Adolescents' profiles based on student agency and teacher autonomy support: does interpersonal justice matter?

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Abstract

In this study, we adopted a person-oriented approach to (a) identify latent profiles of adolescents characterized by unique patterns of perceived teacher autonomy support and student agency, (b) investigate whether perceived interpersonal justice can predict profile membership and (c) compare different profiles in relation to personal responsibility. Participants were 545 Italian secondary school students (55% boys, 94% born in Italy, $M_{age} = 14.24$, $SD_{age} = .53$). Five adolescents' profiles emerged: *disengaged* (24%), *average students* (34%) and *committed* (28%), with low, mean and high scores, respectively, in both teacher autonomy support and agency; *resistant* (5%), with low scores in teacher autonomy support and high scores in agency; *compliant* (9%), with high scores in teacher autonomy support and low scores in agency. Perceptions of interpersonal justice significantly predicted profile membership in the comparison of almost all profiles. Several significant differences in responsibility among profiles also emerged. Implications of the findings for practices and policies are discussed.

Keywords Student agency · Teacher autonomy support · Justice · Student responsibility · Latent profile analysis · Secondary school

In a school that for many years has called for a student-centred approach and an educational paradigm in which learning is synonymous with participation (e.g. Baeten et al. 2016; Freiberg and Lamb 2009), the concept of student agency has progressively become more and more

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relevant (Mameli et al. 2020). What is particularly valued of agency is that it properly represents the adolescents' authentic, proactive and transformative contributions to classroom practices. In the current study, we investigate student agency in association with teacher autonomy support (Matos et al. 2018) and examine whether the feeling of being treated fairly by teachers has an effect on both these dimensions (Assor et al. 2005).

Contrary to most studies in the field, which have used a variable-oriented approach for investigating general trends and associations between variables, we adopted a person-oriented approach that allowed us to identify profiles of adolescent students characterized by unique patterns of perceived teacher autonomy support and personal agency. Furthermore, we investigated whether perceived interpersonal justice predicted membership of these profiles and eventually tracked adolescents belonging to different profiles in relation to the feelings of being personally responsible for their learning.

Student agency and teacher autonomy support as interdependent dimensions

Student agency is defined as "the opportunity, will and skill of people to act upon, influence as well as transform activities and circumstances in their lives" (Rajala et al. 2016, p.1). Far from being a simple response to the teachers' solicitations and requests, agency represents the opportunity for adolescents to act as co-authors, together with teachers and classmates, of school activities. Asking questions, expressing preferences and needs, offering suggestions, taking stances, defending one's opinions, complaining about a teacher's decision and introducing new topics are just some concrete examples of student agency (Mameli and Passini 2019; Martin 2016; Reeve 2013).

Being an inherently interactive construct, agency is strictly intertwined with the multiple and complex social processes unfolding in classroom everyday life, first of all those involving teacher-student relations. Indeed, teachers have a key role in promoting or hindering student agency by providing the conditions for expressing proactive behaviours or, on the contrary, by limiting and constraining the students' interactive space (Lipponen and Kumpulainen 2011; Van den Berghe et al. 2016). For example, teachers can encourage—or can refrain from encouraging—students to share their point of view on a subject, value their opinions, interests, original ideas or requests, recognize students' discontent and accept alternative proposals. Through their various actions in response to student agency, teachers engage in dynamic exchanges that may support or on the contrary confine the students' need for autonomy (Núñez and León 2015). This interactional dynamic is particularly important for adolescents, who are involved in the developmental task of gaining autonomy from adults that is typical of the second individuation/separation process (Blos 1967). Teacher autonomy support is adaptive to this task, because when students perceive autonomy support, they also feel low pressure to behave in a specific way and high encouragement to be themselves (Núñez and León 2015), conditions that are particularly important for identity formation (Adams et al. 1992).

