Student Self-efficacy, Cognitive, Behavioral, and Emotional Engagement: Age and Gender Differences

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Abstract

Student self-efficacy is defined as an individual's belief of being able to perform certain actions necessary for achieving a specific goal, i.e. the belief one is capable of organising and performing actions in a way needed to attain the planned types of effect. Engagement is defined as a measure of student involvement, connectedness and devotion to academic and social school activities. Three-component engagement model includes cognitive, emotional and behavioral engagement. The basic presumption in the research of student self-efficiency and engagement is that, for the students to achieve success in schooling, not only regular class attendance is sufficient but also students' work engagement and belief they are capable of performing the required tasks. The main goal of this research was to examine the differences between the students in their self-efficiency and engagement regarding gender and age. The research included 659 students from the 4th to the 8th grade of a primary school in Zagreb in Croatia. The sample encompassed 330 girls and 329 boys of the average age of 11.37 years (*SD* = 1.73). The implementation of the one-way analysis of variance found statistically significant differences in the perceptions of self-efficacy and engagement, wherein younger students (4th and 5th grade) assessed all the examined variables as higher. In examining gender differences, statistically significant differences were found in the engagement dimensions, wherein girls show higher cognitive, behavioral and emotional engagement, but are not different in self-efficacy.

Keywords: behavioral engagement; cognitive engagement; emotional engagement; self-efficacy

1. Introduction

The interest of researchers and educators for more in-depth research of student self-efficacy and engagement is highly pronounced over the last four decades. The main reason for such an interest lies in the connection between students' self-efficacy, engagement, motivation, school achievement and behaviour (Bandura, 1997; Fredricks, et al., 2004; Pajares, 2002). As stated by Linnenbrink and Pintrich (2003), self-efficacy plays an important role in student engagement in the classroom. Students with high self-efficacy will be more engaged in school, so it is important to detect the changes in self-efficacy and engagement across all levels of students' education.

1.1 Self-efficacy

Perceived self-efficacy refers to beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments (Bandura, 1997). Self-efficacy has

proven to be the key factor connected with academic achievement both for students and teachers, not only on an individual plane but also on a group one, i.e. collective plane. Social-cognitive theory, wherein the construct of self-efficacy was designed, understands human functioning as the result of a dynamic interaction of personal, behavioral and environmental influences. It is assumed that an individual influences behaviour and environment and vice versa. Highly self-efficient students are more capable of self-regulated learning and creating a quality learning environment. Self-efficacy can be influenced by the outcomes of behaviour (realized achievement) and feedback from the environment (Schunk & Pajares, 2009).

Bandura (1995) considers the belief of one's own efficacy ensues from four main influences. The most effective way for creating a powerful sense of efficacy is derived from interpreting previous experiences. If a student experiences success, this experience will empower his/her belief about efficacy. Another influence is the perception of experiences of others. When the feedback about the performed work is absent, an individual resorts to comparison with others in the similar position, which increases his/her belief in the possibility of success. The third influence is persuasion by others that one has what it takes to realize the desired goal. Students who receive verbal incentives and reassurance about having all that it takes put in greater effort and are more persistent in their work. The fourth influence entails psychological and emotional states of an individual, for example stress, tiredness, mood, anxiety. Powerful emotional reactions can be indicators of the expectations of success or failure. All four influences can increase or decrease the sense of self-efficacy, depending on the way a student interprets certain situations.

At the beginning of the second decade of the 20th century, a significant number of works dealt with self-regulation in the process of learning (Zimmerman et al., 1992). Learning self-regulation presents active participation of students in their own learning process through directing one's own effort in acquiring knowledge and abilities (Zimmerman, 1990; Zimmerman & Martinez-Pons, 1986; Zimmerman & Schunk, 2001). In the frame of the Social Cognitive Theory, it is emphasized that students with self-regulated learning direct their own learning process by setting challenging goals, using the appropriate learning strategies and including self-regulative influences which motivate and direct them. Students who are self-regulated in this way display high beliefs in their own abilities, which effects their knowledge and skills and dedication in realising their own goals (Zimmerman, 1990). Self-efficacy for self-regulated learning presents the student's belief that he/she is capable of using various strategies in the learning process. Such students are able to plan and organize their own activities, realise and memorise the teaching contents, disregard the distractors in the course of learning and motivate themselves in the work (Zimmerman et al., 1992).

