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The academic climate and student-teacher relationship as determinants of academic motivation

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ABSTRACT

In this study we focus on the university students and the factors that influence their academic motivation. The participants were 202 students from different universities and specializations, 167 females and 35 males, aged 18-31 years, M = 21.33, SD = 2.15. We used Perceived Academic Climate Scale (Felner, 1993), Teacher-Student Relationship Scale (Brinkworth et al., 2018), and Academic Motivation Scale (Vallerand et al., 1992). Our objective was to identify the relationship between academic climate, teacher-student reltionship (TSR), and academic motivation in the university environment, and to investigate the influence of the career anxiety on the academic motivation of students. The results show that anxiety reagarding future career can moderate the relationship between tschool climate and academic amotivation and also between TSR and academic motovation.

Keywords: *academic motivation,   academic climate, teacher-student relationships*

1. INTRODUCTION

It is known that there is a close link between the way students perceive the school climate, the relationship they have with the teachers and their academic motivation. But most research on the correlation between these variables targets the pre-university environment. Numerous studies are based on the idea that children form meaningful relationships with at least one adult outside the family, most often with a teacher, who can be seen as a role model (Beutel, 2010). But a positive academic climate and a positive relationship with the teachers can have a significant impact on motivation even at older ages, among university students. In the present study, we aim, therefore, to turn our attention to adult students, when another variable may interfere in the correlation established between the other three: career anxiety, which now reaches its highest level (Vignoli, 2015; Vignoli et al., 2005).

Academic climate

The educational environment is not only a place where students acquire knowledge and information according to a curriculum, but also provides them with opportunities to interact with other people, such as colleagues and teachers (Aruta et al., 2019; Košir & Tement, 2014), which contributes to the development of their social skills and a sense of personal autonomy (Zullig et al., 2018). Therefore, there are at least two types of relationships that influence students' perceptions of the academic climate: the relationship with the peer group and the relationship with authority, represented in this case by teachers, each of which can have an influence on the other.

The academic climate is a broad, multidimensional construct (Dorio et al., 2019; Gustafsson & Nilsen, 2016; Lewno-Dumdie et al., 2019; Suldo et al., 2012; Zullig et al., 2018). The authors of a recent study propose the following definition, which brings together the main defining dimensions: the school climate is composed of affective and cognitive perceptions of social interactions, relationships, safety, values and beliefs held by students, teachers and administrative staff in a school (Rudasill et al., 2018).

Most previous studies were focused on the school climate in pre-university institutions and have defined it in six dimensions, namely resource sharing, order and discipline, parental involvement, school building appearance, student interpersonal relationships and student-teacher relationships (Suldo et al., 2012).

Other more recent research has found that in order to measure and conceptualize the academic climate, only three dimensions are needed, namely collective effectiveness, the institution's trust in parents and students and the academic emphasis. All these 3 dimensions were grouped in a single variable called academic optimism (Gustafsson & Nilsen, 2016). Other studies address the conditions that promote successful academic results, social relations between teachers and students, the facilities of the institution and the school connection as defining dimensions of the academic climate (Zullig et al., 2018).

In this study we will address a conceptualization of the academic climate in four dimensions, namely teacher support, peer support, student autonomy and clarity and consistency of rules, as perceived by students. The focus is to assess students' perceptions because it has been found that their perceptions of climate influence their behavior to a greater extent than objective reality (Corkin et al., 2017). Regarding the support of the peer group, both affiliation (positive relationships with colleagues) and negative interactions with the peer group will be considered. Similarly, the clarity and consistency of the rules also includes two other dimensions of the academic climate, the organization of the school and the perceived harshness in the school environment, understood as a perception of clarity, consistency and fairness, as values promoted in that environment.

The teacher-student relationship (TSR)

Among the many factors that contribute to the results obtained in education, few have proven to be as important as the teacher (Hill & Jones, 2018). The quality of relationships between teachers and students is evaluated in the literature based on their perceptions of closeness (through relationships involving connection, warmth or openness) and the conflict (seen as negativity or lack of mutual understanding) that they experience in their relationship (Corbin et al., 2019). TSR is a construct that is defined starting from at least two essential dimensions: affectivity and support (Hagenauer et al., 2015). Support is especially characteristic for the professional relationship between them (when students and teachers contribute together to a favorable learning environment), while the affective dimension is better illustrated in the interpersonal relationship that forms between teachers and students, reflecting the degree of affiliation by creating warm and trusting relationships (Hagenauer et al., 2015).

These observations are based on the Attachment Theory proposed by Bowlby (1980, cited in Hughes & Cao, 2018), a theory that provides a starting point for understanding the associations between TSR and students' academic outcomes (Hernández et al., 2017), and can explain the positive effect that a positive TSR has on teachers' emotional support, which promotes a sense of security, self-confidence and a desire to get involved and learn more, and at the same time helps them to deal more effectively with academic and social stressors (Hernández et al., 2017; Hughes & Cao, 2018).

TSR is a multidimensional construct (Hagenauer et al., 2015), seen as a type of social and learning interaction that repeats and changes continuously based on the feedback received, being constantly associated with distinct academic, affective, behavioral, and motivational results for students (Brinkworth et al., 2018). In this study the teacher-student relationship is conceptualized in terms of conflict or closeness to teachers, control or support for student autonomy and competence. Positive or negative relationships with teachers are described only from the perspective of students, which is essential for the purpose of this study.

Academic motivation

Academic motivation is considered to be one of the most significant psychological constructs involved in education and learning process (Alt, 2015b; Mizuno et al., 2011) and an important predictor of academic performance (Alt, 2015b; López-Fernández et al., 2019; Smith et al., 2020; Willems et al., 2019; Wouters et al., 2016; Zeynali et al., 2019). Academic motivation refers to stimulating students to learn effectively (Datu & Yang, 2019) and can be defined as the tendency of a student to engage in meaningful and valuable

academic activities and to try to achieve the academic results that he targeted (Zeynali et al., 2019). Previous research has demonstrated the importance of students' academic motivation from the first year of higher education (Noyens et al., 2019).

A distinction must therefore be made between different types of academic motivation. Thus, we distinguish between autonomous motivation, which involves the study of a personal interest (intrinsic regulation), and controlled motivation, which involves the existence of external sources of motivation (external regulation) or a desire to rise to the expectations of others (introjected regulation) (Tang et al., 2018; Willems et al., 2019).

One of the most important theories of motivation as a predictor of academic performance, but also of well-being (Reid et al., 2019) is the Self-Determination Theory (SDT), formulated by Deci and Ryan in 1985 (1985, cited in Alt, 2015b; Clark & Schroth, 2010; Noyens et al., 2019; Smith et al., 2020). Unlike previous theories, which present a structure of motivation with two factors: motivated behavior and lack of motivation, the theory of self-determination proposes a more complete understanding of the concept and argues that in the case of motivated behavior we can talk about two other motivating factors: intrinsic motivation and extrinsic motivation (Alt, 2015a; Clark & Schroth, 2010; Joe et al., 2017; Kindelberger et al., 2019; Öz, 2016; Smith et al., 2020). The authors of this theory consider that for each individual the behavior is determined by a combination of the two types of motivations, intrinsic and extrinsic (Henderson-King & Smith, 2006).

