

# The Importance of Perceived School Climate and Personal Strengths Use for Psychological Functioning among High School Students

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**Abstract.** The aim of this study was to determine the importance of high school students' personal strengths use and the perceived school climate on their psychological functioning. The sample of 258 students from a gymnasium filled in measures for adolescent psychological functioning, strengths use and perceived school climate. Contrary to what was expected, the results revealed that personal strengths use did not moderate the relationship between students' perceived school climate and their psychological functioning. However, both factors – perceived school climate and strengths use – independently of each other, significantly predicted students' psychological functioning. Therefore, in order to achieve more positive developmental outcomes, it is not enough to create a good climate at school, it is also important to create opportunities for students to use their personal strengths.

**Keywords:** psychological functioning, school climate, strengths use, adolescents, high school students

## Vyresnių klasių mokinių asmeninių stiprybių naudojimo ir subjektyviai vertinamo mokyklos klimato reikšmė jų psichologiniam funkcionavimui

**Santrauka.** Tyrimo tikslas nustatyti vyresnių klasių mokinių asmeninių stiprybių naudojimo ir subjektyviai vertinamo mokyklos klimato reikšmę jų psichologiniam funkcionavimui. Tyrime dalyvavo 258 vyresnių klasių mokiniai, kurie pildė paauglių psichologinio funkcionavimo, naudojimosi asmeninėmis stiprybėmis ir subjektyviai vertinamo mokyklos klimato klausimynus. Tyrimas atskleidė, kad vyresnių klasių mokinių didesnis asmeninių stiprybių naudojimas, nesustiprina ryšio tarp mokinių subjektyviai vertinamo mokyklos klimato ir jų psichologinio funkcionavimo. Tačiau abu veiksniai – mokinių subjektyviai vertinamas mokyklos klimatas ir jų naudojimas asmeninėmis stiprybėmis – nepriklausomai vienas nuo kito, reikšmingai prognozuoja mokinių psichologinį funkcionavimą. Taigi, siekiant geresnio mokinių psichologinio funkcionavimo, neužtenka sukurti palankiai mokinių vertinamą mokyklos aplinką, ne ką mažiau svarbu sukurti galimybes mokiniams panaudoti savo asmenines stipriąsias puses.

**Raktiniai žodžiai:** psichologinis funkcionavimas, mokyklos klimatas, asmeninių stiprybių naudojimas, paauglystė, vyresnių klasių mokiniai.

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## Introduction

Adolescents' development processes have been drawing researchers' interest for decades, the positive and negative developmental outcomes being one of the biggest topics in the field. There are suggestions in the literature that multiple and rapid changes in this age require from adolescents additional adjustment efforts, which result in different levels of psychosocial functioning (Pakrošnis & Čepukienė, 2013). It is important to note, that for a long time adolescence has been defined by health risk behavior and psychological difficulties adolescents encounter (Das et al., 2016; de Moor et al., 2019; Vaughan et al., 2015). Anxiety, depression, poor self-esteem, state of helplessness, cognitive problems, aggressive behavior, academic difficulties, all kinds of risky behaviours have been commonly associated with adolescence and studied extensively (Das et al., 2016, Dunning et al., 2019; Ebesutani et al., 2011; García-Carrión et al., 2019; Vaughan et al., 2015). Hence, observing young people through the lens of problems that need to be identified and solved, adolescence itself has been often defined and perceived in terms of deficit.