According to the definition, self-efficacy is a dynamic construct that is constantly susceptible to changes (Schunk & DiBenedetto, 2016). It can generally be noticed that the greatest self-efficacy is observed in younger school-age students. In the research implemented in Croatia by Koludrović and Radnić (2013), students of the fifth grade showed greater self-efficacy than the students of the seventh grade. Longitudinal research by Cparara et al. (2008) in Italy also proved that self-efficacy progressively declines with age. The authors contribute such changes to the requirements of the teaching content put before older students. Zimmerman (2006) explains that student self-efficacy decreases with age due to various available activities that seem more interesting to students than the learning itself (Zimmerman et al., 1992). In fact, the reasons are

multiple: greater competitiveness amongst students, lesser individualization in the work, stress caused by transition from primary to secondary school and alike (Pajares, 2007; Schunk & Pajares, 2009). Apart from the influence of age, one part of the authors emphasizes cultural differences in self-efficacy, wherein self-efficacy in collectivistic and individualistic cultures is distinguished (Huang, 2013). Cultures that are individualistically-oriented tend to favour self-initiative and pursuit of self-interest, whereas those collectively-oriented place group interest and shared responsibility above self-interest (Triandis, 1995). Generally, participants from collectivist cultures had relatively low general self-efficacy (Scholz et al., 2002). Possible explanation lies in the assumption that collectivist cultures put greater emphasis on invested effort and work than the individualistically-oriented ones. Apart from cultural influences on self-efficacy, previous research has aimed to examine the existence of gender differences in self-efficacy, and it found these differences in specific fields of self-efficacy. For example, Pajares (2005) states gender differences in student self-efficacy in mathematics, wherein boys have higher mathematics self-efficacy than girls; however, the results are not consistent and are changing over the course of schooling. On the other hand, girls display higher writing self-efficacy than boys, but this gender gap disappears or reverses as students age (Pajares, 2003). The research of gender differences in self-efficacy for self-regulated learning, as stated by Pajares (2002), are most often in favour of girls who displayed more goal-setting and planning strategies, and they kept records and self-monitored more frequently than boys. Girls also surpassed boys in their ability to structure their environment for optimal learning (Zimmerman & Martinez-Pons, 1990). Numerous facts exist that can influence student self-efficacy, for example the influence and expectations from parents and teachers. As indicataed by Phillips and Zimmerman (1990), parents often underestimate their daughters' academic competence and hold lower expectations for them (Phillips & Zimmerman, 1990). Well-intentioned teachers may also hold different expectations for boys and girls. In some cases, elementary school teachers, most of whom are women, and well-meaning parents may convey to girls that mathematics may be difficult for them. Hence, it is important that teachers provide students with challenging and motivating tasks that can be mastered and monitor these endeavours through supporting and helping students in developing a powerful sense of self-efficacy, in boys and girls equally.

1.2 Engagement

There are various definitions of student engagement which are mutually different with regard to understanding engagement as a two-dimensional, three-dimensional, or four-dimensional construct (Reschly & Christenson, 2013). A certain agreement exists on engagement consisting of behavioral and affective components. Some authors add the cognitive component to that (Appleton et al., 2006; Christenson & Anderson, 2002; Fredricks et al., 2004; Li & Lerner, 2013), or divide the behavioral component in two: academic (regarding the time spent working on some task) and behavioral (work participation) (Appleton et al., 2006; Christenson et al., 2008). The three-component model of behavioral, emotional and cognitive engagement will also be used in this research.

Engagement is defined as a measure of inclusion, connectedness and devotion of students to academic and social activities in school (Li & Lerner, 2013). Students' achievement in school, and in later life, depends on an individual's intention to use the knowledge and skills acquired during education (Fredricks et al., 2004). In the course of growing up, students reach their full

cognitive capacity that provides them with self-regulation, will to learn and becoming fully-devoted to learning. In such a way students become capable of higher levels of metacognitive actions such as self-evaluation, using efficient learning strategies, long-term planning and setting goals, which are all important activities for achieving meaningful inclusion in one's own education, making the realization of academic desires possible (Wigfield, 1994). Using these skills makes students cognitively, emotionally and behaviorally active participants in their own learning (Zimmerman & Schunk, 2001). Such three-dimensional engagement presents the definition of a student's inclusion in schooling (Li & Lerner, 2013).

Cognitive engagement entails the measure to which students perceive the importance of classes and their attitudes towards learning. The development of cognitive engagement starts in early childhood, and it is evident in the child's self-control of emotions and behaviour. Somewhat later, the development is continued in accord with attaining the abilities of concrete operational thinking and self-evaluation, and in line with acquiring skills of self-regulation which provides the sense of one's own competence and intrinsic motivation (Appleton et al., 2008; Skinner et al., 2008). Positive perception of one's own self-efficacy is tied to academic achievement, and it consequently leads to more active work participation (Appleton et al., 2008).