This theory proposes three "basic psychological needs", essential for maintaining general psychological well-being, namely autonomy, relatedness and competence, and emphasizes their role in improving academic motivation (Shim-Pelayo & De Pedro, 2018). Meeting the three basic needs in academia is essential for the students to reach their highest academic potential (Shim-Pelayo & De Pedro, 2018) and can lead to increased intrinsic motivation and improved academic life (Datu & Yang, 2019).

It has been observed that students rarely show only one type of motivation, but rather they are motivated in the learning process either intrinsically or extrinsically, or even amotivated, depending on the context or personality of the student (Alt, 2015a; Clark & Schroth, 2010; McGeown et al., 2014). The degree to which students are intrinsically or extrinsically motivated to engage in academic activities has an influence on how they relate to the educational context (Henderson-King & Smith, 2006). There are studies that make a clear distinction between the two types of motivation, considering that when extrinsic motivation is stimulated, intrinsic motivation decreases and vice versa (Schiffrin & Liss, 2017). However, other authors find a mutually supportive relationship between the two types of motivation, so that when students have minimal motivation to engage in

a task, using strategies that initially motivate them extrinsically can encourage further development of intrinsic motivation to task (Islam & Chakrabarty, 2020), indicating that extrinsic motivation can turn into intrinsic motivation in a supportive environment (Liang et al., 2018).

According to the SDT, intrinsic and extrinsic motivation depend on a number of factors on a continuum between internal and external and present different causal places in terms of involvement in learning (McGeown et al., 2014). Intrinsic motivation refers to internal factors, such as enthusiasm and interest, pleasure and curiosity experienced while the person engages in an academic activity. Students who engage in intrinsically motivated behaviors internalize their motives for executing a behavior and thus gain an increased level of self-determination (Smith et al., 2020). Within the intrinsic motivation, three subtypes can be distinguished, namely the intrinsic motivation to know, to accomplish things, and to experience stimulation produced by pleasant activities (Öz, 2016; Smith et al., 2020).

The authors of the SDT argue that people begin their lives with high levels of intrinsic motivation, but as they experience failure their intrinsic motivation decreases, while extrinsic motivation and amotivation increase (McGeown et al., 2014; Smith et al., 2020). It is considered that people generally perform less intrinsically motivated activities than extrinsically motivated ones (Tang et al., 2018). Extrinsic motivation refers to involvement in learning due to external factors, such as obtaining a reward or recognition (Alt, 2015a; McGeown et al., 2014). In the case of extrinsic motivation, the SDT also distinguishes three subtypes, defined according to the degree of self-determination or autonomy given by external motives that have been internalized, namely external regulation, introjected regulation and identified regulation (Henderson-King & Smith, 2006; Maulana & Opdenakker, 2014; Tang et al., 2018).

Lastly, amotivation is defined as a lack of motivation or a general ambivalence towards an activity (Reid et al., 2019). The amotivated students perceive a lack of correspondence between their behavior and the results obtained and believe that their effort will not change the result, which is why they experience a feeling of incompetence and lack of control (Alt, 2015a; Smith et al., 2020). They usually feel detached from their work and precisely because they do not expect any intrinsic or extrinsic reward, there is a risk that their participation in the activity will eventually cease (Alt, 2015a). Recent studies propose a new term for the classic concept of amotivation, namely impersonal motivation. This label is generally associated with feelings of incompetence and even a state of learned helplessness, which is why impersonal motivation is the most problematic form of motivation for students, which prevents them from successfully adapting to the educational environment and

puts them at risk of dropping out of school (Kindelberger et al., 2019).

In this research the academic motivation is conceptualized according to the description proposed in the SDT and we distinguish between intrinsic motivation, extrinsic motivation and amotivation. The intrinsic motivation will take into account all its three dimensions, namely the motivation to know, to accomplish things, and to experience stimulation. Similarly, a distinction will be made between external regulation, introjected regulation and identified regulation, as basic dimensions of extrinsic motivation.

Anxiety

Anxiety is one of the factors that influence how students relate to their future careers. Previous research has suggested that after entering university, young people face a range of challenges, from the need to adapt to a new lifestyle, developing new social relationships with colleagues and faculty staff, to academic pressures and related thoughts concerning the future (Koydemir et al., 2010). Anxiety about the future is one of the biggest difficulties at this age. Students frequently report the appearance of thoughts about what will happen after graduation, in their future career, respectively if they will be able or not to find a job (Koydemir et al., 2010).

It is known that anxiety can be characterized by terms such as fear, panic, tension and worry (Singhal, 2015). The complex nature and negative consequences of anxiety have led many researchers to focus primarily on its specific sources (Singhal, 2015). Thus, it is considered that the main source of career anxiety is the student's anticipation of failure both academically and in the future career (Pouyaud et al., 2012). Career anxiety increases progressively, reaching the highest level in adolescence and early youth (Vignoli, 2015; Vignoli et al., 2005). During this period, at least three different forms of career anxiety were identified: fear of failing in academic or professional career, fear that parents may be disappointed of the chosen career, and fear of moving away from family and intimate relationships as a consequence of work or academic requirements (Vignoli et al., 2005).

Anxiety towards the future career is described in this study through two dimensions: the anxiety towards the future, understood as the insecurity that students feel about their own future and their fear that they will not succeed in their future careers, and the anxiety caused by a competitive environment, or the way in which students perceive competitiveness both in the current academic environment and in the future career.

Academic climate and academic motivation

Numerous studies in the field of education note the link between academic motivation and academic climate (Browman & Destin, 2015; Byrd, 2015; Gao et al., 2019; Joe et al., 2017; Myers & Rocca, 2001; Ryabov, 2015; Scherer & Nilsen, 2016). The academic climate plays a significant role in what actually happens in the learning process and in the way students and teachers think and behave in this context (Joe et al., 2017). Recent research had shown that students feel more motivated and experience higher levels of well-being, as well as better learning outcomes, when their socio-emotional needs are met through the academic climate (Emadpoor et al., 2016; Ryabov, 2015; Scherer & Nilsen, 2016). A social environment in which basic individual needs are met will facilitate motivation, while environmental factors that prevent the expression of these needs endanger student satisfaction and lead to the emergence of academic amotivation (Shen, 2015).

Although the existence of a causal relationship between motivation and the academic climate has not been established with certainty (Scherer & Nilsen, 2016), the correlation between these two constructs cannot be denied. According to the SDT cited above, there are several types of motivation. Of these, intrinsic motivation is a determining factor in student well-being and is the one that most correlates with a positive academic climate (Emadpoor et al., 2016), in which students are offered clear expectations, emotional support to achieve personal goals and to pursue their interests (Gao et al., 2019), empathy and attention in a consistent manner from colleagues and, especially, teachers (Ryabov, 2015). On the other hand, motivation is reduced when environmental conditions prevent the satisfaction of basic personal needs of students (Emadpoor et al., 2016), respectively the need for autonomy, relatedness and competence. Therefore, the most significant aspect of the academic climate, cited by the literature, is represented by students' perception of their interpersonal relationships - with teachers and colleagues - or other group processes that exist in the educational context of the classroom, but also of the educational institution (Hughes & Cao, 2018; Joe et al., 2017; Ryabov, 2015).

