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Peer interaction in class: exploring students' self-regulation in relation to peer acceptance and rejection

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ABSTRACT

The link between peer exposure and self-regulation is likely to vary as a function of the type and quality of peer interaction. In the presented research study, the relationship between self-regulation and peer acceptance/rejection has been explored. The Means-Ends Problem Solving technique was administered in 1625 cases of lower-secondary school students. A cluster analysis suggested three distinct profiles: Thriving, Balancing, and Struggling. Students in the Thriving profile demonstrated the highest level of self-regulation and the highest social acceptance in the peer group. Students with the Struggling profile showed the lowest level of self-regulation and the lowest social acceptance levels, but their perception of own inclusion in class was rather neutral. Profiling of students' self-regulation skills enabled an enhanced understanding of the process of self-regulation in relation to peer interaction and offered new insights into the role of students' attitudes (especially one's perception of own inclusion in a peer group).

Introduction

Every individual experiences situations of potential rejection or exclusion, for example, in peer groups, partnerships, the labor market, etc. In the context of an individual's everyday life, it is a pattern of horizontal social inclusion/exclusion that seems to be significant. In general, social exclusion may by specified as an asymmetrical power dynamic in which a more dominant individual and/or social group oppresses the less powerful one(s) (Olweus, 1993). Based on the general human need to belong, the crucial role of the peer group during adolescence, i.e. social acceptance by peers at school, is likely to become an important determinant of a student's well-being, self-esteem and other positive outcomes. (Lev-Wiesel et al., 2013) On the other hand, social rejection/exclusion is considered as a risk factor in the development of problem behavior, which in turn may lead to serious long-term consequences. (Kornienko et al., 2020; Swart et al., 2019).

Peer acceptance or rejection of a student may be influenced by certain characteristics of an individual (e.g. physical differences and personality traits) but also by classroom context such as deviation from behavioral classroom norms; cognitive biases held by the accepted peer group; the presence of a social dominance hierarchy of the peer group (Mikami et al., 2010; Swart et al., 2019). There is no doubt that being accepted into a social group is therefore crucial for the positive development of an individual.

Coping with social rejection/exclusion can come in various forms and intensities. According to Baumeister and DeWall (2005, p. 5), 'every individual has the ability to adapt their behavior to social

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standards in order to achieve social acceptance'. In this context, we can speak of self-regulation, which affects the individual's adaptation in the area of social relationships, productivity, success and positive self-perception (Blair & Diamond, 2008), while affecting one's perception of others (Gilbert et al., 1988). Self-regulation as a complex multidimensional construct has been characterized as 'an ability to flexibly activate, monitor, inhibit, persevere and adapt one's behavior, attention, emotions and cognitive strategies in response to direction from internal cues, environmental stimuli and feedback from others, in an attempt to attain personally relevant goals' (Moilanen, 2007, p. 835). Self-regulation is essential for school success as well as school readiness, as beginning school attendance constitutes a critical developmental period in which children become involved in more structured and academically oriented environments (Montroy et al., 2016). Research studies (e.g. Finkenauer et al., 2005; Tangney et al., 2004) show that low levels of self-regulation have typically been connected to higher levels of problem behavior in childhood and adolescence, such as antisocial behavior or delinquency (Vazsonyi et al., 2017) as well as to overall hostility, anger and aggression (Ross & Fontao, 2008). Individuals who fail to self-regulate (through monitoring their emotions, behavior, and thoughts) have fewer satisfying relationships and may be rejected/excluded. Thus low self-regulation may be a significant risk factor for even more serious rejection and, finally, to complete exclusion.