Behavioral engagement can be perceived on a lower or higher level. The lower level is described by the student's presence in classes alone, while the higher level is characterized by investing effort in class. It really describes the student's willing behaviour in the school context. Teachers' perceptions of student behavioral engagement most frequently include presence in class, upholding the rules and interacting with other students in class (Li & Lerner, 2013).

Emotional engagement entails students' sense of belonging to a school and their emotions regarding school, such as happiness and excitement (Li & Lerner, 2011). Emotional engagement is used for measuring the connection between students and school, enjoyment in school learning and extracurricular activities (Rose- Krasnor, 2009). The relationships between students and teachers and between students themselves contribute to emotional engagement. Over the course of schooling, the relationships between students and teachers as well as between students contribute to the development of social skills, and such positive interactions empower positive growth and engagement of students (Mahatmya et al., 2013).

The differences in engagement between boys and girls are identified in several researches. On the bases of the obtained results, it can be inferred that, in relation to girls, boys show less engagement and school achievement and give up on schooling more often (Amir et al., 2014; Lam et al., 2012; Lamote et al., 2013; Van de gaer et al., 2006). Comparative research done by Lam et al. (2016) found no differences in engagement between boys and girls regarding the individualistic, i.e. collectivistic culture they belong to. Comparison of the results from 12 countries has confirmed that girls display greater engagement across all 12 countries. Along the same lines, it was proven that association between teacher support and student engagement was consistent in all twelve countries, while the connection between parental support and student engagement was stronger in collectivelly-oriented cultures.

Research aiming to check the difference in student engagement regarding age is not abundant. However, the available research shows that the engagement declines with students' age (Amir et al., 2014; Lam et al., 2016; Pavlin-Bernardić et al., 2017). The research by Pavlin-

Bernardić et al. (2017) on a sample of grammar school students has shown that younger students were cognitively and behaviorally more engaged, whereas older students showed greater emotional engagement. Furthermore, a positive connection between students' motivation and engagement was found.

1.3 Research questions and hypotheses

The review of previous research indicates there is no consistency in the results on gender differences in the perception of self-efficacy and engagement. Along the same lines, certain cultural differences are noticed, pointing to the need for additional research of self-efficacy and engagement and the existence of gender and age differences among students in various educational contexts. (Huang, 2013). Similarly, it is known that self-efficacy and engagement change across a lifetime, but the results are not consistent (Caprara et. al., 2008; Liew et al., 2008). Considering this fact, the goal of the present research was to examine the existence of differences in engagement and self-efficacy perceptions among students of a primary school in Zagreb, Croatia, with regard to gender and age.

Considering the set goal, following tasks and hypotheses are formulated.

1 To determine the existence of differences in students' self-efficacy and engagement regarding age.

H1 Younger students show greater self-efficacy and engagement than older students.

2 To examine the existence of differences in students' self-efficacy and engagement with regard to gender.

H2 Boys and girls do not differ with statistical significance in the perception of self-efficacy and engagement.

2. Methods

2.1 Participants and procedures

The research included 685 students from the 4th to the 8th grade of a primary school in Zagreb, Croatia. Only students for whom the written parental consent was obtained participated in the research. Due to the incomplete questionnaires, the processing included 659 examinees from 35 grades. In Croatian schools, starting first grade is possible for children with minimally 6,5 years of age as a rule, so the youngest participants in this research were 9,5 and the oldest 14,4 years old at the most. The average age of all the participants is 11,37 (SD = 1.73). It is important to note that this research included students in class and subject teaching. Namely, fourth-grade students are taught most subjects by one teacher (except the first foreign language and possibly the elective subject – Religion), who educates them from the 1st to 4th grade. Students from the fifth to eighth grade are in the system of subject teaching and each school subject is taught to them by a different teacher. The survey was self-administered independently in each classroom with the presence of the research team's member who could help in case of questions or misapprehensions. The average completion of the survey lasted 20 minutes.

2.2 Measures

Self-Efficacy for Self-Regulated Learning (Zimmerman et al., 1992) is a one-dimensional survey consisting of 11 claims. The survey examines student ability to use different strategies of self-regulated learning, and the claims (e.g. *How well can you organize your schoolwork* or *How well can you arrange a place to study without distractions?)* were assessed on a five-degree scale: from 1 – *not well at all* to 5 – *very well*. The factor structure of the survey was validated via main components method with the orthogonal (varimax) rotation (*KMO* = .909; Bartlett's sphericity test χ^2_{df55} = 2535.44; p = .000). One-factor structure was obtained, as in the original scale, and it explains 44.47% of the self-efficacy variance for self-regulated learning. Cronbach's α coefficient of the scale's reliability is α = .87.