Anxiety and academic motivation

Although by far less numerous, studies that aim to investigate the relationship between academic motivation and anxiety towards students' future careers have found a link between the two variables. A study in which the authors sought to understand the extent to which anxiety and motivation affect the learning of a foreign language in students suggests the existence of a negative correlation between these constructs, meaning that students who are highly motivated have a very low level of anxiety (Kirova et al., 2012).

There is a strong positive correlation between intrinsic motivation and professional identity, which assumes that students who establish a professional identity are more intrinsically motivated (Wasityastuti et al., 2018) and worry

less about the future. Although it is generally considered that students with a high level of anxiety, including after choosing a career, tend to be less motivated, research does not reach a consensus regarding this relationship between anxiety and academic motivation. A recent study shows that a high level of motivation is not necessarily associated with a low level of anxiety (Miles et al., 2018).

TSR and academic motivation

Researchers have found significant associations between a positive TSR and educational outcomes such as academic performance, self-efficacy, and student behavior, and also a significant correlation with academic motivation (Elledge et al., 2016; Mikk et al., 2016). It is known that good relationships between teachers and students facilitate not only their learning and motivation (Lavy & Bocker, 2018; Mikk et al., 2016), but also the beliefs, values, attitudes and involvement of students in the educational process, these relationships being the basis for moral education and development students (Lavy & Bocker, 2018). To increase students' motivation, it is important for teachers to promote classroom autonomy by stimulating understanding and interest in academic activities, giving them opportunities to choose what and how they want to learn, and encouraging self-expression (Goudas et al., 2000).

According to the SDT, the interactions between teachers and students are the main mechanism of development and learning in school. There are three areas that can be delimited: emotional support, class organization and instructional support (Durksen et al., 2017). Teachers who provide support meet the needs of students and help them contribute to increase their motivation, resulting in greater efforts invested in study and involvement in school (Durksen et al., 2017; Lavy & Bocker, 2018). Negative teacher-student relationships and conflict between them may be associated with lower academic motivation (Lavy & Bocker, 2018).

Taking into account the above, we establish the first hypothesis of the present study.

H1: *Anxiety regarding the future career moderates the relationship between TSR and academic motivation.*

Academic climate, TSR, anxiety and academic motivation

There are previous studies which claim that students' motivation depends in part on their relationships with the teachers, but also on the perceived academic climate (Barile et al., 2012; Durksen et al., 2017; Leroy et al., 2007; Ricard & Pelletier, 2016). Two of the most important factors that can contribute to a better adaptation to university life are, in fact, social relations, especially peer-to-peer, and the academic motivation of students (Noyens et al., 2019). SDT identifies teacher-student interactions as an intrinsic motivating factor that contributes to a positive academic climate (Durksen et al., 2017).

Recent research reveals that perceptions of the academic climate and a positive TSR, embodied in teachers' support, including feedback, respectful treatment and active work against bullying, can promote an optimistic future orientation for the students (Alm et al., 2019). In addition to these factors, the way students relate to their own future can be associated with high educational aspirations and the desire to occupy a good position in the labor market, which leads to a high level of academic motivation and a better performance (Alm et al., 2019).

Taking into account the above, we establish the second hypothesis of our study:

H2: *Anxiety regarding future career moderates the relationship between perceived academic climate and academic motivation.*

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2. METHODOLOGY

Participants and procedure

The participants were selected on a voluntary basis. The inclusion criteria was to be currently students at one of the faculties we considered for this study. Four faculties were chosen, from four different fields of study, namely the Faculty of Psychology and Educational Sciences (66 participants) and the Faculty of Foreign Languages and Literatures (47) from the University of Bucharest, the Faculty of Automatics and Computers from the Polytechnic University of Bucharest (25) and the Faculty of Medicine from the "Carol Davila" University of Medicine and Pharmacy of Bucharest (64).

In this study participated 202 students aged between 18 and 31 years, M = 21.33, SD = 2.15. Of these, 167 are female (82.67%) and 35 male (17.33%). Participants were asked to fill out an online form, which was made available to them through the social networking platform Facebook. At the beginning of the form, they were given a brief presentation of the study, without explicitly specifying its purpose, so as not to influence the sincerity of the answers provided and were asked for consent to process personal data in order to conduct this study through informed consent. They were also told that their participation in the research was voluntary, that they did not involve any risk and that they could withdraw at any time.

The data collected from the four groups of participants were subsequently statistically processed using SPSS statistical software (SPSS Inc. Statistics for Windows, Version 17.0. Chicago. Released 2008) and medmod module of Jamovi (The jamovi project, 2019).

Instruments

The academic climate. For the measurement of the academic climate, we used the Perceived School Climate Script (PSCS; Felner, 1993), adapted for the university environment. The instrument consists in 31 items grouped on four scales, and each of them assess an aspect of the academic climate: teacher support, peer support, student autonomy and clarity and consistency of rules. The answers are given on a five-step Likert scale, where 1 - not at all and 5 - very often.

TSR. We used the Teacher-Student Relationship Scale questionnaire (Brinkworth et al., 2018). Because this study was primarily concerned with students' perceptions of the relationship with teachers, only the 14 items addressed to students were used. The answers are given on a five-step Likert scale, where 1 - not at all and 5 - very often.

Academic motivation. Academic Motivation Scale - College Version, AMS-C 28 (Vallerand et al., 1992) was used to measure academic motivation. Participants are asked to answer the 28 items of the instrument following the initial instructions, meaning to indicate to what extent the situations presented in the questionnaire correspond to the reasons why they chose to follow the courses of a faculty. The items are distributed on the three scales: intrinsic motivation, extrinsic motivation and amotivation. The answers are given on a seven-step Likert scale, where 1 - does not correspond at all and 7 - corresponds exactly.

Anxiety. The Anxiety Scale for Undergraduate Students was used to measure this variable (Singhal, 2015). Because the present study considers the career anxiety, only two scales of the questionnaire were applied, respectively Worry about the future, which includes 10 items and Competitive environment, which has of 12 items. The answers are given on a five-step Likert scale, where 1 - not at all and 5 - very often.