Success in re-integration has been largely attributed to the mechanisms of self-regulation, which may act as an inhibitor or a catalyst of social exclusion. If the dynamic and variable nature of self-regulation are explained, and if the processes that connect the mechanisms of self-regulation with peer's social exclusion are uncovered, we should be able to describe the developmental mechanisms of the self-regulation of students who are at risk of social exclusion. This study focuses on self-regulatory mechanisms, defined as the individual's abilities to influence their reactions along with ways adolescents form adaptive and socially desirable behaviors (Baumeister et al., 2005) against the background of social rejection/exclusion within the school environment. The study presents a research analysis focusing on the relationship between self-regulation and social acceptance/rejection within the school environment.

Self-regulation and social exclusion

Social rejection/exclusion may manifest itself in the individual's cognitive, behavioral, and emotional areas and it is associated with the lower cognitive abilities of rejected/excluded individuals (cf. Baumeister et al., 2002). Social rejection/exclusion may also lead to a defensive state of cognitive deconstruction, one which according to Twenge and Baumeister (2005, p. 409) can be defined as 'avoiding meaningful thought, emotion, and self-awareness, and is characterized by lethargy and altered time flow'. Rejection or exclusion may also cause in the individual a tendency towards self-harming behavior (Twenge et al., 2003); it may also lead to aggression (Twenge et al., 2001) and antisocial behavior (Laird et al., 2001). Many research studies also point to the relationship between social rejection/exclusion and a feeling of loneliness that is dependent on the level of acceptance of the individual by their peers (e.g. Crick & Ladd, 1993; Parkhurst & Asher, 1992).

According to Baumeister et al. (2005), social rejection/exclusion may be significantly influenced by the process of self-regulation. Higher levels of self-regulation increase the possibilities of social acceptance of the individual (e.g. due to their prosocial behavior, efforts to maintain/increase their social status, etc.). On the contrary, low self-regulation levels (e.g. due to antisocial behavior, etc.) may be closely related to social rejection/exclusion (Baumeister et al., 2005).

Another important factor influencing the individual's behavior in the social environment is the regulation of emotions (Ettekal & Ladd, 2020). Individuals who express their emotions in a socially acceptable way are likely to be more readily accepted by the group (Saarni et al., 2006). From the point of view of applying various strategies of emotion regulation, adaptive strategies become key. Among other effects, the use of these strategies is effective and beneficial in the social acceptance context, whereas non-adaptive strategies can lead to social exclusion. Baker and Baumeister (2017) compare the process of self-regulation to muscles that get tired after some activity. Similarly, when a person puts forth great effort regarding self-regulation and is still unaccepted by the group, subsequent self-regulation can be difficult for the individual, as they have exhausted their self-regulatory capabilities. In this case individual may completely cease to adequately regulate their behavior or emotions. At the same time, research

(Baumeister et al., 2006) shows that in the long term the repeated use of self-regulatory mechanisms strengthens one's regulation capability (Baker & Baumeister, 2017).

The reaction to social rejection/exclusion varies depending on the manner of exclusion (i.e. whether the individual has been excluded passively or actively). In the case of active exclusion, the individual tends to avoid future social contact, while passive rejection/exclusion may lead to reintegration efforts (Molden et al., 2009). Similarly, if an individual perceives their social rejection/exclusion as merely temporary, their motivation to reintegrate is significantly higher than in the case of long-term social rejection/exclusion (Blair & Diamond, 2008).

Relationships between students' self-regulation and their social acceptance or rejection

Defined as the capacity to control or alter one's responses, self-regulation is a vital mechanism for producing adaptive and socially desirable behavior (Baumeister et al., 2005). The social environment of the individual may encourage the development of self-regulatory capabilities; or vice versa, it may lead to stagnation and the inability to develop self-regulation. In a positive supportive and stimulating social environment, it can be assumed that the individual will be able to develop self-regulation to a greater extent (Blair & Diamond, 2008). In this paper, we are looking into the relationship between manifestations of the self-regulation of behavior and social acceptance/rejection of students in the school classroom environment.