The Behavioral-Emotional-Cognitive School Engagement Scale, *BEC-SES* (Li & Lerner, 2013) consists of 10 claims and five questions measuring three dimensions of engagement. Behavioral engagement includes questions aiming to determine the level of students' involvement in class; lower level marks delineate solely the presence in class (e.g. *How often do you skip classes without permission?*), and higher the invested effort (e.g. *How often do you complete homework on time?*). The students assessed the questions on a five-degree scale, from 1 – *never* to 5 - *always*. Emotional engagement entails five claims describing students' sense of belonging to the school and his/her attitude towards school (e.g. *I am happy to be at my school.*). Cognitive engagement involves five claims describing student will to learn and progress and the usefulness of the acquired knowledge in future life (e.g. *I want to learn as much as I can at school*.). Agreement with the claims of emotional and cognitive engagement was expressed on a five-degree scale, from 1 – *strongly disagree* to 5 – *strongly agree*. The factor structure of the engagement questionnaire was verified using the main components method with orthogonal (varimax) rotation (*KMO* = .909; Bartlett's sphericity test χ^2_{df105} = 3062.84; p = .000). According to the Kaiser-Guttman's criterion, three factors had characteristic roots greater than one, and they explain 53.30% of the variance. After the rotation, the first factor, emotional engagement, explains 20.79% of the variance; the second, behavioral engagement, 16.4%; and the third factor, cognitive engagement, 15.87% of the variance. The extracted factors respond to factor solutions of the original scale. Cronbach's α coefficient for the subscale of emotional engagement is α = .78, behavioral engagement α = .71, and cognitive engagement α = .70.

Apart from the applied questionnaires, demographic data about the participants were gathered (gender, age and grade).

3. Results and Discussion

The obtained mean values and standard deviations for self-efficacy and engagement for the overall sample are presented in Table 1. It can be observed that the examined students assess cognitive engagement and self-efficacy with the highest values, whereas the perceptions of behavioral, i.e. emotional engagement were given somewhat lower evaluations, but still above the central values. All the examined dimensions show good reliability coefficients of measurement (from 0,70 to 0,87) and the results of skewness and kurtosis are within the recommended range (Field, 2013); which allows further use of parametric data processing.

Table 1: Descriptive statistics

Dimenzija	Items	Min	Max	M	SD	Skewness	Kurtosis	α
Self-efficacy	11	1.18	5.00	4.06	0.67	-,853	,690	0.87
Cognitive engagement	5	1.00	5.00	4.24	0.66	-,513	,343	0.71
Behavioral engagement	5	1.00	5.00	3.67	0.63	-,518	-,017	0.78
Emotional engagement	5	1.00	5.00	3.61	0.85	-1,303	2,446	0.70

The first task of this research was to determine the existence of differences in the perceptions of self-efficacy and engagement between students with regard to age, i.e. grade they attend. One-way variance analysis was implemented and statistically significant differences were found in all the examined variables. The results of the variance analysis and the post-hoc analysis are presented in Table 2.

Table 2: Differences between the students regarding age: the results of the variance analysis

		4th grade N = 144	5th grade N = 125	6th grade N = 121	7th grade N = 138	8th grade N = 131	F	p
Self-efficacy	M	4.37 ^{6,7,8}	4.17 ^{7,8}	4.11 ^{4,8}	3.89 ^{4,5}	3.73 ^{4,5,6}	21.220	.000
	SD	0.54	0.58	0.65	0.75	0.61		
Cognitive engagement	M	4.67 ^{6,7,8}	4.47 ^{6,7,8}	4.19 ^{4,5,8}	4.05 ^{4,5,7,8}	3.82 ^{4,5,6,7}	30.609	.000
	SD	0.40	0.38	0.72	0.64	0.71		
Behavioral engagement	M	4.01 ^{5,6,7,8}	3.77 ^{4,7,8}	3.73 ^{4,8}	3.54 ^{4,5,8}	3.27 ^{4,5,6,7}	45.252	.000
	SD	0.55	0.57	0.63	0.61	0.54		
Emotional engagement	M	4.10 ^{6,7,8}	3.86 ^{6,7,8}	3.51 ^{4,5}	3.30 ^{4,5}	3.25 ^{4,5}	28.556	.000
	SD	0.78	0.68	0.78	0.82	0.81		

