

# How can teachers encourage students' agentic engagement? The role of autonomy-supportive teaching and students' autonomous motivation

**Eta Krpanec (eta.krpanec@pilar.hr)**

*Institute of Social Sciences Ivo Pilar, Zagreb, Croatia*

**Dora Popović (dora.popovic@pilar.hr)**

*Institute of Social Sciences Ivo Pilar, Zagreb, Croatia*

**Toni Babarović (toni.babarovic@pilar.hr)**

*Institute of Social Sciences Ivo Pilar, Zagreb, Croatia*

## Abstract

*Agentic engagement is a relatively new construct within the self-determination theory framework which refers to students' constructive contributions to the flow of the class. Previous research has linked agentic engagement with better student outcomes; therefore, it is important to investigate factors that could encourage it. Studies suggest that autonomy-supportive teaching promotes agentic engagement. However, little investigation has been made into the mechanisms underlying this association. Hence, the aim of this study was to examine the relationship between teachers' autonomy support and students' agentic engagement, and to determine whether it is mediated by the students' autonomous motivation. Additionally, it was investigated if these relationships vary between students who attend different high school programs. The participants were 327 high school students, of which 74% attended a gymnasium program. The analysis concluded that autonomy-supportive teaching is positively associated with agentic engagement, and that the relationship is partially mediated by autonomous motivation. Furthermore, high school program was not found to be a significant moderator of the relationships. The tested model explained about 30% of the agentic engagement variance. The findings suggest the teachers should aim to encourage students' autonomy if they want them to be actively involved in class.*

**Keywords:** *self-determination theory; agentic engagement; autonomy-supportive teaching; autonomous motivation; high school students*

## Introduction

Agentic engagement is a relatively new construct introduced by Reeve and Tseng (2011) within the framework of the self-determination theory. It refers to the type of school engagement in which students constructively contribute to the flow of a

class (Reeve, 2013; Reeve & Shin, 2020; Reeve & Tseng, 2011). Specifically, it encompasses behaviors such as providing feedback to the teacher, asking questions that help students in following the class, requesting additional explanations and materials from the teacher, and expressing preferences and goals associated to the class material.

Agentic engagement has been added to the prevailing three-component model of engagement which differentiates between cognitive, emotional and behavioral engagement (Reschly & Christenson, 2012). Cognitive engagement means that students are using deep learning strategies, emotional engagement that they feel positive rather than negative emotions when studying, while behavioral engagement concerns students being active during the class (Fredricks et al., 2004; Reeve, 2012; Reeve, 2013; Skinner et al., 2009). Unlike the other types of engagement, agentic engagement describes students' initiative to create a better class environment (Reeve, 2013; Reeve & Shin, 2020). For instance, students who have high behavioral engagement follow the class with full attention; however, they do not request further help from the teacher, meaning they are passively involved in the class. Students high on agentic engagement, on the other hand, request additional support from teacher if needed, making their actions proactive. Therefore, agentic engagement might be crucial for students' academic outcomes, as well as for their well-being during class. Although agentic engagement is still relatively poorly researched (Jang et al., 2016), studies have associated it with greater need satisfaction, more autonomous motivation, other types of engagement and greater achievement (Mameli & Passini, 2017, 2018; Reeve, 2013; Reeve, Cheon & Jang, 2020; Reeve & Tseng, 2011). Since agentic engagement could be highly beneficial for students, it is important to inspect factors that could encourage it.

### **Autonomy-supportive teaching**

A predictor that research has frequently associated with engagement is teacher's autonomy support (Cheon et al., 2016; Cheon et al., 2019; Núñez & León, 2018; Reeve et al., 2020). Autonomy-supportive teaching is a teaching style in which educators try to take students' perspective and offer them choice (Hagger & Chatzisarantis, 2015; Reeve & Cheon, 2021). In other words, they take into consideration students' interests, give students the ability to make decisions, provide explanation why it is important to do a certain task,

use inviting rather than commanding language etc. Such behaviors incentivize students to show agentic engagement since students trust their teacher will accept and be responsive to their suggestions. However, the research that associates agentic engagement and autonomy-supportive teaching is still somewhat scarce. Moreover, researchers often summarize results of different types of engagement into one result, so it is unclear which type is most prominently associated to teachers' autonomy support (e.g., Cheon et al., 2016; Cheon et al., 2019). Thus, there is a need to further investigate this relationship. Additionally, studies failed to examine potential underlying mechanisms that could explain the relationship.