Methods

Research aims

The aim of the research was to determine the relationship between students' self-regulation and their peer rejection or acceptance. We expected that students are not a monolithic group in terms of peer rejection and other variables. Another goal was therefore to determine a cluster model which meaningfully divides students into groups according to peer rejection, emotional regulation, and school life, i.e., the student's attitude to school indicated by perception of social inclusion in class, teacher support, school wellbeing. The final aim was to determine if peer acceptance/rejection, emotional regulation as well as the student's attitude to school predict the self-regulation skills of students.

Participants

The participants included 1625 lower-secondary school students (girls $n = 776$; boys $n = 849$) in the Czech Republic. The average age was 13.7 years ($SD = 1.29$), with the students attending lower-secondary school at the time of the research. The schools included in the study were randomly selected from a list of all elementary schools in the Czech Republic. All the subjects have provided informed consent. All ethical standards were followed during the research. The research was carried out in accordance with the ethical principles of Tomas Bata University.

Research tools

The Means-Ends Problem Solving technique (MEPS) was used to assess the students' self-regulation skills. The MEPS (Platt & Spivack, 1989) is focused on interpersonal cognitive problem solving, which refers to students' level of self-regulation skills. These skills represent cognitive behavioral mechanisms of self-regulation related to regulation of ones thought and behavior (cf. Karoly, 1993). Students are instructed to complete the middle of a story for which the beginning and the end is provided. Learners are given the beginning of a story which states a problem (for example 'You and your classmate had agreed to work on a group task together, but in the end s/he chose to work with someone else'.). The end of the story is also provided (for example 'The end of your story is that you finally work with the classmate you had earlier agreed to work with'.). Students are asked to connect the beginning and the end by

completing the middle of the story. The middle section can be as long or short as the student deems necessary.

In the administration of our study, 5 of the 10 scenarios were selected to facilitate the completion of the stories and to save time. Although the MEPS offers the possibility to write as many new stories as students can, students were instructed to only use the story that worked best for them. Answers were assessed on the 4-point scale (from 0 to 3), with 0 indicating no answer or entirely irrelevant, while 3 indicating completely relevant answer, i.e. a response showing the ability of the student respondent to regulate their behavior in order to successfully solve the problem. The students were able to obtain a maximum of 15 points, whereby a higher score corresponded to a greater degree of use of self-regulation skills during interpersonal cognitive problem solving (Hrbackova & Cakirpaloglu, 2020) (Cronbach's coefficient $\alpha = .81$). The validity and justification for the use of MEPS for interpersonal cognitive problem solving is supported by a number of other studies, e.g. House and Scott (1996); Kleftaras (2000); Ngan (2008); Hasegawa et al. (2016).

The *Cognitive Emotional Regulation* (Garnefski & Kraaij, 2006) and *ERQ* questionnaires (Gross & John, 2003) were adapted to measure the self-regulation of the students' emotions. These research tools are used in researches with high reliability, e.g. Cerolini et al. (2022); Lemos et al. (2021); Westerlund and Santtila (2018); Preece et al. (2020), focus on the methods or strategies by which the respondent is able to control her/his emotions (the emotional regulation strategies that represent emotional mechanisms of self-regulation) when dealing with a stressful or unpleasant situation. The adapted questionnaire contains 18 items measured in a five-point scale expressing frequency of occurrence from 1 (almost never) to 5 (almost always). A higher score represents a greater degree of use of a particular strategy (Cronbach's coefficient $\alpha = .75$). On the basis of an exploratory factor analysis, we identified 5 factors which explain 51.65% of the variance: the strategies of Rumination (F1), Acceptance and Positive Reappraisal (F2), Positive Refocusing (F3), Blame (F4), along with Suppression of Emotional Manifestations, (F5). On the basis of a content analysis of items and correlations among factors, we suggest the aggregate factors Acceptance and Positive Reappraisal (F2) and Positive Refocusing (F3) as adaptive strategies, with the factors Rumination (F1) and Blame (F4) as non-adaptive strategies (cf. Aldao et al., 2014; Martins et al., 2016). Students who use adaptive strategies in particular usually seek out the positive aspects of a given situation, e.g. they view the problem as an opportunity for personal growth. They are able to change the focus of their attention towards a positive experience and concentrate more on the pleasant aspects of the situation. Students who primarily use non-adaptive strategies of emotional regulation often turn their attention towards a negative experience, e.g. incessantly ruminating over the problem, exaggerating the given situation, and blaming other people. In contrast, suppression is maladaptive strategy, one which involves the inhibition of emotional expressive behavior (cf. Aldao & Nolen-Hoeksema, 2012).