In this framework, student agency and teacher autonomy support may be considered as interdependent and complementary dimensions (Matos et al. 2018; Rajala et al. 2016). Indeed, "agentic engagement involves students expressing opinions, communicating interests, and asking questions, while autonomy support involves creating the classroom conditions in which students feel free to express opinions, pursue interests, and ask questions" (Reeve and Tseng 2011, p. 264). Research confirms the reciprocal influences between these two constructs. On

the one hand, teacher-provided autonomy was found to boost student engagement and agency (Jang et al. 2012; Jang et al. 2016a; Molinari and Mameli 2018) by encouraging students' free actions and choices (Reeve and Halusic 2009). On the other hand, student agentic behaviour predicted subsequent changes in perceived autonomy support, as learners' agency functions as "a student-initiated pathway to recruit greater autonomy support from teachers" so that "the more the students let the teacher know what they want and need, the more likely it becomes that the teacher will consider and respond to students' wants and needs" (Matos et al. 2018, p. 581).

In sum, research based on a variable-oriented approach has confirmed the existence of a positive association between teacher autonomy support and student agency. However, the adoption of a person-oriented approach can help us capture a different perspective, based on the complex interplay between student agency and teacher autonomy support in everyday classroom interactions. Indeed, the two methodological approaches inform research in different ways (Bergman and Wångby 2014; Bergman and Trost 2006; Von Eye and Bogat 2006). Variable-oriented studies, searching for associations between variables, are theoretically based on the assumption that the population under investigation is homogeneous with respect to the considered variables (Von Eye and Bogat 2006). Person-oriented studies assume instead that the considered population can be made up of different groups, based either on a priori categories (e.g. gender) or, as in the present study, on multiple classes possibly emerging from data analysis (e.g. latent class analysis). Moreover, the person-oriented approach also assumes that some processes or factors can manifest through different specific patterns, which are shared by different groups of individuals (Bergman and Magnusson 1997).

Based on these considerations, in the present study, we adopted a person-oriented approach that allowed us to identify groups of adolescents with specific patterns of student agency and perceived teacher autonomy support scores. In line with the above reported literature results, we expected to find students with high or low scores in both variables, i.e. who respond agentically to teacher autonomy support, or who refrain from being agentic as they do not perceive autonomy support. Nevertheless, given the complex interplay of agency and autonomy support in the classroom interactive dynamics, we also expected to find students who scored high in teacher autonomy support and low in agency, i.e. who tend to avoid the stress or discomfort induced by exposing themselves (for a review, see Korem 2019), as well as students who manifest agency even if teachers do not support autonomy, i.e. in case they mean to challenge the teacher's authority and power (Mameli et al. 2019a).

In this nuanced scenario, an interesting albeit as yet unanswered question concerns whether adolescents showing different profiles perceive various degrees of personal accountability in school matters. In line with the self-determination theory framework and the basic psychological need literature (Ryan and Deci 2000), in adolescence, the recognition of the need for autonomy brings along higher intrinsic motivation and engagement (Gagné and Deci 2005; Reeve and Halusic 2009; Vansteenkiste et al. 2008), which in turn promote the adolescents' feeling to be personally accountable for their interest and success in learning (Fishman 2014). It is thus plausible that student agency and teacher autonomy support play an important role in the assumption of personal responsibility in learning. Moreover, previous studies have advanced the claim that student agency and responsibility may be considered as "two sides of a same coin" (Mameli et al. 2019b, p. 43), with the former focused on transformative actions and the latter on a

subjective feeling of self-regulation, but both related to the adolescents' pro-active role in their learning process.

Classroom interpersonal justice

Interpersonal justice, defined as the feeling of being "treated fairly, with dignity and respect" (Chory-Assad 2002, p. 61) is a critical dimension in adolescence (Berti et al. 2016; Donat et al. 2018; Mameli et al. 2018), a time of life when people are particularly sensitive to issues of equity and equality (Resh and Sabbagh 2016). At school, the perceptions of fair relationships with teachers have positive effects on many valorized outcomes like, for example, motivation (Molinari et al. 2013), commitment and achievement (Donat et al. 2016) and well-being (Kamble and Dalbert 2012).