3. RESULTS

Table 1. *Descriptive statistics*

	M	AS	α	A1	A2	At	TSR	MI	ME	AM	C1	C2	C3	C4	C5	C6	Ct
A1	33.64	10.24	.93	1													
A2	31.77	9.30	.83	.78**	1												
At	65.41	18.40	.93	.95**	.96**	1											
TSR	47.13	10.42	.92	-.22**	-.24**	-.24**	1										
MI	60.21	16.78	.95	-.13	-.24**	-.19**	.43**	1									
ME	61.84	13.07	.83	.14	.07	.19	.28**	.53**	1								
AM	7.34	4.99	.85	.38**	.45**	.42**	-.47**	-.57**	-.34**	1							
C1	16.30	4.68	.83	-.18*	-.16*	-.18**	.77**	.39**	.35**	-.40**	1						
C2	12.56	5.71	.94	.20**	.19**	.21**	-.38**	.03	-.06	.10	-.31**	1					
C3	15.34	4.39	.87	-.19**	-.12	-.16*	.38**	.19**	.26**	-.17*	.45**	-.47**	1				
C4	12.77	4.47	.84	-.23**	-.17*	-.21**	.56**	.18*	.12	-.23**	.55**	-.34**	.37**	1			
C5	10.83	4.26	.86	.14	.16*	.16*	-.44**	-.11	-.05	.24**	-.44**	.30**	-.14*	-.26**	1		
C6	18.24	3.59	.75	-.03	.02	-.01	.24**	.19**	.20**	-.14*	.15*	-.12	.19**	.20**	.31**	1	
Ct	99.26	17.26	.91	-.26**	-.22**	-.25**	.73**	.26**	.26**	-.33**	.77**	-.72**	.70**	.72**	-.50**	.31**	1

** p < .01, * p < .05

A1 – Career anxiety, A2 – Competition anxiety, At – General anxiety, TSR – Teacher-student relationship, MI – Intrinsic motivation, ME – extrinsic motivation, AM – amotivation, C1 – Academic climate – teacher perceptions, C2 – Academic climate – negative peer interactions, C3 – Academic climate – group affiliation, C4 – Academic climate – freedom to make decisions, C5 – Academic climate – faculty coldness, C6 – Academic climate – rules' clarity, Ct – Academic climat – toal.

Hypotheses testing

H1: Anxiety regarding the future career moderates the relationship between TSR and academic motivation.

To test this hypothesis, a series of moderation analyzes were performed.

Table 2. *Moderation estimates for career anxiety in relationship between TSR and intrinsic motivation*

	Estimate	SE	95% CI Min	95% CI Max	Z	p
TSR_total	.61	.10	.40	.81	5.85	.00
anx_total	-.08	.06	-.19	.03	-1.40	.16
TSR_total ✻ anx_total	.01	.01	-.01	.02	1.92	.06

Table 2. *Moderation estimates for anxiety in the relationship between TSR and extrinsic motivation*

	Estimate	SE	95% CI Min	95% CI Max	Z	p
TSR_total	.39	.08	.22	.55	4.56	.00
anx_total	.14	.05	.05	.23	2.94	.00
TSR_total ✻ anx_total	.01	.00	.00	.02	1.36	.18

Table 3. *Moderation estimates for anxiety in the relationship between TSR and amotivation*

	Estimate	SE	95% CI Min	95% CI Max	Z	p
TSR_total	-.17	.03	-.23	-.12	-6.06	.00
anx_total	.08	.02	.05	.12	5.43	.00
TSR_total ✻ anx_total	-.01	.01	-.02	-.01	-2.58	.01

Table 4. *Relationship between TSR and amotivation for different values of anxiety*

	Estimate	SE	95% CI Min	95% CI Max	Z	p
Average	-.17	.03	-.23	-.11	-5.96	.00
Low (-1SD)	-.10	.04	-.19	-.01	-2.19	.03
High (+1SD)	-.24	.04	-.31	-.17	-6.84	.00

The results show that anxiety fails to moderate the relationship between TSR and intrinsic motivation, respectively extrinsic motivation. The moderation estimates are statistically insignificant in both situations, but anxiety moderates the relationship between TSR and amotivation, with a moderation estimate of -.01, CI (-. 02, -. 01), z = -2.58, p <.01. At a low level of anxiety the relationship is weaker, -.10, z = -2.19, p <.05, at a medium level of anxiety the estimate is -.17, z = -5.96, p <.01, and at a high level of anxiety the intensity of the relationship increases, the estimate being -.24, z = -6.84, p <.01.

H2: *Anxiety regarding future career moderates the relationship between perceived academic climate and academic motivation*.

To test this hypothesis, a series of moderation analyzes were performed.

Table 5. *Moderation estimates for anxiety in the relationship between academic climate and intrinsic motivation*

	Estimate	SE	95% CI Min	95% CI Max	Z	p
CA_total	.20	.07	.07	.33	3.06	.00
anx_total	-.13	.06	-.25	-.01	-2.06	.04
CA_total ✻ anx_total	.00	.00	.00	.01	1.14	.25

Table 6. *Moderation estimates for anxiety in the relationship between academic climate and extrinsic motivation*

| | Estimate | SE | 95% CI | | Z | p |
			Min	Max		
CA_total	.23	.05	.13	.33	4.48	.00
anx_total	.13	.05	.04	.22	2.80	.01
CA_total ✳ anx_total	.00	.00	.00	.01	0.73	.46

Table 7. *Moderation estimates for anxiety in the relationship between academic climate and amotivation*

| | Estimate | SE | 95% CI | | Z | p |
			Min	Max		
CA_total	-.06	.02	-.10	-.03	-3.60	.00
anx_total	.10	.02	.06	.13	5.79	.00
CA_total ✳ anx_total	.00	-.01	.00	-.01	-2.07	.04

Table 8. *Relationship between academic climate and amotivation for different values of anxiety*

| | Estimate | SE | 95% CI | | Z | p |
			Min	Max		
Average	-.06	.02	-.10	-.03	-3.56	.00
Low (-1SD)	-.03	.03	-.08	.03	-.99	.32
High (+1SD)	-.10	.02	-.15	-.06	-4.33	.00

It is observed that anxiety fails to moderate the relationship between perceived academic climate and intrinsic academic motivation, respectively extrinsic motivation, but moderates the relationship between perceived academic climate and amotivation, with a moderation estimate of .00, CI (.00, -. 01), z = -2.07, p <.05.

At an average level of anxiety the estimate is -.06, z = -3.56, p <.01, and at a high level of anxiety the intensity of the relationship increases, the estimate being -.10, z = -4.33, p <.01. However, it is observed that at a low level of anxiety the relationship is statistically insignificant, p >.05.. Moderation estimates are statistically insignificant.

4. DISCUSSION

The main objective of this study was to identify the relationship between the academic climate, TSR, anxiety, and academic motivation in the university environment. Recent research shows that students feel more motivated when their socio-emotional needs are met through the academic climate (Emadpoor et al., 2016; Ryabov, 2015; Scherer & Nilsen, 2016) and when they develop positive relationships with their teachers since the beginning (Scales et al., 2019). Negative teacher-student relationships and conflict between them may be associated with lower academic motivation (Lavy & Bocker, 2018). The results of the analysis support the fact that TSR and the way students

perceive the academic climate are significant predictors for all three facets of academic motivation.