The students' relationships and attitudes towards school life were measured using by *Pupils' Attitudes to School Life* questionnaire (Vojtová, 2018). This research tool is based on *The Quality of School Life Scale—School Life Quality Questionnaire* (Williams & Batten, 1981). The QSL defines the areas of school life which are supportive for students' learning as well as identifies learners which are at high-risk. In its original form this questionnaire assesses school life in the six areas. However, based on the exploratory factor analysis we carried out, eight items had to be removed to achieve a factor loading lower than .4 (cf. Meyers et al., 2013). As a result of this reduction, a three-factor solution appeared to be the most suitable, with the three factors being: Perception of Social Inclusion in the class (F1), Teacher Support (F2) and School Wellbeing (F3). This factor model explains 50.10% of the variance for 27 items, with the four-point scale expressing the level of agreement with statement ranging from: 1 (strong agree) to 4 (strong disagree). A higher score represents more negative attitudes towards the school life (Cronbach's coefficient $\alpha = .94$). Perception of Social Inclusion indicates how students perceive their sense of belonging in the class. Stronger results in this factor indicate more positive feelings of students regarding their own inclusion within informal social peer networks (relationships among students). Teacher's Support shows how students perceive the teacher as a person who shows them interest and provides them with support and assistance; who is fair; on whom they can rely; and who respects their needs. School wellbeing indicates the student's general relationship to school life, i.e. whether students perceive school as

a place where they feel comfortable and happy and whether they perceive school as a place they like to visit.

Peer status (acceptance/rejection in the class) was assessed by a sociometric test which we named My Class. Six sociometric questions were used to identify the peer status in the students, who were asked to complete sentences, e.g. 'My friends in the class are: …' (positive choice) and 'My friends in the class are not: …' (negative choice). The students could nominate any number of classmates, although self-nomination was not allowed. The positive choice and negative choice items were used to calculate a social preference index for each student, according to the procedure of Coie et al. (1982). The raw nominations for positive choice and negative choice ratings were tallied, standardized, and transformed into a social preference score, with a continuous social preference score calculated by measuring the difference between the standardized positive choice and negative choice ratings (see Hrbackova & Cakirpaloglu, 2020). A peer status score was standardized and used to identify children for the rejected and accepted social status groups. The rejected group consisted of all of those students who received a social preference score of less than −1.0, a negative choice standardized score of greater than 0, and a positive choice standardized score of less than 0. Values greater than −1 indicated a positive social preference score (acceptance), and values less than −1 showed a negative social preference score (rejection).

Tasks and items were explained to the students to avoid misinterpretations during data collection.

Data analysis

The range of self-regulation variation ($n = 15$), i.e. the result that student self-regulation fell within the range of 0–15 points ($M = 7.03$; $SD = 3.46$), indicates that the students are not a homogeneous monolithic group. This finding indicated that we should search for a cluster model to divide the participants into meaningful groups in terms of self-regulation and other variables as emotional regulation strategies, students' attitude to school, and their perceived level of peer acceptance/rejection. An explorative hierarchical cluster analysis was performed to divide the students into groups. Between-groups linkage was used as a cluster method and the squared Euclidean distance as a measure. This procedure was deemed appreciate with respect to our data set (cf. Yim & Ramdeen, 2015).