Following recent advances in positive development research, the understanding of adolescence is gradually changing, and some studies provide empirical evidence for positive side of adolescents' development, revealing, for example, high levels of well-being and even flourishing (Gómez-López et al., 2019; Guo et al., 2018), develop adaptive emotion regulation strategies and higher capacity for mindful awareness (Moreira et al., 2018). Hence, the contemporary concept of adolescence considers this age not only as the time of challenging changes, but also as the period of life full of potential, providing young people with the possibility to discover and develop their strengths and resources which, if nurtured and realized, can lead to positive development and well-being. Thus, in order to obtain a more comprehensive and complex understanding of adolescence, research should go beyond assessing the signs of psychopathology and incorporate both negative and positive sides of adolescents' daily life (Pakrošnis & Čepukienė, 2013; Tzang et al., 2012). Successful adjustment then can be defined as lower level of difficulties or indicators of nonadaptive functioning and higher level of positive functioning indicators, such as prosocial behavior, self-confidence etc. (Pakrošnis & Čepukienė, 2013).

However, most of the existing measures for assessing adolescents' psychosocial functioning fail to combine both sides and mostly focus on difficulties or even psychopathology (Cristovam et al., 2019). Consequently, researchers often choose to measure either only the negative or positive side of adolescents' functioning, rarely combining both (Kaniušonytė, 2017; Pakrošnis & Čepukienė, 2013; Viejo et al., 2018). This creates a situation when we know more about adolescents' functioning difficulties and risk factors and lack knowledge about the indicators of the successful adjustment and factors contributing to this success (Gómez-López et al., 2019). Hence, in this study, when looking for the factors contributing to adolescents' psychological functioning, we aimed at evaluating both adaptive and nonadaptive sides of the functioning.

As for the contributing factors, it is widely agreed that the success of adolescents' psychological functioning is a consequence of a developmental process in which many

factors are operating including the personal and psychological characteristics, social connections, the family and school environment, various community institutions (Anthony & Stone, 2010; Barkauskienė et al., 2018; Lerner et al., 2018; Rodríguez-Fernández et al., 2016). Recent advances in the research on positive development suggest that efforts to foster adolescents' positive developmental trajectories should be directed towards: (1) promoting positive aspects of adolescents' personality, such as personal strengths; (2) improving environmental characteristics and conditions so that it could be experienced by adolescents as positive and nurturing; (3) encouraging society to consider adolescents as having personal strengths and resources which, when released, will contribute to both more positive experience of the environment and better adolescents' self-formation (Stoddard & Pierce 2015). However, despite theoretical assumptions about the interaction between personal and environmental characteristics and some fragmented research, revealing that personal strengths and nurturing environment are related to better psychological functioning among adolescents, we still lack empirical knowledge on the nature and mechanisms of the interaction between personal resources and environmental characteristics as well as the impact of such interaction on the successful adjustment in adolescence. Hence, the present study aims to look at the importance of adolescents' ability to use their personal strengths, the quality of their school climate, and the influence of these factors to adolescents' psychological functioning, assessed combining indicators of difficulties and adaptive functioning.

### **The importance of perceived school climate for adolescents' psychological functioning**

Alongside peers, parents and community, school is one of the most important contexts in which adolescents develop, form themselves and socialize (Benson & Faas, 2014; Gomez, 2005; Henry et al., 2009; Oriol et al., 2017; Wagner & Ruch, 2015; Yang et al., 2018). School climate consists of the attitudes, beliefs, norms, goals, values, interpersonal relationships that support students feeling psychologically and physically safe (Aldridge et al., 2016; Kearney et al., 2020). The importance of school is very significant for development, especially in late adolescence, since adolescents spend two-thirds of their waking time at school (Eccles & Roeser, 2011). Numerous researchers reveal that physically and psychologically safe school climate is positively linked to favorable outcomes, such as prosocial behaviour, self-realization, self-confidence, ability to collaborate, communicate and contribute to school improvement process, attentiveness when participating in school activities (Atherton, 2009; Brackett et al., 2011; Maxwell et al., 2017; Travers et al., 2013; Wormington et al., 2014). However, research reveals that students' perception of school climate, their subjective school experiences, rather than an objective school environment *per se*, is a far more important predictor of students' psychosocial functioning (Maxwell et al., 2017; Wong et al., 2021). Following these notions, in the present study we decided to ask students about their perception of school climate using Bear and colleagues' model, often used for this purpose (Bear et al., 2011; Bear et al., 2016).