We also aimed to identify the role that the anxiety towards the future career may have in regarding the relationship between TRS and academic motivation. We assumed that anxiety towards the future career moderates the relationship between TSR and academic motivation, on the one hand, and between academic climate and academic motivation, on the other. The results of the moderation analysis support the two hypotheses only partially. Thus, the anxiety towards the future career fails to moderate the relationship between TSR and the academic climate, respectively, and the intrinsic and extrinsic motivation, the

moderation estimates being insignificant. These results suggest that regardless of the level of anxiety felt by students, there is a close link between the relationship they have with teachers, and between how they perceive the academic climate, and their intrinsic or extrinsic motivation.

Instead, it was observed that the anxiety towards the future career is a significant moderator in the relationship between TSR and amotivation. It is observed that when they feel anxiety towards the future career, students tend to become more amotivated, although they enjoy good relationships with their teachers, which is one of the most important predictors of academic motivation. The anxiety towards the future career also significantly moderates the relationship between the perceived academic climate and amotivation. This assumes that, similar to the results of the previous hypothesis, when students feel increased anxiety about their future career their amotivation increases, although their perception of the academic climate is positive.

Therefore, the results obtained suggest that TSR and the perceived academic climate are significant predictors of students' academic motivation, regardless of the field of study. However, anxiety towards the future career can diminish the impact they have on students' motivation, contributing to an increase in amotivation.

Limitations and future research

It is important to note that certain limitations have been identified. A significant limitation is given by the rather difficult access to the participants and, therefore, by their rather low number. More specifically, there were quite large differences between the four groups in terms of the number of respondents. As this is a sample of convenience chosen on the basis of volunteering, it was difficult to ensure an equal number of participants from each of the four faculties, although statistical programs ensured that valid results were obtained even under these conditions. There was also an inequality between the number of female and male participants, with 167 female (82.67%) and 35 male (17.33%), and there was no equal representation between students from different years of study. However, neither the gender variable nor the study year were taken into account in the statistical analysis to verify the hypotheses, therefore it can be considered that this limit did not have a major impact on the study results.

Another limitation can be represented by the instruments used, which have undergone some modifications and adaptations in order to be applied to the chosen sample. One of these, the scale for the academic climate, was adapted to be applied at the university level, and the scales for TSR and the one for future anxiety were translated from English and then applied to a sample of Romanian students. However, the psychometric qualities of these instruments were verified and, following the statistical analysis, it was found that they properly measure the respective constructs.

One last limitation which may have had a significant impact is the fact that there is an incompatibility between the research topic (study of academic motivation) and the voluntary form of participation of the respondents.

Specifically, it is possible that students who have chosen to participate voluntarily are those who have a higher academic motivation, are involved in activities related to their faculty and are eager to help their colleagues. Being a data collection through a social platform, those who have a low motivation and are not involved in academic life may have ignored the post or may have refused to participate from the beginning. For this reason, for a motivation-oriented research, a random sampling of all students in that faculty would be preferable in order to control this variable.

A possible future development of this research could consider the inclusion in the study of more faculties and fields of study. Although in this study were reunited and compared four fields of study quite popular among high school graduates, which are generally considered to provide students with a good job after graduation, it would be interesting to explore the case of areas of study that are considered not to offer their students the security of a job after graduation (for example, philosophy or artistic fields) and the way in which these students are motivated. In this case a higher level of intrinsic motivation and a lower level of extrinsic motivation or amotivation would be expected. It would also be useful to collect data from students from several faculties who have the same profile. Thus, it will be possible to observe if the relations between the variables discovered in this research are maintained within a larger and more diverse sample and it will be possible to make with more certainty a generalization of the obtained data.

This study addresses a cross-sectional analysis of data obtained from the four groups, but the four constructs could also be analyzed in a longitudinal study, which can provide additional information on this topic. Motivation may increase or decrease during college years, as may the level of anxiety about the future, how TSR or the academic climate are perceived. That is why it would be interesting to research how these variables change in time. If significant differences are observed further investigation could address the factors that are involved in the change. In this regard, future research can analyze these reasons through a qualitative analysis and find out the reasons why students' motivation increases or decreases.

Practical implications

This type of research could also be useful in practice, being an important step in understanding students' perspectives on academic life and can help implement drop-out prevention programs, for example.

Although previous studies support the existence of a relationship between academic motivation, TSR and academic climate, most of them target the pre-university education and are reserved in talking about a causal relationship between these constructs. However, the results obtained in this study show that TSR and the academic climate are predictors of academic motivation. Knowing this, faculties could pay more attention to promoting a positive academic climate and training teachers to adopt an attitude based on closeness and mutual trust with the students, in

order to help increase their intrinsic motivation and decrease amotivation.

Last but not least, the results of this study suggest that anxiety about the future career, located at a particularly high level in the case of language students, moderates the relationship between academic climate and amotivation, respectively between TSR and amotivation. Thus, especially in the case of students with a medium and high level of anxiety, it can lead to amotivation, although the relationship with the teachers is good or the academic climate is perceived positively. These findings could be a wake-up call for faculties whose students face this problem. To prevent increased amotivation and help their students, faculties could focus their efforts on implementing career counseling programs that help reduce students' anxiety levels caused by uncertainty about their future careers..

REFERENCES

Aghamolaei, T., & Fazel, I. (2010). Medical students' perceptions of the educational environment at an Iranian Medical Sciences University. *BMC Medical Education, 10*(1), 87. https://doi.org/10.1186/1472-6920-10-87

Alm, S., Låftman, S. B., Sandahl, J., & Modin, B. (2019). School effectiveness and students' future orientation: A multilevel analysis of upper secondary schools in Stockholm, Sweden. *Journal of Adolescence, 70*, 62–73. https://doi.org/10.1016/j.adolescence.2018.11.007

Alt, D. (2015a). First-Year Female College Students' Academic Motivation as a Function of Perceived Parenting Styles: A Contextual Perspective. *Journal of Adult Development, 22*(2), 63–75. https://doi.org/10.1007/s10804-014-9201-2

Alt, D. (2015b). College students' academic motivation, media engagement and fear of missing out. *Computers in Human Behavior, 49*, 111–119. https://doi.org/10.1016/j.chb.2015.02.057

Aruta, J. J. B. R., Barretto, I. D. E., Shin, Y., & Jang, A. (2019). The Experience of Power in Teacher–Student Relationships in Collectivistic Context. *Psychological Studies, 64*(3), 316–331. https://doi.org/10.1007/s12646-019-00523-0

Back, L. T., Polk, E., Keys, C. B., & McMahon, S. D. (2016). Classroom management, school staff relations, school climate, and academic achievement: Testing a model with urban high schools. *Learning Environments Research, 19*(3), 397–410. https://doi.org/10.1007/s10984-016-9213-x

Barile, J. P., Donohue, D. K., Anthony, E. R., Baker, A. M., Weaver, S. R., & Henrich, C. C. (2012). Teacher–Student Relationship Climate and School Outcomes: Implications for Educational Policy Initiatives. *Journal of Youth and Adolescence, 41*(3), 256–267. https://doi.org/10.1007/s10964-011-9652-8

Beutel, D. (2010). The nature of pedagogic teacher-student interactions: A phenomenographic study. *The Australian Educational Researcher, 37*(2), 77–91. https://doi.org/10.1007/BF03216923

Boekeloo, B. O., Jones, C., Bhagat, K., Siddiqui, J., & Wang, M. Q. (2015). The Role of Intrinsic Motivation in the Pursuit of Health Science-Related Careers among Youth from Underrepresented Low Socioeconomic Populations. *Journal of Urban Health, 92*(5), 980–994. https://doi.org/10.1007/s11524-015-9987-7

Brinkworth, M. E., McIntyre, J., Juraschek, A. D., & Gehlbach, H. (2018). Teacher-student relationships: The positives and negatives of assessing both perspectives. *Journal of Applied Developmental Psychology, 55*, 24–38. https://doi.org/10.1016/j.appdev.2017.09.002

Browman, A. S., & Destin, M. (2015). The Effects of a Warm or Chilly Climate Toward Socioeconomic Diversity on Academic Motivation and Self-Concept. *Personality and Social Psychology Bulletin*, 16.