The results show that fourth-grade students give the highest assessments to all the examined variables. With the increase in the students' age, the perceptions of self-efficacy and engagement minimise, and the lowest ones are given by the eight-grade students. Fourth-grade students are statistically significantly different than the other students in behavioral engagement, and in other variables from the sixth-, seventh- and eighth-grade students. Eighth-grade students are statistically significantly different in the perceptions of self-efficacy and engagement from the students of the four-grade and fifth-grade, and in the perceptions of cognitive and behavioral engagement also from the sixth- and seventh-grade students. It is possible to assume that younger students are more assured of their own abilities due to the lower level of educational demands set before them, whereas this assurance is weaker in older students who are faced with greater number of subjects and wider content scope to be learned. Besides, the timetable of learning and evaluating the learned content is easier in class teaching (4th grade), so it conditions the students' belief in their own capability to independently and efficiently organize their work. Age differences in the perception of self-efficacy have been found in previous research as well (Caprara, et al., 2008; Jandrić et al., 2018; Koludrović & Radnić, 2013). They are mostly explained by the difficulty of the teaching content, but also with the greater number of available activities that seem more interesting to older students than the school content (Zimmerman et. al., 1992). Similar differences were also found in the engagement dimensions. Fourth-grade students are statistically significantly different from the sixth-, seventh- and eighth-grade students in cognitive and emotional engagement, and in behavioral engagement from students of the fifth to eighth grade. The obtained differences point to younger students being more aware of the importance of education and executing their school

chores, and they feel better in school. Age differences in examining engagement were found in the research by Amir et al. (2014). The authors indicate that the decrease of engagement with student age should be observed as a consequence of the student/teacher bond weakening. It is especially emphasized in students with poorer academic achievement because they are particularly emotional. A weak connection between the teacher and students can effect in students negative emotions toward school, which consequently leads to poor cognitive and behavioral engagement. Similar results were obtained in the research by Chiu et al. (2012). The research found that precisely the bond between students and the teacher has the greatest influence on cognitive and emotional engagement of students. The results of this research can be observed along these lines, and it can be assumed that students in class teaching have more quality relations with the teacher, which leads to their more quality engagement.

The next task was to examine the existence of differences in self-efficiency and engagement between boys and girls. The results obtained by the Student's t-test are present in Table 3.

Table 3: The differences between students regarding age: results of the t-test

	Girls (N = 330)		Boys (N = 329)		t-test	p
	M	SD	M	SD		
Self-efficacy	4.10	0.67	4.01	0.66	-1.796	0.073
Cognitive engagement	4.31	0.59	4.18	0.72	-2.582	0.010
Behavioral engagement	3.75	0.59	3.59	0.65	-3.461	0.001
Emotional engagement	3.67	0.83	3.54	0.86	-1.976	0.049

The determined differences in the engagement dimensions are statistically significant, wherein girls assess cognitive, emotional and behavioral engagement higher than boys. No statistically significant differences were found in self-efficacy. Some previous research shows there are no statistically significant differences in self-efficacy between boys and girls in lower grades of primary school, while in higher grades boys show greater self-efficacy (Wigfield et al., 1996). On the other hand, part of the research finds girls in higher primary school grades show greater self-efficacy for self-regulated learning. For example, Pajares et al. have established that girls are more capable of organising their own work and writing homework regularly, and they generally display greater self-efficacy in learning and class participation (Pajares & Valiante, 1999; Pajares et al., 2000). Regarding the fact this research has not found gender differences, it can be inferred that boys show equally high levels of self-efficiency in self-regulated learning as girls. Such result is in line with the results of newer research (Sawari & Mansor, 2013; Shkullaku, 2013) and with the result of the meta-analysis (Huang, 2013) by Huang 2013) that revelad the overall effect size of 0.0, with a small difference favoring males, that is, it found differences in self-efficacy in specific areas. However, the initial assumption that the meta-analysis would find significant gender differences in the collectivistic, i.e. individualistic cultures has not been confirmed. The obtained statistically significant differences in the engagement dimensions in this reserach prove girls to be more engaged than boys. Such results of engagement were found in previous researches (Amir et. al., 2014; Havik & Westergård, 2020; Lam et al., 2012; Lamote et al., 2013; Lietaert et al., 2015; Van de gaer et al., 2006) and are in accord with earlier results obtained in individualistic cultures (Lam et al., 2016) Croatia is a part of (Rajh et al., 2016). As in previous research, these results can possibly be explained with the student's personality and the common assumption that girls are more devoted and industrious in school work. The research by Lietaert et al. (2015) has also found

that boys are less engaged than girls, but at the same time perceive lesser support from their teachers. It is possible that the results obtained in this research are a consequence of weaker support perceived by boys. Namely, students' engagement is considered susceptible to various contextual factors, such as support from teachers and peers, and precisely teacher support is considered the most significant (Fredricks et al., 2004; Skinner & Belmont, 1993). Therefore, teachers should be made aware of the importance of teacher support in daily class practice and of the differences in the types of support provided for boys and girls.

