical, physical and psychological segment, while organizational preparation involves professional analysis of previous activity, insight into the implementation plan and program, defining the goal, selecting the space and equipment for physical training, choosing organizational settings and forms, adequate working methods and elaboration of the course of activities.

In chapter eleven, "*Movement in Integrated Learning*", the author emphasizes the need for integration and describes the possibilities of integrating movement with other areas of the child's development. The extent to which integrated learning will be present in a particular activity depends solely on the level of expertise of the educator and knowledge of the child's overall development and the educator's ability to integrate the various contents.

In chapter twelve, the author cites the works he consulted to write the textbook. After chapter twelve is a summary, an author's note, and an index of terms.

This textbook is important for the methodology of kinesiology in early and pre-school education since the textbook updates all the scientific and practical knowledge of the methodology of kinesiology in early and pre-school education in the last ten years in the Republic of Croatia. The textbook will serve the purpose of preparing the students for the exam and will be useful to all educators and teachers in their immediate educational work with children.

(Translated by: Katarina Pavičić-Ivelja)

Maja VERDONIK:

**Lutkarski žanrovi na sceni Gradskoga kazališta lutaka Rijeka i suvremeno hrvatsko lutkarstvo (2011. – 2019.)****(Puppet Theatre Genres on the Stage of the Rijeka City Puppet Theatre and the Contemporary Croatian Puppetry (2011 - 2019))**

Učiteljski fakultet Sveučilišta u Rijeci. Rijeka, 2019, 223 pages

Maja Verdonik's scientific monograph *Puppet Theatre Genres on the Stage of the Rijeka City Puppet Theatre and the Contemporary Croatian Puppetry (2011 - 2019)*, published by the Faculty of Teacher Education of the University of Rijeka in 2019, provides an insight into the contemporary puppetry in the city of Rijeka with an overview of the past ten years of puppetry in Croatia and beyond. It is a scientific monograph that reflects the author's continuing effort to explore the history of puppetry in Rijeka, which began with her monograph *Rijeka City Puppet Theatre (1960-2010)*, published in 2010 in the edition of that theatre. Her latest scientific monograph is divided into several major thematic units.

The first unit, entitled *Children and the Puppet Theatre Play* deals with the puppet theatre plays (texts) for children, which, along with poetry and prose, constitutes the third genre of children's literature. As a skilled connoisseur of children's literature, Maja Verdonik provides a thorough overview of contemporary literature on the children's puppet theatre plays and suggests a novel view of the interconnectedness between children's literature and puppetry, given that puppetry is studied within the field of theatreology.

In one of the subchapters of the book, the author devotes special attention to the puppet theatre play as a text pertaining to the puppet theatre, whereby she refers to the theoretical tenets of the Czech theorist and practitioner Erik Kolár, who has provided instructions on how to create a classic curtain-style puppet theatre performance and which literary genre is best suited for a particular type of puppets.

In the scientific theory of puppetry, genres have usually been determined based on the types of puppets used. However, new genres surfaced as a response to the changes that had occurred in the theatrical expression of the European puppetry of the early 20th century, as well as in the Croatian puppetry of the 1970s. The greatest theorist of European puppetry, Henryk Jurkowski, consolidated these changes into the term *theatre of various means of expression*, which represents the starting point of Maja Verdonik's work. Actors and masks appear on stage on equal footing with the puppets; the puppets, in turn, do not have to resemble humans and animals but may be used as props or objects. The curtain is discarded, and the mechanism of the puppet theatre is uncovered, while Aristotle's principles of the unity of place, time, and action are disrupted.

The author lists the subgenres of the theatre of various means of expression, thereby being guided, as Henryk Jurkowski put it, by the attitude towards the theatrical illusion as the basic principle. Thus, some of Rijeka's performances were delivered in the manner of the *illusionistic theatre*, which does not reveal the source of animation or voice energy, while others followed the principles of the *theatre of temporary illusion* in which both the plot and the process of theatrical

creation are demonstrated. In Croatian and especially Rijeka puppetry, the author also detects both the theatre of objects and the theatre of materials.