Byrd, C. M. (2015). The Associations of Intergroup Interactions and School Racial Socialization with Academic Motivation. *The Journal of Educational Research, 108*(1), 10–21. https://doi.org/10.1080/00220671.2013.831803

Clark, M. H., & Schroth, C. A. (2010). Examining relationships between academic motivation and personality among college students. *Learning and Individual Differences, 20*(1), 19–24. https://doi.org/10.1016/j.lindif.2009.10.002

Corbin, C. M., Alamos, P., Lowenstein, A. E., Downer, J. T., & Brown, J. L. (2019). The role of teacher-student relationships in predicting teachers' personal accomplishment and emotional exhaustion. *Journal of School Psychology, 77*, 1–12. https://doi.org/10.1016/j.jsp.2019.10.001

Corkin, D. M., Horn, C., & Pattison, D. (2017). The effects of an active learning intervention in biology on college students' classroom motivational climate perceptions, motivation, and achievement. *Educational Psychology, 37*(9), 1106–1124. https://doi.org/10.1080/01443410.2017.1324128

Crick, P., Perkinton, L., & Davies, F. (2014). Why do student nurses want to be nurses? *Nursing times, 110* 5, 12-5 .

Datu, J. A. D., & Yang, W. (2019). Academic buoyancy, academic motivation, and academic achievement among filipino high school students. *Current Psychology*. https://doi.org/10.1007/s12144-019-00358-y

Dorio, N. B., Clark, K. N., Demaray, M. K., & Doll, E. M. (2019). School Climate Counts: A Longitudinal Analysis of School Climate and Middle School Bullying Behaviors. International J*ournal of Bullying Prevention*. https://doi.org/10.1007/s42380-019-00038-2

Durksen, T. L., Way, J., Bobis, J., Anderson, J., Skilling, K., & Martin, A. J. (2017). Motivation and engagement in mathematics: A qualitative framework for teacher-student interactions. *Mathematics Education Research Journal, 29*(2), 163–181. https://doi.org/10.1007/s13394-017-0199-1

Elledge, L. C., Elledge, A. R., Newgent, R. A., & Cavell, T. A. (2016). Social Risk and Peer Victimization in Elementary School Children: The Protective Role of Teacher-Student Relationships. *Journal of Abnormal Child Psychology, 44*(4), 691–703. https://doi.org/10.1007/s10802-015-0074-z

Emadpoor, L., Lavasani, M. G., & Shahcheraghi, S. M. (2016). Relationship Between Perceived Social Support and Psychological Well-Being Among Students Based On Mediating Role of Academic Motivation. International *Journal of Mental Health and Addiction, 14*(3), 284–290. https://doi.org/10.1007/s11469-015-9608-4

Fatou, N., & Kubiszewski, V. (2018). Are perceived school climate dimensions predictive of students' engagement? *Social Psychology of Education, 21*(2), 427–446. https://doi.org/10.1007/s11218-017-9422-x

Gao, Q., Chen, P., Zhou, Z., & Jiang, J. (2019). The impact of school climate on trait creativity in primary school students: The mediating role of achievement motivation and proactive personality. *Asia Pacific Journal of Education*, 1–14. https://doi.org/10.1080/02188791.2019.1707644

Gąsiorowski, J., Rudowicz, E., & Safranow, K. (2015). Motivation towards medical career choice and future career plans of Polish medical students. *Advances in Health Sciences Education, 20*(3), 709–725. https://doi.org/10.1007/s10459-014-9560-2

Goudas, M., Dermitzaki, I., & Bagiatis, K. (2000). Predictors of students' intrinsic motivation in school physical education. *European Journal of Psychology of Education, 15*(3), 271–280. https://doi.org/10.1007/BF03173179

Gustafsson, J. E., & Nilsen, T. (2016). The Impact of School Climate and Teacher Quality on Mathematics Achievement: A Difference-in-Differences Approach. In T. Nilsen & J.-E. Gustafsson (Eds.), *Teacher Quality, Instructional Quality and Student Outcomes* (Vol. 2, pp. 81–95). Springer International Publishing. https://doi.org/10.1007/978-3-319-41252-8_4

Hagenauer, G., Hascher, T., & Volet, S. E. (2015). Teacher emotions in the classroom: Associations with students' engagement, classroom discipline and the interpersonal teacher-student relationship. *European Journal of Psychology of Education, 30*(4), 385–403. https://doi.org/10.1007/s10212-015-0250-0

Henderson-King, D., & Smith, M. N. (2006). Meanings of Education for University Students: Academic Motivation and Personal Values as Predictors. *Social Psychology of Education, 9*(2), 195–221. https://doi.org/10.1007/s11218-006-0006-4

Hernández, M. M., Valiente, C., Eisenberg, N., Berger, R. H., Spinrad, T. L., VanSchyndel, S. K., Silva, K. M., Southworth, J., & Thompson, M. S. (2017). Elementary students' effortful control and academic achievement: *The mediating role of teacher–student relationship quality. Early Childhood Research Quarterly, 40*, 98–109. https://doi.org/10.1016/j.ecresq.2016.10.004

Hill, A. J., & Jones, D. B. (2018). A teacher who knows me: The academic benefits of repeat student-teacher matches. *Economics of Education Review, 64*, 1–12. https://doi.org/10.1016/j.econedurev.2018.03.004

Hughes, J. N., & Cao, Q. (2018). Trajectories of teacher-student warmth and conflict at the transition to middle school: Effects on academic engagement and achievement. *Journal of School Psychology, 67*, 148–162. https://doi.org/10.1016/j.jsp.2017.10.003

Islam, Md. N., & Chakrabarty, S. (2020). A Study of the Relationship between Familial Factors and Academic Motivation and Achievement in High School Students. *Psychological Studies, 65*(1), 87–96. https://doi.org/10.1007/s12646-019-00500-7

Joe, H.-K., Hiver, P., & Al-Hoorie, A. H. (2017). Classroom social climate, self-determined motivation, willingness to communicate, and achievement: A study of structural relationships in instructed second language settings. *Learning and Individual Differences, 53*, 133–144. https://doi.org/10.1016/j.lindif.2016.11.005