4. Conclusion

The goal of this research was to examine whether primary school students differ in self-efficacy and engagement regarding age and gender. The results confirm the initial assumptions: statistically significant age differences were found regarding, whereas gender ones were determined only in the perception of engagement. This research indicates the importance of further scientific research in order to establish the causes of differences between students more precisely. From an educational point of view, the results of this work are relevant because they show the importance of teachers creating the appropriate conditions for student learning and development. Timely recognition of changes in students can ease and improve their work and activity, which might consequently lead to greater students' self-efficacy and engagement.

References

Amir, R., Saleha, A., & Jelas, Z. (2014). Students' engagement by age and gender: A cross-sectional study in malaysia. *Middle-East Journal of Scientific Research, 21*(10), 1886-1892. https://doi.org/10.5829/idosi.mejsr.2014.21.10.85168

Appleton, J. J., Christenson, S. L., Kim, D., & Reschly, A. L. (2006). Measuring cognitive and psychological engagement: Validation of the student engagement instrument. *Journal of School Psychology, 44*, 427-445. https://doi.org/10.1016/j.jsp.2006.04.002

Appleton, J., Christenson, S., & Furlong, M. (2008). Student engagement with school: Critical conceptual and methodological issues of the construct. *Psychology in the Schools, 45*(5), 369-386. https://doi.org/10.1002/pits.20303

Bandura, A. (1995). Excercise of personal and collective efficacy in changing societies. U A. Bandura, *Self-efficacy in changing societies* (str. 1-45). Cambridge: Cambridge Univeristy Press.

Bandura, A. (1997). *Self-efficacy: The exercice of control.* New York: Freeman.

Caprara, G., Fida, R., Vecchione, M., Del Bove, G., Vecchio, G., Barbaranelli, C., & Bandura, A. (2008). Longitudinal analysis of the role of perceived self-efficacy for self-regulated learning in academic continuance and achievement. *Journal of Educational Psychology, 100*(3), 525-534. https://doi.org/10.1037/0022-0663.100.3.525

Caraway, K., Tucker, C. M., Reinke, W. M., & Hall, C. (2003). Self-efficacy, goal orientation, and fear of failure as predictors of school engagement in high school students. *Psychology in the Schools, 40*(4), 417-427. https://doi.org/10.1002/pits.10092

Chiu, M., Pong, S.-l., Mori, I., & Chow, B.-Y. (2012). Immigrant students' emotional and cognitive engagement at school: A multilevel analysis of students in 41 countries. *Journal of Youth and Adolescence, 41*(11), 1409–1425. https://doi.org/10.1007/s10964-012-9763

Christenson, S. L., & Anderson, A. R. (2002). Commentary: The centrality of the learning context for students' academic enabler skills. *School Psychology Review, 31*(3), 378-393. https://doi.org/10.1080/02796015.2002.12086162

Christenson, S. L., Reschly, A. L., Appleton, J. J., Berman, S., Spanjers, D., & Varro, P. (2008). Best practices in fostering student engagement. U A. Thomas, & J. Grimes, *Best practies in school psychology* (str. 1099-1120). Bethseda, MD: National Association of School Psychologist.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics (4th ed.).* Thousand Oaks, CA: SAGE Publications Ltd.

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of evidence. *Review of Educational Research, 74*, 59-109. https://doi.org/10.3102/00346543074001059

Havik, T., & Westergård, E. (2020). Do teachers matter? Students' perceptions of classroom interactions and student engagement. *Scandinavian Journal of Educational Research, 64*(4), 488-507. https://doi.org/10.1080/00313831.2019.1577754

Huang, C. (2013). Gender differences in academic self-efficacy: A meta-analysis. *Gender differences in academic self-efficacy: a meta-analysis, 28*(1), 1-35. https://doi.org/10.1007/s10212-011-0097-y

Jandrić, D., Boras, K., & Šimić, Z. (2018). Rodne i dobne razlike u motivaciji i samoregulaciji učenja [Gender and age differences in motivation and self-regulated learning]. *Psihologijske teme, 27*(2), 177-193. https://doi.org/10.31820/pt.27.2.3