Using a dendrogram analysis, a three-cluster model which divides students according to self-regulated skills and perception of social inclusion in the class was chosen, with these two variables considered the most suitable to create a meaningful model. After analysis, other cluster model (e.g. two or four cluster model) was not consider as meaningful as three cluster model. Forty two outliers which neither fit any cluster nor were enough to form a separate group had to be removed (cf. Nowak-Brzezińska & Gaibei, 2022). This model represents a meaningful division of the 1583 students into three consistent groups with coherent and separable clusters.

Linear regression analysis using the Enter method was used to identify the strength of the predictors of self-regulation. The Enter method is the appropriate multiple linear regression method for testing a given model of the relationships between a set of variables (Nayebi, 2020). In this method, all predictors are forced into model simultaneously and is used for exploring of non-hierarchical relationships among variables (Field, 2012).

Results

Generally, the relationship between peer status (acceptance/rejection in the class, i.e. social preference) and self-regulation skills was revealed. It was found that the higher the level of a student's peer acceptance, the higher the level of the student's self-regulation ($r = .13$; $p < .001$), while, conversely, the higher the level of a student's peer rejection in the class, the lower the level of the student's self-regulation. A cluster analysis allowed us to divide students into three groups which differ in terms of the level of peer rejection, emotional regulation (non-adaptive and adaptive strategies, suppression of emotional manifestations), and school life (perception of social inclusion in class, teacher support, school wellbeing) (see Table 1).

The students in group 1 ($n = 397$ students) showed the highest level of self-regulation skills ($M = 8.82$, $SD = 2.36$), the highest level of social preference, i.e. that they are widely accepted by other students ($M = .14$, $SD = 1.01$); the results also indicate that their perception of their own social inclusion is most positive of the three groups.

The students in group 2 ($n = 960$ students) indicated lower levels of self-regulation skills than did the students in group 1, although the difference with respect to variance is not particularly large. Their level of peer acceptance/rejection ($M = .01$, $SD = .91$) can be considered average, i.e. these students received an overabundance of neither negative choices nor positive choices from their schoolmates in the socio-metric test. Their perception of social inclusion in the class ($M = 3.24$, $SD = .38$) is distinctly negative compared to the other two groups. These students strongly perceive they are not included in the class.

In the third group ($n = 226$ students) were students with the lowest level of self-regulation skills ($M = 1.36$, $SD = 1.42$). The registered level of self-regulation can be considered very low in terms of the range of the possible obtained points: 0–15. Peer acceptance ($M = -.28$, $SD = 1.26$) was shown to be the lowest in the group as well. This group of students usually received negative choices from their school-mates in the sociometric test, although their perception of social inclusion in the class ($M = 2.33$, $SD = .67$) was more positive than in group 2, i.e. students with prevailing negative choices. These differences are statistically significant ($p < .001$). As the Table 1 shows, no great differences were shown among groups of students in terms of other variables such as adaptive and non-adaptive strategies of emotional regulation, suppression of emotional manifestations, teacher support and school wellbeing.

We wondered how separately in each group could a student's self-regulation skills be predicted by peer acceptance/rejection, emotional regulation and the student's attitude to school. It was found out that the predictors each had a different weight in each group of students (see Table 2).

In group 1, adaptive strategies of emotional regulation ($\beta = .12$, $p = .03$) were shown to play an important role; these strategies included positive reappraisal and positive refocusing. The other predictors in this group were weak and could not be considered strong factors regarding a student's self-regulation. This regression model explains only 1.7% of the variance. The perception of social inclusion in class is the most important predictor of self-regulation skills in group 2 ($\beta = .13$, $p < .01$). Adaptive strategies of emotional regulation can affect self-regulation in this group but to a lesser extent ($\beta = .10$, $p < .01$), similar to the use of non-adaptive strategies ($\beta = .09$, $p < .01$) and perceived teacher support ($\beta = .09$, $p < .05$). Other predictors did not prove to be strong enough. This model explains 8% of the variance. In group 3, the perception of social inclusion in class plays a dominant role ($\beta = -.43$, $p < .01$), with the same result of this factor showing as the strongest predictor of a student's self-regulation as in group 2. Nevertheless, the strength of this predictor was shown to be much greater.