## **The role of personal strengths use in the interaction between the environment and psychological functioning in adolescence**

Personal strengths are discussed to be among the most important personal characteristics playing a key role in optimal human functioning across the lifespan (Douglass & Duffy, 2014; Proctor & Linley, 2013; Proctor et al., 2011; Ruch et al., 2014; Shoshani & Aviv, 2012; Waters, 2015; Weber & Ruch, 2015). Personal strengths are related to one's positive traits and (or) psychological capacities refined with knowledge and skills (Proctor et al., 2011) and enable a person to function successfully or as well as one is capable (Govindji & Linley, 2007; Wood et al., 2011).

Nevertheless, there are claims that knowing one's personal strengths and the ability to utilize them in everyday life (often referred to as personal strengths use) might be more important for the psychosocial functioning than the fact of solely possessing qualities which might, in theory, be considered as strengths (Govindji & Linley, 2007; Proctor et al., 2011; Wood et al., 2011). Personal strengths use pertain "to the extent to which one is both driven to apply and opportunities to use one's strengths in different situations" (van Zyl et al., 2021 p.3). Research reveals that the ability to use personal strengths energizes and enables a person to enjoy their actions and results and is related to life satisfaction (Govindji & Linley, 2007; Huber et al., 2017; Proctor et al., 2011; Wood et al., 2011), positive emotions (Douglass & Duffy, 2014), psychological well-being (Proctor et al., 2011; Wood et al., 2011), optimal functioning (Huber et al., 2017) and vitality (Dubreuil et al., 2014).

Moreover, there are suggestions that personal strengths moderate the relationship between one's psychological functioning and environmental conditions. For example, studies have revealed that people function more successfully under adverse conditions, such as work-related stress (Harzer & Ruch, 2015), home-based stress (Li & Liu, 2016) or even intense military conflicts (Shoshani & Slone, 2016), if they possess more personal strengths. In the context of the Self-determination theory (SDT) (Deci & Ryan, 2000), people who engage in activities they find interesting, enjoyable and pleasurable can be characterized as having autonomous or intrinsic (as compared to controlled or extrinsic) motivation. Based on the SDT then we can hypothesize that an ability to use personal strengths contribute to a person's well-being and optimal psychological functioning through the satisfaction of basic human psychological needs (Duan et al., 2018). Besides, people who realize and utilize their strengths feel more positive about themselves and, according to the broaden-and-build theory of positive emotions (Fredrickson, 2001), such emotions as interest, joy, pride and others "broaden people's momentary thought-action repertoires and build their enduring personal resources, ranging from physical and intellectual resources to social and psychological resources" (Fredrickson, 2001, p.1).

Following such assumptions and some empirical evidence, the ability to use personal strengths can be considered as a psychological resource that could act as a protecting factor moderating the relationship between one's environmental conditions and psychological functioning as an outcome of adjustment efforts (Harzer & Ruch, 2015). However, such

protective function of personal strengths use has been barely explored empirically, especially in the sample of adolescents' (Jach et al., 2018; Waters, 2015). Thus, the aim of the present study is to evaluate the moderating effect of adolescents' personal strengths use on the relationship between the perceived school climate and their psychological functioning. Our main hypothesis is that the adolescents' ability to use their personal strengths contributes to their better psychological functioning by reinforcing the importance of perceived positive school climate.

Scholars often stress that when studying factors contributing to adolescents' development and functioning, it is important to account for some demographic characteristics, such as age, gender and family status. For example, research suggests that adolescents in a variety of settings (family, school, community) are still facing stereotypes about gender roles in society and these stereotypes affect adolescents' psychological functioning (Årdal et al., 2018). Thus, adolescent girls, compared to the boys, experience bigger emotional difficulties, but on the other hand demonstrate more of socially adaptive and caring behavior and adjust at school better (Pakrosnis & Čepukienė, 2013). Some studies reveal that the composition of an adolescent's family is another significant factor. For instance, adolescents from divorced families might face increased risk of emotional and behavioral problems, lower self-confidence and adaptation at school difficulties (Pakrosnis & Čepukienė, 2013; Tullius et al., 2021). Following these results we also included variables of gender and family status into the analysis.