### **Autonomous motivation**

A possible mediator of the relationship between autonomy-supportive teaching and agentic engagement is autonomous motivation. Autonomous motivation is a type of motivation in which the person engages in an activity because they deem it important, or because they enjoy doing it (Hagger & Chatzisarantis, 2015). It is found to be associated with many favorable academic and personal outcomes, such as higher achievement, effort, well-being, greater self-esteem etc. (Howard et al., 2021). Although there is substantial evidence of autonomy-supportive teaching encouraging autonomous motivation (Bureau et al., 2021), the relationship between motivation and agentic engagement has not yet been thoroughly researched (Reeve, 2013). Students who are autonomously motivated, i.e. interested in the class, are probably eager for the class to be of a higher quality. One way for students to achieve that is to direct their teacher to make the class more suited to their needs and preferences. Therefore, autonomous motivation could lead to students' agentic engagement.

However, some students might need more support in becoming motivated and engaged than others. Students who are already academically successful and are highly encouraged in school activities would probably be involved in school no matter if their teacher is autonomy-supportive. This idea is

supported by research demonstrating that autonomy support has a greater impact on students with less autonomous motivation (Black & Deci, 2000). Hence, when researching the relationship between teaching style, motivation and engagement, it is also important to consider contextual differences between groups of students included. In the Croatian context, the high school program that students attend plays a very important distinguishing factor between them. Students can choose either a gymnasium, a general education track that prepares them for higher education, or a vocational school that prepares them for a certain profession. Students who choose to attend vocational schools have been shown to have less academic success and academic self-efficacy, as well as limited parental support compared to students who choose to attend gymnasium (Šabić et al., 2020). Hence, they might need more encouragement from their teachers to develop an interest in school activities and to participate in them. Therefore, in line with previous findings about the impact of autonomy-supportive teaching, it could be expected that vocational school students might profit more from autonomy-supportive teachers than gymnasium students.

### Present study

The aim of the present study is to investigate the relationship between autonomy-supportive teaching and agentic engagement, as well as the possible mediating role of autonomous motivation in that relationship. Additionally, the study will examine the moderating role of high school program in the relationship that autonomy support has with autonomous motivation and agentic engagement (Figure 1). It is hypothesized that autonomy-supportive teaching will be positively associated with agentic engagement, and that that relationship will be partially mediated by autonomous motivation. Furthermore, it is presumed that positive associations which autonomy-supportive teaching has with autonomous motivation and agentic engagement will be stronger for the students attending vocational school program, compared to the students who attend gymnasiums.

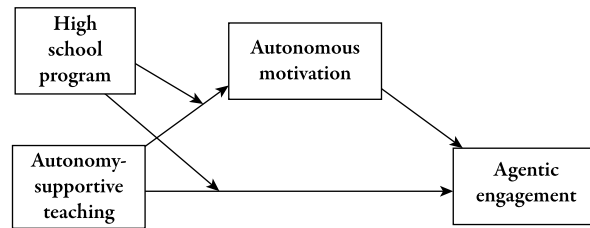


Figure 1. The hypothesized model

## Method

### Participants

The participants in the study were 327 high school students (74.3% girls) from Zagreb and Karlovac. Most of the students attended a gymnasium high school program (74%), while the rest attended a vocational school, specifically, an administration vocational training program. The mean age of the participants was 16.58 years ( $SD = 1.151$ ). They were equally distributed by the grade they attended: 15.3% attending the first grade, 29.4% the second, 28.7% the third and 26.6% the fourth grade. The participants' mean GPA was 4.38, with the minimum GPA in the group being 3.00 and the maximum 5.00.

### Procedure

The research was conducted as part of a pilot study within the project *Free Career Choice*, financed by the Croatian Science Foundation. The researchers recruited the participants by contacting schools. The participants who have consented to participate in the study were sent a link with the study survey by their teachers, or have participated in a group administration of the online survey conducted by their teachers.

### Measures

**Autonomy-supportive teaching.** Teachers' autonomy support was measured with the *Learning Climate Questionnaire* (Williams & Deci, 1996; Sviben, 2006). The questionnaire is comprised of six items referring to the teachers in the students' school in general rather than to a specific teacher. The participants marked their agreement with each

of the items on a Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). An example of an item is: “My teachers listen to how I would like to do things”.

**Autonomous motivation.** Students’ autonomous motivation was assessed using two subscales of the *Multidimensional School Motivational Scale* (adapted from Gagné et al., 2015). The used subscales measured identified motivation with three items (e.g., “I learn because I believe that a person should be well-educated”), and intrinsic motivation with three items (e.g., “I learn because it is interesting”). The participants marked their agreement with each of the items on a Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree).