Table 1. Cluster model according to self-regulation and perception of social inclusion in class.

	Group 1		Group 2		Group 3	
	M	SD	M	SD	M	SD
Self-regulation skills	8.82	2.36	7.63	2.73	1.36	1.42
Peer acceptance/rejection	.14	1.01	.01	.91	−.28	1.26
Adaptive strategies of emotional regulation	3.46	.73	3.43	.76	3.12	.88
Non-adaptive strategies of emotional regulation	2.95	.78	2.99	.74	2.90	.83
Suppression of emotional manifestations	3.26	1.14	3.29	1.16	3.12	1.20
Perception of social inclusion in class	1.17	.37	3.24	.38	2.33	.67
Teacher support	2.01	.57	2.95	.55	2.35	.70
School wellbeing	2.42	.61	2.43	.60	2.31	.75

Table 2. Regression model: self-regulation as a dependent variable.

	Group 1		Group 2		Group 3	
	β	Sig	β	Sig	β	Sig
Peer acceptance/rejection	.03	.57	.04	.25	.05	.45
Adaptive strategies of emotional regulation	.12	.03	.10	< .01	−.05	< .01
Non-adaptive strategies of emotional regulation	.02	.65	.09	< .01	.02	.74
Suppression of emotional manifestations	−.02	.65	.03	.39	.09	.16
Perception of social inclusion in class	.06	.33	.13	< .01	−.43	< .01
Teacher support	−.01	.84	.09	.01	.02	.82
School wellbeing	−.04	.49	.02	.69	.02	.75

Moreover, the perception of social inclusion in class operates contrarily than is the case with group 2. In group 3, as the students' perception of social inclusion in class decreases, their self-regulation also decreases, whereas for group 2 self-regulation increases with decreasing perception of social inclusion among the students. The importance of this predictor is underlined by the fact that this model explains 19% of the variance. The other factors cannot be considered factors having a great effect on the self-regulation skills of the students in group 3.

Discussion

The results of our research show that the three groups of students are significantly profiled, with each showing a different degree of self-regulation (i.e. the ability to regulate their own behavior in ways connected to interpersonal cognitive problem solving). These groups could be described as (1) Thriving, (2) Balancing and (3) Struggling based on the mutual interaction between the student indications of self-regulation and the quality of their peer interaction.

The students in the Thriving profile can regulate their own behavior using standard mechanisms to resolve problem situations in the classroom. These learners are accepted by their classmates, while at the same time they feel integrated into the school environment. In terms of relative influence, one variable has the strongest effect for the group of relatively popular learners the use of adaptive strategies of emotion regulation (such as positive reappraisal and positive refocusing), i.e., the higher the level of use of adaptive strategies of emotion regulation, the higher the level of self-regulation skills. These results support the findings of the previous research on the importance of emotion regulation in relation to an individual's behavior in social settings (English et al., 2012). Emotion regulation often occurs in social contexts (Gross et al., 2006), and such strategies alter the emotion processes that are implicated in social interactions. Previous research shows that emotion regulation plays an important role in shaping not only momentary emotion experience and behavior, but, most notably, one's social environment.

Students in the Balancing profile are able to regulate their own behavior using the mechanisms needed to solve problem situations in the classroom. In this group, there are obvious discrepancies regarding the actual and perceived degree of integration into the class. Obviously, students do not feel integrated in the class (they perceive that they do not belong), although in reality they are not actually rejected. The real social rejection/exclusion of an individual (based on sociometric data) may not be in agreement with the individual's perception of this state. In a larger perspective, the subjective perception of social rejection that arises as a result of the discrepancy between a desired and a perceived relational evaluation can explain why individuals sometimes feel rejected even if rejection has not in fact occurred (McDougall et al., 2001). Leary and Downs (1995) (cf. Leary & Baumeister, 2000) put forth the idea that low self-esteem often affects whether an individual feels rejected/excluded. However, in retrospect, identifying with this feeling can be a factor influencing the actual rejection/exclusion of the individual. Thus, one's own perception of social rejection/exclusion may be just as (if not more) significant in the context of interpersonal relationships (McDougall et al., 2001).