## **Materials and methods**

### ***Participants and procedures***

The study was conducted at one of the gymnasiums of Vilnius city (Lithuania). All 348 students of the gymnasium received an invitation to participate in the study, however, 78 of them did not participate due to various reasons, such as absence at school, rejection to participate, no informed consent from parents received, etc. Further, out of 270 distributed questionnaires, 12 (4.4%) of them returned only partly or inappropriately filled questionnaires and were removed from the analysis. Thus, the final sample consisted of 258 respondents (141 (55%) females and 117 (45%) males) aged between 15 and 19 years.

Twenty-seven percent of the respondents ( $n = 68$ ) were studying in the ninth, 19% ( $n = 50$ ) – in the tenth, 29% ( $n = 75$ ) – in the eleventh, and 25% ( $n = 65$ ) – in the twelfth grade. Fifty-three percent ( $n = 137$ ) reported living with both parents, 38% ( $n = 99$ ) were living with one of the parents and 9% ( $n = 22$ ) – with other relatives or caregivers.

Informed consents and agreements were obtained from the gymnasium administration and students' parents. Students also received written and verbal information about the research and conditions for their participation (e.g. the right not to participate or leave the study at any time without any penalties; absence of rewards for participation). The data was collected during the classes with the permission of the teachers.

## Measures

**Adolescent Psychological Functioning Questionnaire** (Pakrosnis & Čepukienė, 2013) was used to evaluate difficulties of adolescents' psychological functioning as well as indicators of adaptive functioning. This 53-item questionnaire has been developed and validated for the Lithuanian adolescent population and has demonstrated good psychometric properties (Pakrosnis & Čepukienė, 2013). Participants rated the questionnaire items on the five-point Likert scale (where 1 represents "Never" and 5 – "Always") indicating the frequency of behaviors and states during last month. Scales of emotional difficulties (11 items (e.g. "I have been sad, depressed lately"; Cronbach's  $\alpha \leq .90$ ) and behavior difficulties (5 items (e.g. "I drink alcohol"; Cronbach's  $\alpha \leq .60$ ) measure the negative side of psychological functioning; higher scores on these two scales indicate higher intensity of functioning difficulties, representing nonadaptive functioning. The other four scales measure indicators of the adolescents' adaptive functioning in the following areas: socially adaptive behavior (17 items (e.g. "I keep my promises") ; Cronbach's  $\alpha \leq .82$ ), adjustment at school (8 items (e.g. "I study well or very well") ; Cronbach's  $\alpha \leq .83$ ), caring behavior (10 items (e.g. "I take care not only of my own needs, but also of other people's needs and interests"); Cronbach's  $\alpha \leq .78$ ) and self-confidence (6 items (e.g. "I value myself, I am happy with my achievements"); Cronbach's  $\alpha \leq .82$ ). The higher scores on these scales imply better functioning.

The perceived school climate was assessed using the student version of the 31-item **Delaware School Climate Scale (DSCS-S)** (Bear et al., 2011; Bear et al., 2016). DSCS-S allows evaluating students' perception of an overall school climate (School Climate Scale) that consists of seven subscales: teacher–student relationships (e.g. "Teachers care about their students" ); student–student relationships (e.g. "Students are friendly with each other"); clarity of expectations (e.g. "Students know how they are expected to act" ); fairness of rules (e.g. "The consequences of breaking rules are fair"); school safety (e.g. "Students are safe in the hallways" ); student engagement school-wide ("Most students work hard to get good grades" ); and bullying school-wide (e.g. "Bullying is a big problem in this school"). Participants evaluate how they feel about each item on a four-point Likert scale ranging from 'Disagree a lot' to 'Agree a lot'. Raw scores of the overall school climate were transformed to a range from 1 to 4. The higher score represents better evaluation of the school climate. An overall score of the perceived school climate was used in the study (Cronbach's  $\alpha \leq .82$ ).