The following, central unit depicts puppet theatre performances premiered at the Rijeka City Puppet Theatre in the period between 2011 and 2019. In presenting the Rijeka repertoire, the author defines two genres for each puppet theatre performance: one for the play script and the other for the performance, which is a novelty in the interpretation of the puppet theatre performances. In the puppet theatre performance, all elements are of equal importance, and the stage requires complete harmony. Insight is provided into quite different puppet theatre genres with regards to the choice of script and the manner of performance, so it can be concluded that a literary genre does not necessarily require a particular mode of performance, as Erik Kolár once suggested. This unit, with its subsections, presents the puppet theatre performances mostly based on stories and fairy tales, thus confirming the usefulness of the puppet expression in depicting stories or fairy tales. In addition to fairy tales, there are performances based on fantasy stories and even some unusual sources – picture books. In addition to the puppet theatre performance, interpreted here as a genre comprising subgenres, the author highlights genres such as the multimedia play, storytelling theatre – defined as a form of interplay between traditional storytelling and theatrical expression with elements of animation, one of which was performed in the form of Japanese kamishibai theatre, musical-stage puppet and acting performances, delivered with elements or entirely in the form of musicals, philosophical theatre for children, experiential theatre for the youngest viewers, which also fits into the context of the so-called new theatre, i.e., the postdramatic theatre for adults.

In the next large section of the book, dedicated to the puppet theatre and other genres of the Croatian puppetry of the analyzed period, Maja Verdonik presents a cross-section of contemporary performances in Croatian puppet theatres and theatres for children and young adults, classified according to the characteristics matching those of the Rijeka City Puppet Theatre performances of the same period. The subsections of these units were created based on literary and other textual sources behind the performances. For the sake of insight into the broader context, the author includes some exceptional achievements of Slovenian puppet theatre productions for the youngest viewers. The representation of plays performed in the puppet theatres in Croatia and beyond serves a dual purpose: on the one hand, it provides an overview of the repertoire performed on the Croatian puppetry scene over the past ten years and, on the other, an insight into Croatian theatre critique, especially reviews on the puppet theatre performances.

Maja Verdonik's scientific book *Puppet Theatre Genres on the Stage of the Rijeka City Puppet Theatre and the Contemporary Croatian Puppetry (2011 - 2019)* underscores an important fact that accompanies modern puppetry in Rijeka and Croatia: all elements of puppetry expression have been dismantled into their constituent components leading to an atomization of the puppet theatre. Among the puppets, props, and objects, the actor behaves as a visible animator, as a character in a play, or even as both at the same time.

The miniature stage and curtain have disappeared from view to allow visible puppeteers to perform the play in unlimited stage space, thereby mirroring onto the puppets their own facial and bodily expressions and gestures. Despite the fears

of one of the pioneers of Croatian theoretical thought about puppetry, Milan Čečuk, regarding the influence of the equal participation of actors and puppets in a puppet theatre performance on the development of puppetry, it may be concluded that the actor enriches the stage while in no way undermining the independent status of the classical puppet theatre, that is, of the plays performed solely using puppets. The endurance of the theatre of various means of expression, to use Henryk Jurkowski's term, and its subgenres is evident in the performances of the Rijeka and Croatian puppet theatres and theatres for children and young adults of the past decade. The puppet has found its place in a completely new theatrical context, which Maja Verdonik demonstrates in this scientific monograph.

References and sources form an integral part of the book and include: photographs of theatre performances from the Rijeka City Puppet Theatre delivered between 2011 and 2019; Theatrography, i.e., data on authors and performers; Index of names, plays, and terms; Abstracts in Croatian and English; and the Author's note.

Teodora VIGATO

(Translated by: Matea Butković)

Sanja VRCIĆ-MATAIJA:

**Hrvatski realistički dječji roman (1991. – 2001.)**

**Croatian Realistic Children's Novel (1991 – 2001)**

Sveučilište u Zadru. Zadar, 2018, 287 str.

Sanja Vrcić-Mataija's scientific study *Croatian Realistic Children's Novel* (1991 - 2001) deals with one of the most popular genres of children's literature – the realistic children's novel and its position within contemporary Croatian children's literature, more precisely the literature of the last decade of the twentieth century. As the author explains in the introductory part of the study, the aggravating circumstance regarding the periodization and poetic systematization of Croatian children's literature from the end of the last century is the lack of a more substantial time deviation that would provide the detachment of scientific and objective evaluation. However, the same circumstances open up the possibilities for the systematization, interpretation, classification, and periodization of literary works, whose emergence could be directly witnessed during the recent past. In an effort to establish a possible typology of the Croatian children's realistic novel in the period between 1991 and 2001, Sanja Vrcić-Mataija has chosen the typologically synchronic approach, and by identifying the poetic features of the realistic children's novel has provided a contribution to the systematic production of this genre in that decade as a starting point in determining the future historical periodization of Croatian children's literature. In an attempt to define the poetic definition of the realistic Romanesque corpus underpinning the typology, the author intended to penetrate the poetics of a literary decade, determined, among other things, by the state of the poetics of the children's novel.