In this profile group, the perceived degree of integration into the class is the strongest predictor of a student's self-regulatory behavior. It is obvious that the less integrated the students feel, the higher their tendency to self-regulate their behavior. This may mean that if the social environment is not hostile (i.e. students are not greatly exposed to the experience of social rejection by their classmates), then the perceived degree of their social inclusion in the class can act as a strengthening factor for the self-regulatory behavior of these students. This is consistent with research findings that confirm that when people feel excluded from a group, they develop a need for assimilation and change their thinking and behavior to conform to group members (Brewer & Pickett, 1999; Pickett et al., 2002). Research by DeWall et al. (2008) suggests that excluded individuals are highly motivated by an incentive compared to accepted members of the group, which could increase the chances of the excluded to gain future acceptance. While rejection generally has negative effects, and acceptance has positive effects, it is evident that when the circumstances are directly relevant to the satisfaction of a desire, a standard motivational pattern emerges, and individuals exert more effort to satisfy the need for belonging.

Our research shows that the use of self-regulatory mechanisms in students in the Balancing profile, i.e. those who are not really exposed to social rejection by peers, is mainly related to their perceived

degree of integration into the class. The use of emotion regulation strategies (either adaptive or non-adaptive) and the perceived level of support from the teacher less involved in the level of self-regulation of behavior of these learners to a lesser extent.

Students in the Struggling profile group showed the lowest degree of self-regulation of behavior. Of all three profiled groups, students in this group showed the lowest level of social acceptance, whereas, paradoxically, their perceived integration into the class is more positive than in the students in the Balancing profile. Similar to the previous group, pupils did show differences in the perceived and actual degree of inclusion in the class, but in the opposite direction, i.e. the perceived level of inclusion of pupils in this group was higher than the actual level of acceptance. Although these pupils were not very accepted in the group, they did not perceive their inclusion in the collective class too negatively. Eisenberger et al. (2003) found that the brain's responses to pain and to rejection are quite similar. Moreover, the experience of social exclusion reduces the emotional response to such an extent that it can cause emotional indifference (Leary, 2015). The lack of emotion is not only the result of people denying their feelings or being afraid to admit them, but that their emotional system seems shut down. In this group, a negative attitude towards integration into the class does not serve as an impulse for these learners to regulate their own behavior as it does in students in the Balancing Profile. On the contrary, it may weaken the degree of self-regulation of these students.

If students are encouraged to perceive the stimuli within the school environment as meaningful, this is likely to be reflected not only in their perceived integration into the class, but also in the degree of self-regulation of their own behavior. Our recent research suggests (Hladik & Hrbackova, 2021) that students who are rejected from the class group use less self-regulatory mechanisms to solve problem situations, with this abandonment of self-regulation possibly the result of the experience of the peer rejection. In the case in which students are neither very well accepted by their classmates nor rejected, a turning point situation occurs. Pupils either use the mechanisms of self-regulation despite the fact that they feel excluded from the class, or they forgo these mechanisms. This occurrence may be highly influenced by the extent to which these learners consider their social environment either as threatening or, in the opposite case, as supportive. Our research suggests that a subjectively perceived attitude towards one's self-inclusion in the class is fundamental in the process of self-regulation in cases in which the class environment does not operate in a supportive manner.