Research into the impact of interpersonal justice on autonomy and agency is instead still limited. Some scholars (Molinari and Mameli 2018; Taylor 2003) provided insights that a fair interpersonal context in which students are allowed to exercise control over their decisions and results is a necessary condition for students to feel autonomous. Nonetheless, the connection between justice and teacher autonomy support has not been empirically investigated. This is a gap to be filled in, if we consider that teachers' actions limiting student autonomy are amongst the behaviours that are considered most of all unfair in adolescence (Assor et al. 2005; Mayer et al. 2008).

The association between interpersonal justice and agency has been addressed by few studies, which, however, reached contradictory results. Tas (2016), for example, reported that students feel more confident to act agentically if they can count on teachers who favour the construction of equal learning environments, in which everyone's contribution is welcomed and valued. On the contrary, a line of studies (Goodboy 2011; Mameli et al. 2019a; Molinari and Mameli 2018) indicated that students take agentic stances overall in response to teachers' behaviours that they perceive as unjust.

Aim of the present study

As reported above, prior research has provided evidence that student agency and teacher autonomy support can be considered as interdependent variables with positive and reciprocal influences on each other (Matos et al. 2018). Nevertheless, the literature has also provided insights that these two variables can be combined in different ways, as in the case of students avoiding self-exposure (Korem 2019), or of students willing to challenge teacher control (Bolkan and Goodboy 2016). Whether these are only to be considered exceptions is not known, as most previous studies made use of a variable-oriented approach which allowed to investigate, in broad samples, whether a global level of one variable is associated, on average, with a global level of another dimension.

In this study, we adopted a person-oriented approach (for other studies with the same approach, see for example Bergman and Wångby 2014; Corsano et al. 2019; Salmela-Aro et al. 2016) for identifying groups of adolescents characterized by different configurations of student agency and teacher autonomy support. Therefore, the following research question (RQ1) is put forward: *Is it possible to identify subgroups of adolescents characterized by unique patterns of perceived teacher autonomy support and student agency?* We hypothesized

we would find four distinct student profiles. In line with the literature (Matos et al. 2018; Reeve and Tseng 2011), we expected to find a group of adolescents who score high in both teacher autonomy support and student agency, and another group who score low on these same variables. Moreover, we also expected to find a profile characterized by a high level of teacher autonomy support and a low level of student agency, conditions compatible with adolescents avoiding self-exposure, and another profile characterized by low teacher autonomy support and high student agency, which well-matches the picture of students willing to challenge teacher control.

Furthermore, although a few studies (Assor et al. 2005; Mameli et al. 2019a) discussed the implications of interpersonal justice for agency and autonomy support, no studies, to our knowledge, considered the impact of justice on these dimensions considered together. Therefore, the following research question (RQ2) is offered: *Is student-perceived interpersonal justice able to predict membership in the previously identified profiles*? Consistently with studies indicating that justice is a necessary condition for teacher autonomy support to develop (Taylor 2003), we expected higher perceptions of justice to be associated with a higher likelihood of belonging to profiles characterized by high perceptions of teacher autonomy support as compared with the others. Moreover, given the contradictory results concerning the association between perceptions of justice and agency (Molinari and Mameli 2018; Tas 2016), we also expected there to be some adolescents who perceive agency in conditions of fairness and other adolescents who perceive agency when they feel to be treated unjustly. As far as the combination of the two variables is concerned, then, we expected higher perceptions of justice to be associated with higher likelihood of belonging to profiles where high student agency is accompanied by high perceptions of support, while lower perceptions of justice would predict membership of profiles where high agency is accompanied by low perceptions of support.

Finally, as the recognition of the need for autonomy from the part of the teacher affects intrinsic motivation and engagement (Gagné and Deci 2005; Jang et al. 2016b; Vansteenkiste et al. 2008) that in turn promote personal responsibility, we offer a third research question (RQ3): *Do students with different profiles perceive different degrees of personal responsibility for their learning during the course of the academic year*? In line with the importance of autonomy and agency in adolescence, we expected profiles with higher scores of teacher autonomy support and student agency to show a higher sense of responsibility over the whole course of the academic year as compared to the others. However, we also expected that even in conditions of low autonomy support, high perceptions of agency would contribute to the feeling of responsibility especially in the middle and at the end of the school year, when student-teacher dynamics are well-established.