**Agentic engagement.** Students’ agentic engagement was measured using the revised version of the *Agentic Engagement scale* (Tseng & Reeve, 2011; Reeve, 2013). The questionnaire is comprised of five items to which participants mark their agreement using a Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). An example of the item is: “During class, I ask questions to help me learn”.

**High school program.** Students’ high school program was coded with 1 for students who attended gymnasiums and 0 for students who attended the vocational school.

## Results

The analyses were conducted using the IBM SPSS Statistic version 26, with the addition of the Hayes’ Process Macro version 4.0 (Hayes, 2018).

Table 1 presents means, standard deviations and reliabilities of each questionnaire. The analysis showed that all the used scales had high internal consistency.

**Table 1.** Descriptive statistics ( $N = 327$ )

	<i>M</i>	<i>SD</i>	$\alpha$
Autonomy-supportive teaching	4.083	1.385	.903
Autonomous motivation	3.041	0.815	.803
Agentic engagement	4.082	1.567	.901

Firstly, bivariate Pearson correlations were calculated between the variables included in the model that will be tested (Table 2).

**Table 2.** Correlation matrix ( $N = 327$ )

	2	3	4
1 Autonomy-supportive teaching	.372**	.424**	.078
2 Autonomous motivation	-	.486**	.154**
3 Agentic engagement		-	.113*
4 High school program			-

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

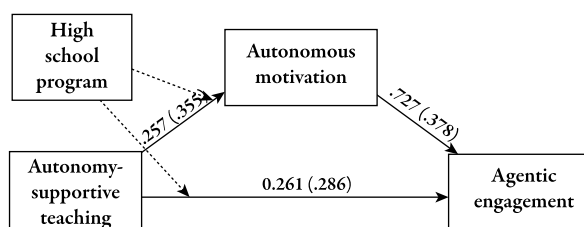
The results show that all variables were positively associated, except for high school program not being associated to the amount of autonomy-supportive teaching. The correlations were small- to medium-sized.

After it was concluded that the variables are correlated, the hypothesized moderated-mediation model was tested (Figure 2). The tested model corresponds to the Model 8 in the Hayes’ Process Macro (Hayes, 2018). It was tested using 5000 bootstrap sampling with 95% confidence intervals, meaning that if the intervals acquired from the analysis do not contain zero, it can be claimed that the effect is significant with 95% confidence. The proposed model was partly confirmed, and it was able to explain 30.68% of the variance of agentic engagement.

The hypothesis that autonomy-supportive teaching will be positively associated with agentic engagement, and that the relationship will be partly mediated by autonomous motivation was confirmed. Autonomy-supportive teaching was positively associated with agentic engagement directly ( $b = 0.261$ ;  $CI = [0.0726-0.4502]$ ;  $p < .05$ ). It was also positively associated to autonomous motivation of the students ( $b = 0.257$ ;  $CI = [0.1523-0.3611]$ ;  $p < .05$ ), which was then positively correlated to agentic engagement ( $b = 0.727$ ;  $CI = [0.5361-0.9185]$ ;  $p < .05$ ). Both indirect conditional effects were significant. There was a significant indirect pathway between autonomy support and agentic engagement via autonomous motivation for the gymnasium students ( $b = 0.140$ ;  $CI = [0.0755-0.2127]$ ;  $p < .05$ ), as well as

for the vocational school students ( $b = 0.187$ ;  $CI = [0.0878-0.2908]$ ;  $p < .05$ ).

However, the hypotheses about the moderating effects of high school program were not confirmed. High school program moderated neither the relationship between teachers' autonomy support and agentic engagement ( $index = -0.0832$ ;  $CI = [-0.1388-0.3051]$ ;  $p > .05$ ) nor the relationship between teachers' autonomy support and autonomous motivation ( $index = -0.065$ ;  $CI = [-0.1918-0.0619]$ ;  $p > .05$ ). The index of the moderated mediation was statistically non-significant as well ( $index = -0.0472$ ;  $CI = [-0.1506-0.0610]$ ;  $p > .05$ ).



**Figure 2.** The results of the moderated-mediation regression analysis ( $N = 327$ )

**Note.** The regression coefficients in the parenthesis are standardized

## Discussion

The aim of the present study was to investigate the relationship between autonomy-supportive teaching and agentic engagement, as well as the possible mediating role of autonomous motivation in that relationship. Additionally, the study examined the moderating role of high school program in the relationship that autonomy support has with autonomous motivation and agentic engagement.