To measure how students actively use their strengths the 14-item **Strengths Use Scale (SUS)** (Govindji & Linley, 2007) was used with the original authors' instruction: "The following 14 questions ask you about your strengths, that is, the things that you are able to do well or do best. Respond using a 1 (strongly disagree) to 7 (strongly agree) scale." (Govindji & Linley, 2007, p. 147). Self-report SUS questionnaire consists of items such as "I achieve what I want by using my strengths" or "Using my strengths comes naturally to me" and higher scores indicate greater strengths use. The SUS is the only questionnaire available to assess the strengths use rather than the prevalence of qualities considered as

strengths. Several studies confirmed a one-factor structure (all the 14 items are correlated with one structure ) and good psychometric characteristics of the scale among adults (Huber et al., 2017; Wood et al., 2011) and adolescents (Duan et al., 2018). In the present study the internal validity was also high (Cronbach's  $\alpha < = .92$ ).

## Results

### *Descriptive statistics*

Data analysis was conducted using IBM SPSS Statistics 24.0. Descriptive statistics for all the measures are presented in Table 1. As we can see, the scores of psychological functioning are quite well spread, with average scores being in the midrange of the theoretical interval for two scales measuring the negative side of the adjustment and somewhat higher for most of the scales reflecting the positive side of the functioning. The between-group comparison (independent samples t-test) revealed significant gender differences of psychological functioning, except for the scale of behavior difficulties. Results show (see Table 1) that female students can be characterized as reporting more emotional difficulties and lower self-esteem compared to male students. On the other hand, female students have more signs of socially adaptive and caring behavior and better adjustment at school. Bearing in mind that psychological functioning, being the dependent variable, differs significantly in both gender groups, further analysis was conducted considering gender differences.

**Table 1**

*Descriptive statistics of measured variables and between gender comparisons*

Psychological functioning	<i>Min.</i>	<i>Max.</i>	<i>M(SD)</i>	Female: <i>M(SD)</i>	Male: <i>M(SD)</i>	<i>t</i>	<i>p</i>
Behavior difficulties	5	21	11.42 (3.57)	11.42 (3.31)	11.43 (3.88)	-.020	.984
Emotional difficulties	11	55	28.50 (9.74)	31.40 (9.61)	25.00 (8.73)	5.548	< .001
Socially adaptive behavior	44	84	66.25 (7.76)	67.16 (7.64)	65.15 (7.80)	2.075	.039
Adjustment at school	9	40	26.89 (5.56)	27.65 (5.42)	25.97 (5.62)	2.448	.015
Caring behavior	22	50	36.05 (5.71)	37.38 (5.31)	34.44 (5.79)	4.246	< .001
Self-confidence	7	30	20.64 (4.85)	19.65 (4.86)	21.84 (4.58)	-3.704	< .001
Perceived school climate	1.58	3.61	2.68 (0.28)	2.69 (0.27)	2.67 (0.29)	.634	.527
Strengths use	1.86	7.00	4.96 (0.96)	4.88 (1.01)	5.06 (0.91)	-1.522	.129

As for the perceived school climate and the strengths use, we can see that in both cases the average scores are in the middle of the possible score range with no differences between genders (Table 1).