It is possible that an individual's beliefs about future acceptance/non-acceptance play a key role in this process. Research by DeWall et al. (2008) has shown that the effects of social acceptance and social exclusion on self-regulatory performance depend on the prospect of future acceptance. This conclusion is consistent with our explanation of the difference between the Balancing and Struggling profile. For students in the Balancing profile, the self-regulation skill increases as the perception of social inclusion decreases, while in the Struggling profile, the self-regulation ability decreases as the perception of inclusion decreases. This conclusion was also reached by Baumeister et al. (2005), who found that being excluded or rejected caused decrements in self-regulation. Nevertheless, they also found that rejection could increase self-regulation, especially in circumstances where some aspect of the self has contributed to the rejection. The research by Baumeister et al. (2005) suggests that self-regulation is in large part a costly, arduous, and therefore fragile process. The enormous benefits and rewards that come from social acceptance can make people usually willing to tolerate the costs and sacrifices that self-regulation requires. This willingness can be lost, however, when social acceptance and the concomitant rewards are not forthcoming. DeWall and Richman (2011) explain this discrepancy in the involvement or non-involvement of self-regulation as a response to social exclusion, which is conditioned by whether the individual perceives this exclusion as temporary. When people feel socially excluded, they want to regain acceptance, so they may respond in ways that can help them do so. However, when the possibility of acceptance is not offered and the rejected individual has no prospect of future acceptance, his willingness to make efforts to rejoin the class collective may be lost (Baumeister et al., 2005).

Limits

Although this study has sought to provide additional insights into student self-regulation associated with peer rejection or acceptance, certain limitations of our research should be noted. In our

measurements regarding the self-regulation of behavior we chose to use self-reports by students regarding how they regulate their own behavior in certain situations. Self-reports are susceptible to response biases especially on subjects' ability to assess themselves accurately. Our goal was to determine factors surrounding the subjective perceptions of students regarding their own inclusion into the class, as self-regulating behavior can to some extent be dependent on these perceptions.

Another limit concerns the inference of directionality. In our research, we did not investigate the direction of the observed variables, although we assume that it is bidirectional, i.e. self-regulation affects peer interaction and peer interaction has a retrospective effect on a student's self-regulation. However, we are aware that we cannot infer anything about the directionality of the observed relationships in this study. At the same time, we are aware that the data were collected at a single time point. Future studies could be designed to collect data across multiple point time, either in a longitudinal or cross-sectional design (to establish temporal sequence). It would also be appropriate to conduct research focusing on a qualitative approach that measure and describes in depth the direction of this effect as well as the ramifications thereof.

Although our intention was to generalize the results, it should be mentioned that the examined context is culturally and situationally conditioned, as the social dynamics of the situation are reflected in classroom relationships and other influences that we did not include in our research.

In follow-up research, it may be useful to explore in more depth the factors that strengthen and weaken the self-regulation of the behavior of socially rejected pupils in various circumstances.

Conclusion

Extrapolating from our research on the school environment, it turns out that the social environment, and in particular the nature (role) of this environment—supportive or threatening—plays a key role in the process of self-regulation of behavior, and thus in the successful resolution of everyday life situations. Obviously, if the environment is supportive, the mechanisms of self-regulation operate in a different way than in an environment that appears threatening.

The results of our research show that students who are accepted by the group and at the same time are perceived as included in the class achieve higher levels of self-regulation. In these students, who are essentially exposed to a positive social environment, the level of self-regulation is significantly higher through the use of adaptive strategies of emotion regulation. On the other hand, students who are not accepted very much in the classroom regulate themselves to a lesser extent. In situations when the social environment is in effect not particularly positive, perceived integration into the class plays a key role in a learner's use of self-regulatory mechanisms in solving problem situations in the classroom. The perception of being integrated into the group can either be perceived as a reinforcing factor for learner self-regulation, or as a negatively weakening factor regarding a student's self-regulation. The current data add to a growing literature in support of a contextual view of self-regulation. An outstanding opportunity has arisen to clarify the conditions under which the perception of peer interaction can be contextualized in relation to self-regulation. Empirical examinations and intervention programs may benefit from defining a contextual view of self-regulation difficulties within paradigms which can be closely matched to a person and a particular context.

Disclosure statement

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