Method

Participants and procedure

A convenience sample of 545 students (55% male, 94% born in Italy, $M_{age} = 14.24$, $SD_{age} = .53$) participated in the study. Participants were from three different high schools in Northern Italy and were all enrolled in the 9th grade. The research was conducted in accordance with the ethical norms of the Italian National Psychological Association and with the approval of the local Ethical Committee. Data were collected at three different times: within the first month of the school year (T1), in the middle (T2) and during the last month of

the school year (T3). The questionnaire was completed on school computers by means of an online platform during school hours. A researcher was always present, to give everyone the same instructions and to answer questions. At all times, the participants were informed of the study's aims, the confidentiality of their answers and voluntariness of participation, and they gave their consent prior to completing the questionnaire. Informed consent of both parents was also collected prior to the first questionnaire administration (with about 2.2% of families refusing). Students were randomly assigned to one of three subjects (literacy, mathematics, English language) so that, while completing the questionnaire, they referred to their experience with the specific teacher of that subject (which remained the same at all three times). This choice was made in order to collect students' perceptions of real learning environments and to avoid generalizations. Since differences among subjects were beyond the scope of this research, all the answers were then analysed together.

Measures

This study was part of a larger research project aimed at investigating students' paths—in terms of students' perceptions of learning environment, motivation, engagement, academic satisfaction and achievement—during the course of an academic year. For the present work, we only considered the following dimensions.

Teacher autonomy support was assessed at T2 with a 5-item short version of the Learning Climate Questionnaire (Reeve 2013; Williams and Deci 1996). The scale measures students' perceptions of the autonomy support provided by teachers (sample item: "My teacher listens to how I would like to do things"). Students rated their agreement with the statements on a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Since the measure had never been used before with an Italian population, a back-translation procedure was adopted, and we conducted a preliminary confirmatory factor analysis (CFA). The single factor model showed good fit with our data (RMSEA = .06, CFI = .99, SRMR = .01) with standardized factor loadings ranging from .65 to .87. Cronbach's alpha for this scale in our study was .88, supporting a good internal consistency.

Student agency was assessed at T2 with the 10-item Agentic Engagement scale validated in Italian by Mameli and Passini (2019). The measure comprises items describing behaviours through which students can manifest their agency during school classes. Sample items are "I let my teacher know what I am interested in" and "I make sure my teacher understands if there is something I don't like". Participants answered on a 7-point Likert scale expressing their agreement with each item, from strongly disagree (1) to strongly agree (7). The scale showed good reliability with a Cronbach's alpha of .85.

Interpersonal justice was assessed at T2 with the Italian adaptation (Berti et al. 2016) of the Teacher Justice Scale (Dalbert and Stoeber 2006). The scale comprises 6 items assessing students' perceptions of fairness in the interpersonal treatment received by their teacher (sample item: "I feel my teacher generally treats me fairly"). Students rated their agreement on a 7-point Likert scale as for previous measures. Cronbach's alpha for this scale was .80, showing good internal consistency.

Student responsibility was assessed at all three data collection times using a 5-item scale as seen in Fishman (2014). The purpose of the scale was to assess to what extent students feel personally responsible for their involvement and achievement in the specific subject. The items were preceded by an instruction in which students were asked to evaluate to what extent they feel that each outcome stated in the items depends upon them (instruction: "How much does it

depend on you that…". Sample item: "… you are interested in the subject"). Participants rated their personal responsibility from 1 (not at all) to 7 (completely). Since the measure had never been used with an Italian population before, we conducted preliminary confirmatory factor analyses for all three times. The expected single factor model consistently showed a good fit to our data (respectively, for T1, T2 and T3: RMSEA = .08, CFI = .99, SRMR = .03; RMSEA = .09, CFI = .98, SRMR = .03; RMSEA = .08, CFI = .99, SRMR = .02). Cronbach's alphas for T1, T2 and T3 were respectively .80, .81 and .83.