***Preliminary correlational analysis of the linear relationships between variables***

Before looking for the moderating effects of the strengths use for the relationship between the perceived school climate and psychological functioning, a preliminary correlation analysis was conducted in order to estimate the linear relationships of independent and moderating variables with the dependent variable (Table 2). Results revealed that the perceived school climate correlates significantly with all psychological functioning scales in the female group and with four scales in male students group. The strengths use correlated significantly with all scales, except for behavior difficulties, in both gender groups. Most of the mentioned correlations, although statistically significant, can be considered as weak or medium (range between .209 and .383). Only correlations of the strengths use with emotional difficulties and self-esteem stand out and are quite strong in both gender groups. All the mentioned correlations showed that a better perceived school climate and stronger ability to use one’s strengths are related to a better psychological functioning among high school students.

**Table 2**  
*Psychological functioning correlation with the perceived school climate and the strengths use among female and male high school students*

	Female		Male	
	Perceived school climate	Strengths use	Perceived school climate	Strengths use
Behavior difficulties	-.214*	.010	-.314**	-.036
Emotional difficulties	-.316**	-.399**	-.250**	-.486**
Socially adaptive behavior	.345**	.282**	.281**	.265**
Adjustment at school	.381**	.300**	.383**	.246**
Caring behavior	.209*	.271**	.125	.312**
Self-confidence	.244**	.620**	.102	.600**

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

***Results of the moderating effect of adolescents’ strengths use on the relationship between school environment and psychological functioning***

Preliminary correlation analysis suggested that moderation effects in the female group can be expected in cases of all scales of psychological functioning as dependent variables, except for the behavior difficulties scale, which did not correlate significantly with the

**Table 3**

*Moderation effects of the strengths use for the relationship between the perceived school climate and psychological functioning in the context of demographic characteristics among high school students*

Psychological functioning	Prognostic variables	<i>B</i>	<i>t</i>	<i>p</i>
Behavior difficulties $R^2 = .111$	Strengths use	.148	.634	.527
	Perceived school climate	-3.462	-3.842	< .001
	Strengths use x Perceived school climate	2.112	1.728	.085
	School grade	1.307	2.912	.004
	Family status	.329	.717	.474
	Gender	-.122	-.266	.790
Emotional difficulties $R^2 = .275$	Strengths use	-3.529	-5.142	< .001
	Perceived school climate	-6.590	-2.997	.003
	Strengths use x Perceived school climate	.895	.273	.785
	School grade	.306	.294	.769
	Family status	.132	.123	.902
	Gender	5.825	5.483	< .001
Socially adaptive behavior $R^2 = .157$	Strengths use	1.791	2.662	.008
	Perceived school climate	8.044	4.314	< .001
	Strengths use x Perceived school climate	.746	.292	.770
	School grade	1.000	1.050	.295
	Family status	.383	.400	.689
	Gender	1.968	2.042	.042
Adjustment at school $R^2 = .191$	Strengths use	1.134	3.146	.002
	Perceived school climate	6.708	4.793	< .001
	Strengths use x Perceived school climate	-.697	-.367	.714
	School grade	-.501	-.761	.447
	Family status	-.556	-.821	.413
	Gender	1.876	2.913	.004
Caring behavior $R^2 = .183$	Strengths use	1.306	2.746	.007
	Perceived school climate	3.056	2.056	.041
	Strengths use x Perceived school climate	-2.127	-.986	.325
	School grade	1.390	2.068	.040
	Family status	1.106	1.603	.110
	Gender	2.980	4.330	< .001
Self-confidence $R^2 = .371$	Strengths use	2.822	10.781	< .001
	Perceived school climate	1.096	1.216	.225
	Strengths use x Perceived school climate	.717	.483	.630
	School grade	.863	1.789	.075
	Family status	.158	.308	.758
	Gender	-1.815	-3.817	< .001

strengths use. Accordingly, three moderation models were likely in the male group – for emotional difficulties, socially adaptive behavior and adjustment at school as dependent variables. However, we decided to calculate moderation models for all scales of psychological functioning, as our secondary goal was to evaluate the relationship between three variables in the context of students' demographic characteristics. Thus, gender (dummy coded: male=0; female=1), study grade (dummy coded: 9–10 grade = 0; 11–12 grade = 1) and family status (dummy coded: living with both parents = 0; living with one of the parents or other relatives / caregivers = 1) were entered into the analysis as covariates. Moderation analysis was conducted using PROCESS 2.15 command for SPSS (by A. F. Hayes). All models demonstrated a good fit of the data ( $p < .01$ ; VIF < 4).