The inevitable factual history also represents the peculiarity of the selected research period in Croatian children's literature, i.e., the external, socio-cultural

context. Questioning the impact of political and other changes on literature that took place in the aftermath of 1990 is also a question of the position of man, especially the child in contemporary civilization. Numerous socio-political changes, especially the war and suffering on the territory of the former state, conditioned the crisis of man in modern civilization, which was reflected in the literary production since literature is both an expression and a reflection of the context from which it arises.

The Homeland War in Croatia (1991-1995) greatly influenced the course of development of Croatian literature and is considered as a turning point in the periodization of contemporary Croatian literature. Although it did not interrupt all tendencies of literature of the 1980s, the war did initiate a critical structural and thematic restructuring of the Croatian novel, which is why it is regarded in literary and historical terms as a kind of censorship and has been recognized in many writers as a radical thematic turn towards real problems and existential drama of the Croatian people. The author finds it justified to highlight the year 1991 as a borderline in the possible periodization of the twentieth-century Croatian children's literature given the presence of extraliterary reasons that directly influenced the thematic, genre-specific, and conceptual literary content. In the context of observing the impact of social reality on the literary production in Croatian children's literature, Sanja Vrcić-Mataija points out the founding of a new children's book series, *Ratna Vjeverica* (War Squirrel) as part of Zagreb's *Mladost* (Youth), precisely in 1991, which published the works of contemporary Croatian writers, dedicated to the topic of children in the Homeland War.

The present study established the typology of the novels of the realistic narrative model based on the relationship between the fictional and factual, respecting thereby the age criterion of the recipients and literary heroes, the degree of modernity of formative procedures, and the prevailing narrative figure as a key criterion in determining the specific types of children's novels of the 1990s and their subtypes and forms derived from them based on the cultural image of childhood and growing up observed within the space-time topos. By summarizing the given corpus, the author concludes that the children's novel is undoubtedly the most extensive narrative literary type of children's literature in which children and adolescents are the main drivers of action, and the thematic emphasis is not only on events and exciting adventures but also increasingly on the psychic experiences of the main characters. The novels of the researched corpus are a testament to the stylistic diversity, manifested in a simple and easy to understand style, but also in an increasingly complex stylistic structure in which stylistic experimentation and structural innovations can be observed. As a particular research interest, the author emphasizes the depiction of contemporary Croatian reality set the 1990s children's novel, the manner in which it is achieved, as well as the question of how specific projections of that reality, with all its social actualities, are projected onto the image of childhood and identity of children's characters regardless if they are formed by those within a children's group, family, individually, or in the company of an adult.

The typology of the Croatian realistic children's novel from 1991 to 2001, proposed by this study, includes: the children's band novel (within which the author distinguishes the novel of the rural identity of a children's band, the novel

of the urban identity of a children's band, and the novel of the urban identity of a children's band with a displaced setting), the adolescent band novel, the character novel, especially the children's character novel and the adolescent character novel, the family novel (with forms such as the family novel with the portrayal of a traditional patriarchal family, the family novel with the portrayal of a modern patriarchal family, the family novel with the portrayal of a modern liberal family), and an intergenerational novel.

Sanja Vrcić-Mataija's scientific Study *The Croatian Realistic Children's Novel* (1991 - 2001) is a significant contribution to the study of the history of Croatian children's literature. This is especially true of the research and systematization of contemporary literary works (with the interpretation of 87 literary works and more than 200 related bibliographic units), more specifically the children's novel as one of the most popular genres of children's literature in general. The results of the study of the corpus of children's novels written by Croatian authors, obtained in the recent past – during the last decade of the twentieth century – are additionally interesting, among other things, for pinpointing the role of the Homeland War theme, but also as a starting point for future research on the literary production of the Croatian children's novel, with features of the contemporary postmodern and other literary poetry movements.

Maja VERDONIK  
(Translated by: Matea Butković)

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