Data analysis

Prior to conducting data analyses, we checked for the normal distribution of our data, considering values of skewness and kurtosis: normality of the data is considered acceptable when these values are lower than 2 in absolute numbers (Gravetter et al. 2020). We also computed descriptive statistics and intercorrelations for each variable separately for male and female students.

To answer RQ1, we conducted a latent profile analysis (LPA) using the Mplus 8 software (Muthén and Muthén 2009), which allowed us to identify students' profiles using the perceived teacher autonomy support and student agency variables collected at T2. We tested models with two to six latent classes, and then, we compared fit indices and model interpretability to identify the best-fitting model. In particular, we compared the sample size adjusted Bayesian Information Criterion (aBIC), the Vuong-Lo-Mendell-Rubin Likelihood Ratio Test (VLMR-LRT), the Bootstrapped Likelihood Ratio Test (BLRT) and the entropy value (Nylund et al. 2007). In the comparison of indices, lower adjusted BIC values are preferred as they indicate a better fit; the likelihood ratio tests (VLM-LRT and BLRT) should be significant, indicating that, in the comparison of nested models, adding one class improves the fit; higher entropy values (closer to 1) are desired as they indicate clearer distinction of classes.

To answer RQ2 and RQ3, we adopted the three-step approach with the Mplus software to study predictors and distal outcomes for profile belonging while considering possible measurement errors during the identification of profiles (Asparouhov and Muthén 2014). More specifically, to answer RQ2, the three-step approach allowed us to conduct a multinomial logistic regression to analyse the role of perceived interpersonal justice at T2 in predicting profile membership. We also included gender as a covariate to control for its possible role in predicting profile membership. For answering RQ3, we used the three-step approach to conduct an equality test of means (t test) for analysing group differences in student responsibility at all three times of data collection.

Results

Skewness and kurtosis values were all included between − 1 and + 1, supporting the normal distribution of our data. Descriptive statistics and intercorrelations for all variables are reported in Table 1, separately for male and female adolescents.

Analysis of latent student profiles (RQ1)

Fit indices for all models can be found in Table 2. The adjusted BIC value, lowest for the five-class solution, and the BLRT consistently indicated five classes as the best solution. The

Table 1 Descriptive statistics and intercorrelations for all variables

	Variables	M (SD)		1	2	3	4	5	6
		Male	Female						
1	Teacher autonomy support	4.00 (1.49)	4.10 (1.64)	-	.30**	.67**	.31**	.42**	.36**
2	Student agency	3.70 (1.26)	3.35 (1.20)	.43**	-	.15*	.16*	.29**	.18**
3	Interpersonal justice	5.28 (1.37)	5.31 (1.24)	.64**	.19**	-	.27**	.36**	.27**
4	Responsibility T1	4.73 (1.29)	4.81 (1.32)	.33**	.18**	.29**	-	.63**	.56**
5	Responsibility T2	4.72 (1.35)	4.78 (1.33)	.54**	.34**	.49**	.53**	-	.68**
6	Responsibility T3	4.62 (1.32)	4.75 (1.38)	.34**	.29**	.24**	.45**	.52**	-

*$p < .05$. **$p < .01$. Male students' scores are reported below the diagonal, female students' scores above

VLM-LRT was less decisive but still supported the five-class model. Entropy was only slightly higher for the six-class model, showing instead a clearer increase in the transition from the four to the five-class model. In contrast to our prediction of four profiles, overall and also considering the interpretability of the models, the results supported the use of a five-class model.

The five emerging profiles—which we labelled for improving legibility—can be found in Fig. 1. A first profile (clustering 24% of our participants) comprised those that we called *disengaged* students, reporting low scores (well below the middle point of the scale) in both perceptions of teacher autonomy support and agency. A second profile (34% of our participants) comprised adolescents that we labelled *average students*, who reported mean scores in both variables. A numerically small third profile (5% of our participants) was made up of students that we named *resistant*, as they reported low scores in teacher autonomy support together with the highest scores in agency. A fourth profile (28% of our participants) included those that we called *committed* students, exhibiting high scores in both teacher autonomy support and student agency. Finally, a fifth profile (clustering 9% of our subjects), labelled *compliant*, included students who reported high scores in teacher autonomy support and middle scores in agency.