The analysis showed that teachers' autonomy support positively predicted agentic engagement directly and via greater autonomous motivation. The results showing the association between teachers' support and agentic engagement are in line with some previous studies (Cheon et al., 2016; Cheon et al., 2019; Núñez & León, 2018; Reeve et al., 2020). When students see that their teacher is willing to incorporate their interests and needs into their teaching, they are more likely

to voice them on their own. An additional mechanism for this association that was explored in this study was students' autonomous motivation. While numerous studies demonstrated that autonomy-supportive teaching incentivizes autonomous motivation (Bureau et al., 2021), not much is known about the relationship of autonomous motivation and agentic engagement (Reeve, 2013). The analysis has shown that autonomous motivation has a mediating role in the relationship between autonomy support and agentic engagement. When students are autonomously motivated, they have an intrinsic need to learn about the matter presented in the class and, therefore, ask additional questions, give teacher feedback, or influence the class in any other way that could help them learn more. The results indicate that autonomy-supportive teaching can, through two described pathways, explain about 30% of agentic engagement variance, highlighting its importance in encouraging students' engagement.

In a practical sense, these findings suggest that teachers should aim to adopt an autonomy-supportive style. However, this is not an easy task for teachers, either because of the wrongful belief that providing students choice will lead to them not learning enough, or because of the pressures arising from demanding curricula, parents, headmasters and administration (Ryan & Deci, 2020; Wakefield, 2016). Hence, it would be important to provide teachers with effective autonomy-support interventions (e.g., Cheon et al. 2016; Cheon et al., 2019) and make changes in the educational system that would allow them to implement such teaching style.

Another hypothesis that was tested in this study was the potential moderating role of high school programs in the relationship that autonomy support has with motivation and engagement. It was hypothesized that for the students who attend vocational schools, the relationships might be stronger, since they are often students who are less interested in school and have less support. Therefore, support for their teacher might be important in sparking motivation and interest, which gymnasium students are able to gain from other sources such as parents,

or from previous positive experience with school. This notion is supported by some previous research which showed that autonomy-supportive teaching had a greater impact on students with less autonomous motivation (Williams & Deci, 1996). However, the analysis did not confirm the moderating role of high school program. This finding would imply that teachers' support is equally important for students no matter the program they attend, emphasizing the importance of autonomy-supportive teaching for all groups of students.

Nevertheless, two important methodological drawbacks of this study should be considered when evaluating the results and the practical implications of this research. Firstly, the sample used in this study was a convenience sample that consisted mostly of gymnasium students and students from one of the better vocational schools. Therefore, it would not be justified to generalize the conclusions to students who have lower grades or attend less academically demanding vocational programs. This issue also casts doubt on the finding that the school program has no moderating role in the relationship that autonomy-supportive teaching has with autonomous motivation and engagement. It is possible that students who attend the vocational school included in the sample are not representative of vocational school students in general, since they attend a more demanding program and generally have higher grades, although Šabić and colleagues (2020) found that even students attending four-year vocational programs, such as the one included in our study, still had worse academic outcomes than gymnasium students. Nevertheless, future studies that inspect the role of high school programs should aim to include more vocational schools, such as academically less demanding three-year vocational schools. Secondly, the study had a cross-sectional design, meaning that we cannot confidently claim causality or casual order between the measured variables. In other words, it is possible that the tested effects have a different direction or are reciprocal. It is likely that students who display agentic engagement incentivize their teachers to be more autonomy-supportive. Teachers have the information about what students ex-

pect from the class, and feel that their students show responsibility and motivation, which in turn ensures them that they can provide students with more choice. Some studies have already suggested or confirmed that agentic engagement can encourage teachers' autonomy support (Jang et al., 2012; Reeve, 2013; Reeve & Shin, 2020). Hence, future studies should aim to have a longitudinal design which would enable the examination of causal order of variables and reciprocal relationships between them.

## Conclusion

The aim of this study was to examine the relationship between the autonomy-supportive teaching style and students' agentic engagement, as well as the possible mediating role of students' autonomous motivation and the moderating role of the high school program that students attend. The results indicate there is a positive association between teachers' autonomy support and students' agentic engagement, which was partially mediated by students' higher levels of autonomous motivation. Furthermore, the analysis indicated that high school programs did not have a moderating role in the relationship which autonomy support has with either motivation or engagement. The overall model was able to explain 30% of the variance of agentic engagement. The results indicate that teachers should aim to provide students with choice, and ensure they can take students' perspective while teaching. Future studies should confirm the finding on a more diverse sample by employing a longitudinal design.

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