Koludrović, M., & Radnić, I. (2013). Doprinos nekih osobnih i socijalnih čimbenika u objašnjenju školskog uspjeha u ranoj adolescenciji [The contribution of some personal and social factors in explaining school achievement in early adolescence]. *Pedagogijska istraživanja, 10*(1), 65-79. https://hrcak.srce.hr/126479

Lam, S.-f., Jimerson, S., Kikas, E., Cefai, C., Veiga, F.H., Nelson, B., Hatzichristou, C., Polychroni, F., Basnett, J., Duck, R., Farrell, P., Liu, Y., Negovan, V., Shin, H., Stanculescu, E., Wong, B.P.H.; Yang, H., Zollneritsch, J. (2012). Do girls and boys perceive themselves as equally engaged in school? The results of an international study from 12 countries. *Journal of School Psychology, 50*(1), 77-94. https://doi.org/10.1016/j.jsp.2011.07.004

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

Lamote, C., Speybroeck, S., Van Den Noortgate, W., & Van Damme, J. (2013). Different pathways towards dropout: The role of engagement in early school leaving. *Oxford Review of Education, 39*(6), 739-760. https://doi.org/0.1080/03054985.2013.854202

Li, Y., & Lerner, R. (2011). Trajectories of school engagement during adolescence: Implications for grades, depression, delinquency, and substance use. *Developmental Psychology, 47*(1), 233-247. https://doi.org/10.1037/a0021307

Li, Y., & Lerner, R. M. (2013). Interrelations of behavioral, emotional, and cognitive school engagement in high school students. *Journal of Youth and Adolescence, 42*(1), 20-32. https://doi.org/10.1007/s10964-012-9857-5

Lietaert, S., Roorda, D., Laevers, F., Verschueren, K., & De Fraine, B. (2015). The gender gap in student engagement: The role of teachers' autonomy support, structure, and involvement. *British Journal of Educational Psychology, 85*(4), 498-518. https://doi.org/10.1111/bjep.12095

Liew, J., McTigue, E. M., Barrois, L., & Hughes, J. N. (2008). Adaptive and effortful control and academic self-efficacy beliefs on achievement: A longitudinal study of 1st through 3rd graders. *Early Childhood Research Quarterly, 23*(4), 515-526. https://doi.org/10.1016/j.ecresq.2008.07.003

Linnenbrink, E. A., & Pintrich, P. R. (2003). The role of self-efficacy beliefs in student engagement and learning in the classroom. *Reading & Writing Quarterly, 19*(2), 119-137. https://doi.org/10.1080/10573560308223

Mahatmya, D., Lohman, B., Matjasko, J., & Feldman Farb, A. (2013). Engagement across developmental periods. U S. L. Christenson, A. L. Reschly, & C. Wylie, *Handbook of research on student engagement* (str. 45-63). New York, NY: Springer Science+Business Media.

Pajares, F. (2002). Gender and perceived self-efficacy in self-regulated learning. *Theory Into Practice, 41*(2), 116-125. https://doi.org/10.1207/s15430421tip4102_8

Pajares, F. (2003). Self-efficacy beliefs, motivation, and achievement in writing: A review of the literature. *Reading & Writing Quarterly, 19*, 139-158. https://doi.org/10.1080/10573560390143085

Pajares, F. (2005). Gender differences in mathematics self-efficacy beliefs. U A. M. Gallagher, & J. C. Kaufman, *Gender differences in mathematics: An integrative psychological approach* (str. 294-315). New York: Cambridge University Press.

Pajares, F. (2007). Motivational Role of Self-Efficacy Beliefs in Self-Regulated Learning. U B. Zimmerman, & D. Schunk, *Motivation and self-regulated learning: Theory, research, and applications* (str. 111-140). New York: Erlbaum.

Pajares, F., & Valiante, G. (1999). Grade level and gender differences in the writing self-beliefs of middle school students. *Contemporary Educational Psychology, 24*(4), 390-405. https://doi.org/10.1006/ceps.1998.0995

Pajares, F., Britner, S., & Valiante, G. (2000). Relation between achievement goals and self-beliefs of middle school students in writing and science. *Contemporary Educational Psychology, 25*(4), 406-422. https://doi.org/10.1006/ceps.1999.1027

Pavlin-Bernardić, N., Putarek, V., Rovan, D., Petričević, E., & Vlahović-Štetić, V. (2017). Students' engagement in learning physics: A subject-specific approach. U I. Burić, *20th*

psychology days in Zadar: Book of selected proceedings (str. 193-203). Zadar: University of Zadar.