Unfortunately, the results (Table 3) did not reveal the significant predicting value of the interaction between the strengths use and the perceived school climate for psychological functioning. In the case of behavior difficulties as a dependent variable, the mentioned interaction effect was close, but it did not reach statistical significance ( $p = .085$ ). Thus, we should conclude that no moderation effect of the strengths use for the interaction between the perceived school climate and psychological functioning was established.

Nevertheless, either the strengths use or the perceived school climate (in most cases both), were significant predictors in all moderation models (see Table 3). Such findings prompted us to consider other models of possible interactions between these three variables. The possibility of mediating effects, however, was rejected due to the fact that the correlation between the strengths use and the perceived school climate, despite being significant, was small ( $r = .191$ ;  $p = .002$ ). Thus, our results suggest that perhaps the strengths use and the perceived school climate, in combination with some demographic characteristics, should be considered as linear predictors of psychological functioning among high school students. Hence, we could expect better emotional state, adjustment at school and higher socially adaptive behavior among female students perceiving school climate as more favorable and possessing higher ability to use their strengths. Caring behavior was also more likely among female students, who were in higher study grade; they perceived school climate as more favorable and possessed higher ability to use their strengths. Less behavior difficulties can be expected among students from higher grades, who perceived their school climate as more favorable. Finally, higher self-confidence was more prevalent among male students with stronger ability to use their strengths.

## Discussion

Our results contribute and broaden understanding of adolescents as not only dealing with challenges, but also as capable of releasing their positive qualities on a daily basis. Our main focus in this study was to analyse the nature and importance of the interaction between the students' strengths use and the perceived school climate in relation to their psychological functioning. We hypothesized that the personal strengths use, being an important personal resource, would serve as the moderator strengthening the importance of the perceived school climate for the students' psychological functioning. However, the

results did not support our moderation hypothesis. An alternative possibility of mediating effects was also rejected. Nevertheless, our analysis revealed some interesting findings worthwhile discussing.

First, regressions indicated that both the strengths use and the perceived school climate significantly predicted students' psychological functioning in all moderation models, with an exception of behavior difficulties as a dependent variable, where only the perceived school climate was a significant predictor. Therefore, these findings suggest that perhaps both adolescents' personal resources and environmental characteristics serve as independent (not interacting) predictors of adolescents' better psychological functioning. These results support the existing literature (i.e. Gomez, 2005; Henry et al., 2009; Oriol et al., 2017; Yang et al., 2018), stating that school environment is an important agent of socialization in late adolescence. Hence, the results highlight the importance of searching for the implementable solutions and effective methods to create and maintain a psychologically and physically safe school environment for all adolescents. In addition, these findings also support findings of previous studies that the personal strengths use is associated with positive factors of human functioning (i.e. Dubreuil et al., 2014; Huber et al., 2017; Proctor et al., 2011; Wood et al., 2011) and also extend them to adolescent students' sample. These results can be summarized as confirming the conception of the strengths use – when people use their strengths, they disclose their best qualities and therefore experience a sense of mastery and also fulfill their potential, express themselves (Huber et al., 2017; Wood et al., 2011). These findings are, to some extent, in line with the self-determination theory (SDT) – strengths use reflects how adolescents perceive and express themselves, which is then related to their psychological functioning.