Kass, E., & Miller, E. C. (2018). Career choice among academically excellent students: Choosing teaching career as a corrective experience. *Teaching and Teacher Education, 73*, 90–98. https://doi.org/10.1016/j.tate.2018.03.015

Kindelberger, C., Safont-Mottay, C., Lannegrand-Willems, L., & Galharret, J.-M. (2019). Searching for Autonomy before the Transition to Higher Education: How do Identity and Self-Determined Academic Motivation Co-Evolve? *Journal of Youth and Adolescence.* https://doi.org/10.1007/s10964-019-01137-5

Kirova, S., Petkovska, B., & Koceva, D. (2012). Investigation of Motivation and Anxiety in Macedonia While Learning English as a Second/Foreign Language. *Procedia - Social and Behavioral Sciences, 46*, 3477–3481. https://doi.org/10.1016/j.sbspro.2012.06.088

Košir, K., & Tement, S. (2014). Teacher–student relationship and academic achievement: A cross-lagged longitudinal study on three different age groups. *European Journal of Psychology of Education, 29*(3), 409–428. https://doi.org/10.1007/s10212-013-0205-2

Koydemir, S., Erel, Ö., Yumurtacı, D., & Şahin, G. N. (2010). Psychological Help-Seeking Attitudes and Barriers to Help-Seeking in Young People in Turkey. *International Journal for the Advancement of Counselling, 32*(4), 274–289. https://doi.org/10.1007/s10447-010-9106-0

Kracke, N., Reichelt, M., & Vicari, B. (2018). Wage Losses Due to Overqualification: The Role of Formal Degrees and Occupational Skills. *Social Indicators Research, 139*(3), 1085–1108. https://doi.org/10.1007/s11205-017-1744-8

Kuittinen, M., Meriläinen, M., & Räty, H. (2014). Professional competences of young psychologists: The dimensions of self-rated competence domains and their variation in the early years of the psychologist's career. *European Journal of Psychology of Education, 29*(1), 63–80. https://doi.org/10.1007/s10212-013-0187-0

Kunanitthaworn, N., Wongpakaran, T., Wongpakaran, N., Paiboonsithiwong, S., Songtrijuck, N., Kuntawong, P., & Wedding, D. (2018). Factors associated with motivation in medical education: A path analysis. *BMC Medical Education, 18*(1), 140. https://doi.org/10.1186/s12909-018-1256-5

Lavy, S., & Bocker, S. (2018). A Path to Teacher Happiness? A Sense of Meaning Affects Teacher–Student Relationships, Which Affect Job Satisfaction. *Journal of Happiness Studies, 19*(5), 1485–1503. https://doi.org/10.1007/s10902-017-9883-9

Leroy, N., Bressoux, P., Sarrazin, P., & Trouilloud, D. (2007). Impact of teachers' implicit theories and perceived pressures on the establishment of an autonomy supportive climate. *European Journal of Psychology of Education, 22(4)*, 529–545. https://doi.org/10.1007/BF03173470

Lewno-Dumdie, B. M., Mason, B. A., Hajovsky, D. B., & Villeneuve, E. F. (2019). Student-Report Measures of School Climate: A Dimensional Review. *School Mental Health.* https://doi.org/10.1007/s12310-019-09340-2

Liang, C.-T., Chang, C.-C., Peng, L.-P., & Liang, C. (2018). The moderating effect of intrinsic motivation on rural practice: A case study from Taiwan. *Innovations in Education and Teaching International, 55*(3), 294–303. https://doi.org/10.1080/14703297.2016.1212723

López-Fernández, D., Ezquerro, J. M., Rodríguez, J., Porter, J., & Lapuerta, V. (2019). Motivational impact of active learning methods in aerospace engineering students. *Acta Astronautica, 165*, 344–354. https://doi.org/10.1016/j.actaastro.2019.09.026

Maulana, R., & Opdenakker, M.-C. (2014). Teachers' Interpersonal Involvement as a Predictor of Students' Academic Motivation Among Indonesian Secondary School Students: A Multilevel Growth Curve Analysis. *The Asia-Pacific Education Researcher, 23*(3), 591–603. https://doi.org/10.1007/s40299-013-0132-7

McGeown, S. P., Putwain, D., Geijer Simpson, E., Boffey, E., Markham, J., & Vince, A. (2014). Predictors of adolescents' academic motivation: Personality, self-efficacy and adolescents' characteristics. *Learning and Individual Differences, 32*, 278–286. https://doi.org/10.1016/j.lindif.2014.03.022

Mikk, J., Krips, H., Säälik, Ü., & Kalk, K. (2016). Relationships Between Student Perception of Teacher-Student Relations and PISA Results in Mathematics and Science. I*nternational Journal of Science and Mathematics Education, 14*(8), 1437–1454. https://doi.org/10.1007/s10763-015-9669-7

Miles, M. M., Szwedo, D. E., & Allen, J. P. (2018). Learning to cope with anxiety: Long-term links from adolescence to adult career satisfaction. *Journal of Adolescence, 64*, 1–12. https://doi.org/10.1016/j.adolescence.2018.01.003

Mizuno, K., Tanaka, M., Fukuda, S., Imai-Matsumura, K., & Watanabe, Y. (2011). Relationship between cognitive function and prevalence of decrease in intrinsic academic motivation in adolescents. *Behavioral and Brain Functions, 7*(1), 4. https://doi.org/10.1186/1744-9081-7-4

Myers, S. A., & Rocca, K. A. (2001). Perceived instructor argumentativeness and verbal aggressiveness in the college classroom: Effects on student perceptions of climate, apprehension, and state motivation. *Western Journal of Communication, 65*(2), 113–137. https://doi.org/10.1080/10570310109374696

Noyens, D., Donche, V., Coertjens, L., van Daal, T., & Van Petegem, P. (2019). The directional links between students' academic motivation and social integration during the first year of higher education. *European Journal of Psychology of Education, 34*(1), 67–86. https://doi.org/10.1007/s10212-017-0365-6

Öz, H. (2016). Metacognitive Awareness and Academic Motivation: A Cross-Sectional Study in Teacher Education Context of Turkey. *Procedia - Social and Behavioral Sciences, 232*, 109–121. https://doi.org/10.1016/j.sbspro.2016.10.035

Pangerčić, A., Sambunjak, D., Hren, D., Marušić, M., & Marušić, A. (2010). Climate for career choices: Survey of medical students' motivation for studying, career preferences and perception of their teachers as role models. *Wiener Klinische Wochenschrift, 122*(7–8), 243–250. https://doi.org/10.1007/s00508-010-1362-9

Pouyaud, J., Vignoli, E., Dosnon, O., & Lallemand, N. (2012). Career adapt-abilities scale-France form: Psychometric properties and relationships to anxiety and motivation. *Journal of Vocational Behavior, 80*(3), 692–697. https://doi.org/10.1016/j.jvb.2012.01.021