Phillips, D. A., & Zimmerman, M. (1990). The developmental course of perceived competence and incompetence among competent children. U R. J. Sternberg, & J. J. Kolligian, *Competence considered* (str. 41-66). New Haven, CT: Yale University Press.

Rajh, E., Budak, J., & Anić, I.-D. (2016). Hofstede's culture value survey in Croatia: Examining regional differences. *Društvena istraživanja, 25*(3), 309-327. https://doi.org/10.5559/di.25.3.02

Reschly, A. L., & Christenson, S. L. (2013). Jingle, jangle, and conceptual haziness: Evolution and future directions of the engagement construct. U S. L. Christenson, A. L. Reschly, & C. Wylie, *Handbook of research on student engagement* (str. 3-19). New York: Springer. https://doi.org/http://dx.doi.org/10.1007/978-1-4614-2018-7_1

Rose- Krasnor, L. (2009). Future directions in youth involvement research. *Social Development, 18*(2), 497-509. https://doi.org/10.1111/j.1467-9507.2008.00506.x

Sawari, S., & Mansor, N. (2013). A study of student's general self-efficacy related to gender differences. *International Journal of Informative and Futuristic Research, 1*(4), 62-67. http://ijifr.com/searchjournal.aspx

Scholz, U., Doña, B. G., Sud, S., & Schwarzer, R. (2002). Is general self-efficacy a universal construct? Psychometric findings from 25 countries. *European Journal of Psychological Assessment, 18*(3), 242-251. https://doi.org/10.1027//1015-5759.18.3.242

Schunk, D. H., & DiBenedetto, M. K. (2016). Self-efficacy theory in education. U K. R. Wentzel, & D. B. Miele, *Handbook of motivation at school* (str. 34-54). New York, NY: Routledge.

Schunk, D. H., & Pajares, F. (2009). Self-efficacy theory. U K. R. Wentzel, & A. Wigfield, *Handbook of motivation at school* (str. 35-55). New York: Routledge.

Shkullaku, R. (2013). The Relationship between self-efficacy and academic performance in the context of gender among albanian students. *European Academic Research, 1*(4), 467-478. http://www.euacademic.org/currentIssue.aspx

Skinner, E., & Belmont, M. J. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology, 85*(4), 571-581. https://doi.org/10.1037/0022-0663.85.4.571

Skinner, E., Furrer, C., Marchand, G., & Kindermann, T. (2008). Engagement and disaffection in the classroom: Part of a larger motivational. *Journal of Educational Psychology, 100*(4), 765–781. https://doi.org/10.1037/a0012840

Triandis, H. C. (1995). *Individualism & collectivism.* Boulder, Colo: Westview Press.

Van de gaer, E., Pustjens, H., Van Damme, J., & De Munter, A. (2006). The gender gap in language achievement: The role of school-related attitudes of class groups. *Sex Roles, 55*(5-6), 397-408. https://doi.org/10.1007/s11199-006-9092-1

Wigfield, A. (1994). Expectancy-value theory of achievement motivation: A developmental perspective. *Educational Psychology Review, 6*, 49-78. https://doi.org/10.1007/BF02209024

Zimmerman, B. (1990). Self-regulated learning and academic achievement: An overview. *Educational Psychologist, 25*(1), 3-17. https://doi.org/10.1207/s15326985ep2501_2

Zimmerman, B. J., & Schunk, D. (2001). *Self-regulated learning and academic achievement: theoretical perspectives (2nd ed.).* New York: Spring.

Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-motivation for academic attainment: The role od self-efficacy beliefs and personal goal setting. *American Educational Research Journal, 29*(3), 663-676. https://doi.org/10.3102/00028312029003663

Zimmerman, B., & Cleary, T. (2006). Adolescents' development of personal agency: The role of self-efficacy beliefs and self-regulatory skill. U F. Pajares, & T. Urdan, *Self-Efficacy Beliefs of Adolsecents* (str. 45-69). Greenwich, CT: Information Age Publishing.

Zimmerman, B., & Martinez-Pons, M. (1986). Development of a structured interview for assessing student use of self-regulated learning strategies. *American Educational Research Journal, 23*(4), 614-628. https://doi.org/10.3102/00028312023004614

Zimmerman, B., & Martinez-Pons, M. (1990). Student differences in self-regulated learning: Relating grade, sex, and giftedness to self-efficacy and strategy use. *Journal of Educational Psychology, 82*(1), 51-59. https://doi.org/10.1037/0022-0663.82.1.51