Second, regressions revealed that demographic characteristics, such as gender and grade, must be taken into account as these characteristics significantly contribute to the prediction of some indicators of adolescents' psychological functioning. Interestingly, adjustment at school, higher socially adaptive behavior and more caring behavior are more likely among female students who perceive school climate as more favorable and possess higher ability to use their strengths. In addition, the results indicate that being a girl predicts a worse emotional state. Meanwhile higher self-confidence is more likely among male students who possess higher ability to use their strengths. These results could be related to the social stereotypes based on gender roles, which are accomplished through the process of socialization. These findings could reflect social expectations that society (family, school, etc.) still has for the girls, especially in the cultural context of our sample. Girls in the context of our sample from an early age are still expected to have better academic achievement, to demonstrate more prosocial behavior and better social skills than boys.

Potentially, due to prevailing stereotypes, adolescent girls may have difficulties expressing themselves, resulting in their greater emotional distress and reduced self-confidence. The results of our study reflect the understanding that adolescents' psychological functioning is inseparable from the developmental processes and socialization processes that start in the early stages of human life (Barkauskienė et al., 2018; Lerner

et al., 2018). Finally, it is important to notice that all the factors included in moderation analysis explain 11% to 37% of the variance in different indicators of the psychological functioning. The perceived school climate, the strengths use and demographic factors all together poorly predict behavior difficulties of adolescents. These factors explain only 11% of the variance in behavior difficulties. So clearly, there are more important factors, such as peers or family influence, whose inclusion into the analysis could explain a bigger percent of the variance in different indicators of the psychological functioning and particularly in behavior difficulties of adolescents. However, it must be mentioned that factors of the perceived school climate, the strengths use and the demographic characteristics of adolescents predicted their emotional difficulties quite well (28% of the variance) and these factors predicted the self-confidence of adolescents who took part in this study even stronger (37% of the variance).

### **Implications, limitations and future directions**

The results of this study suggest that clear expectations, fair rules for all and safe, respectful, and tolerant relationships are the factors creating a favorable environment at school, which results not only in reduced adolescents' behavior and emotional difficulties, but also increases their capability to achieve a positive and successful functioning. This is an empowering message for school authorities, legislators and all the members of the school community, who communicate and collaborate with adolescents daily.

On the other hand, according to our results school-based intervention and prevention programs should focus not only on working with adolescents' difficulties, but also on their capacity to discover and employ their personal strengths in different environmental and situational settings.

Nevertheless, it is important to stress that according to our results only the interaction of both factors – psychologically and physically safe school environment and personal strengths realization – contribute to the more positive development of adolescents. The resourceful school environment represents the external resources, while the realization of personal strengths is an internal resource of adolescents, both being very important in fostering the positive psychological functioning of adolescents.

Several limitations of the study should be named. First, all participants were students from one school. Thus, our results reflect the situation at this particular school and should be generalized with caution. Future research should broaden the sample and include students from different schools in different regions of the country. Second, the moderation analysis was conducted calculating separate models for each of the six indicators of psychological functioning, mainly due to the small sample size. The more complex model could possibly reveal a slightly different picture of the relationships between study variables. Third, all scales used in this study were self-report questionnaires, while in some other studies, analysing the interaction of environmental characteristics and personal strengths, environmental variables were evaluated objectively (e.g. Shoshani & Slone, 2016). Thus, future studies should take into consideration assessing school climate in a

more objective way by using trained observers to assess the main school climate criteria, for example. Finally, studies in other cultural contexts outside Lithuania could also broaden our understanding about the contribution of adolescents' environmental characteristics, adolescents' personal resources and interaction between them to various and particularly positive developmental outcomes.

## Conclusions

Study results did not reveal the expected moderating effect of high school students' personal strengths use on the relationship between perceived school climate and psychological functioning. Nevertheless, perceived school climate and personal strengths use significantly predicted students' psychological functioning as independent variables. Thus, we can conclude that better psychosocial functioning among high school students can be expected when their perception of the school environment is more positive and they possess higher ability to use their personal strengths.

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