Raufelder, D., Nitsche, L., Breitmeyer, S., Keßler, S., Herrmann, E., & Regner, N. (2016). Students' perception of "good" and "bad" teachers—Results of a qualitative thematic analysis with German adolescents. *International Journal of Educational Research, 75*, 31–44. https://doi.org/10.1016/j.ijer.2015.11.004

Reid, A., Rowley, J., & Bennett, D. (2019). From expert student to novice professional: Higher education and sense of self in the creative and performing arts. *Music Education Research, 21*(4), 399–413. https://doi.org/10.1080/14613808.2019.1632279

Ricard, N. C., & Pelletier, L. G. (2016). Dropping out of high school: The role of parent and teacher self-determination support, reciprocal friendships and academic motivation. *Contemporary Educational Psychology*, 44–45, 32–40. https://doi.org/10.1016/j.cedpsych.2015.12.003

Rudasill, K. M., Snyder, K. E., Levinson, H., & L. Adelson, J. (2018). Systems View of School Climate: A Theoretical *Framework for Research. Educational Psychology Review, 30*(1), 35–60. https://doi.org/10.1007/s10648-017-9401-y

Ryabov, I. (2015). Relation of peer effects and school climate to substance use among Asian American adolescents. *Journal of Adolescence, 42*, 115–127. https://doi.org/10.1016/j.adolescence.2015.04.007

Scales, P. C., Pekel, K., Sethi, J., Chamberlain, R., & Van Boekel, M. (2019). Academic Year Changes in Student-Teacher Developmental Relationships and Their Linkage to Middle and High School Students' Motivation: A Mixed Methods Study. *The Journal of Early Adolescence*, 027243161985841. doi.org/10.1177/0272431619858414

Schaefer, C. E., & Schaefer, K. A. (1993). Clinical Psychology Students' Perceptions of an Academic Climate for Caring. *Psychological Reports, 72*(3_suppl), 1223–1227. https://doi.org/10.2466/pr0.1993.72.3c.1223

Scherer, R., & Nilsen, T. (2016). The Relations Among School Climate, Instructional Quality, and Achievement

Motivation in Mathematics. In T. Nilsen & J.-E. Gustafsson (Eds.), *Teacher Quality, Instructional Quality and Student Outcomes* (Vol. 2, pp. 51–80). Springer International Publishing. https://doi.org/10.1007/978-3-319-41252-8_3

Schiffrin, H. H., & Liss, M. (2017). The Effects of Helicopter Parenting on Academic Motivation. *Journal of Child and Family Studies, 26*(5), 1472–1480. https://doi.org/10.1007/s10826-017-0658-z

Shen, B. (2015). Gender Differences in the Relationship Between Teacher Autonomy Support and Amotivation in Physical Education. *Sex Roles, 72*(3–4), 163–172. https://doi.org/10.1007/s11199-015-0448-2

Shim-Pelayo, H., & De Pedro, K. T. (2018). The role of school climate in rates of depression and suicidal ideation among school-attending foster youth in California public schools. *Children and Youth Services Review, 88*, 149–155. https://doi.org/10.1016/j.childyouth.2018.02.033

Singhal, M. K. (2015). Development of an anxiety scale for undergraduate students.

Smeyers, P., & Depaepe, M. (Eds.). (2013). *Educational Research: The Attraction of Psychology*. Springer Netherlands. https://doi.org/10.1007/978-94-007-5038-8

Smith, Z. R., Langberg, J. M., Cusick, C. N., Green, C. D., & Becker, S. P. (2020). Academic Motivation Deficits in Adolescents with ADHD and Associations with Academic Functioning. *Journal of Abnormal Child Psychology, 48*(2), 237–249. https://doi.org/10.1007/s10802-019-00601-x

Suldo, S. M., McMahan, M. M., Chappel, A. M., & Loker, T. (2012). Relationships Between Perceived School Climate and Adolescent Mental Health Across Genders. *School Mental Health, 4*(2), 69–80. https://doi.org/10.1007/s12310-012-9073-1

Tang, J., Li, N., Sandoval, J. R., & Liu, Y. (2018). Parenting Styles and Academic Motivation: A Sample from Chinese High Schools. *Journal of Child and Family Studies, 27*(10), 3395–3401. https://doi.org/10.1007/s10826-018-1164-7

Vignoli, E. (2015). Career indecision and career exploration among older French adolescents: The specific role of general trait anxiety and future school and career anxiety. *Journal of Vocational Behavior, 89*, 182–191. https://doi.org/10.1016/j.jvb.2015.06.005

Vignoli, E., Croity-Belz, S., Chapeland, V., de Fillipis, A., & Garcia, M. (2005). Career exploration in adolescents: The role of anxiety, attachment, and parenting style. *Journal of Vocational Behavior, 67*(2), 153–168. https://doi.org/10.1016/j.jvb.2004.08.006

Wasityastuti, W., Susani, Y. P., Prabandari, Y. S., & Rahayu, G. R. (2018). Correlation between academic motivation and professional identity in medical students in the Faculty of Medicine of the Universitas Gadjah Mada Indonesia. *Educación Médica, 19*(1), 23–29. https://doi.org/10.1016/j.edumed.2016.12.010

Wijsman, L. A., Saab, N., Schuitema, J., van Driel, J. H., & Westenberg, P. M. (2019). Promoting performance and motivation through a combination of intrinsic motivation stimulation and an extrinsic incentive. *Learning Environments Research, 22*(1), 65–81. https://doi.org/10.1007/s10984-018-9267-z

Willems, J., Coertjens, L., Tambuyzer, B., & Donche, V. (2019). Identifying science students at risk in the first year of higher education: The incremental value of non-cognitive variables in predicting early academic achievement. *European Journal of Psychology of Education, 34*(4), 847–872. https://doi.org/10.1007/s10212-018-0399-4

Wong, T. K. Y., & Siu, A. F. Y. (2017). Relationships Between School Climate Dimensions and Adolescents' School Life Satisfaction, Academic Satisfaction and Perceived Popularity Within a Chinese Context. School *Mental Health, 9*(3), 237–248. https://doi.org/10.1007/s12310-017-9209-4

Wouters, A., Croiset, G., Galindo-Garre, F., & Kusurkar, R. A. (2016). Motivation of medical students: Selection by motivation or motivation by selection. *BMC Medical Education, 16*(1), 37. https://doi.org/10.1186/s12909-016-0560-1

Zeynali, S., Pishghadam, R., & Hosseini Fatemi, A. (2019). Identifying the motivational and demotivational factors influencing students' academic achievements in language education. *Learning and Motivation, 68*, 101598. https://doi.org/10.1016/j.lmot.2019.101598

Zorza, J. P., Marino, J., & Mesas, A. A. (2015). The influence of effortful control and empathy on perception of school climate. *European Journal of Psychology of Education, 30*(4), 457–472. https://doi.org/10.1007/s10212-015-0261-x

Zullig, K. J., Ward, R. M., Scott Huebner, E., & Daily, S. M. (2018). Association between Adolescent School Climate and Perceived Quality of Life. *Child Indicators Research, 11*(6), 1737–1753. https://doi.org/10.1007/s12187-017-9521-4.