Interpersonal justice as a predictor of profile membership (RQ2)

The multinomial logistic regression conducted with the three-step approach showed that the perception of interpersonal justice was a significant predictor of profile membership. Detailed results can be found in Table 3. Consistently with our hypotheses, adolescents perceiving higher interpersonal justice were more likely to belong to the *committed* or *compliant* profile as compared with all the others, with no significant difference between these two profiles, and with the lowest likelihood of belonging to the *disengaged* profile as compared with the others.

Table 2 Fit indices for latent profile models with 2–6 classes

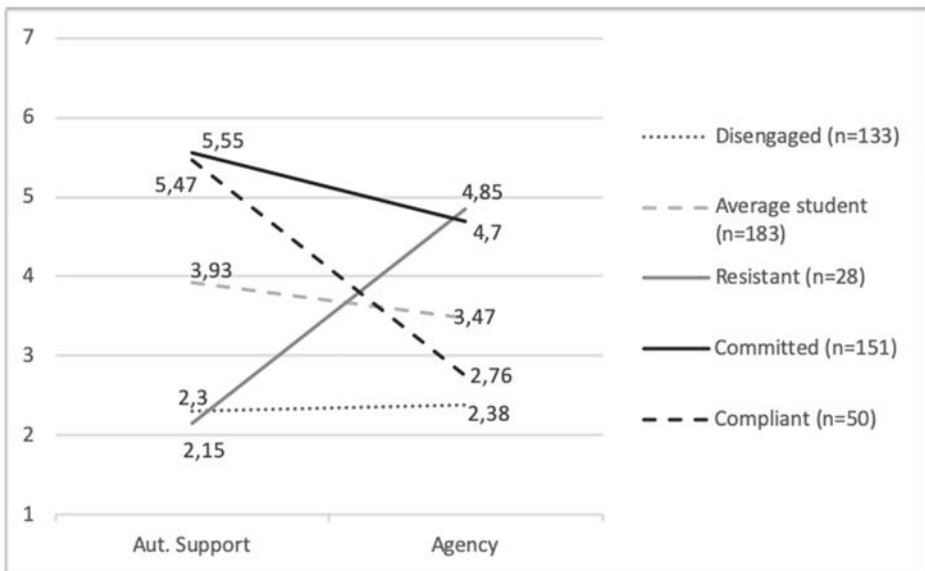| Number of classes	Log likelihood	No of parameters	VLMR-LRT	BLRT	aBIC	Entropy
2	− 1844.252	7	$p < .001$	$p < .001$	3710.389	.669
3	− 1838.185	10	$p < .05$	$p < .001$	3707.634	.638
4	− 1831.301	13	$p = .567$	$p < .001$	3703.245	.612
5	− 1822.329	16	$p < .05$	$p < .001$	3694.681	.654
6	− 1819.493	19	$p = .672$	$p = .667$	3698.387	.662

Fig. 1 Student profiles from the latent profile analysis

Looking at the interplay between autonomy support and agency, in line with our predictions, the results showed that lower perceptions of justice predicted membership of the *resistant* profile, characterized by high agency and low perceptions of support, rather than of the *disengaged* one, where both variables were low.

Gender emerged as a significant profile predictor belonging only in the comparison of the *compliant* profile with the *average* and *committed* profiles, with female adolescents more likely to belong to the *compliant* group rather than to the other two (with *compliant* as the comparison group, respectively, B (SE) $= -1.62$ (.60), $p = .009$ and B (SE) $= -1.34$ (.56), $p = .023$).

Table 3 Multinomial logistic regression with interpersonal justice at time 2 as predictor

	B	SE	p	OR	95% CI
Compliant as comparison group					
Disengaged	− 2.732	.513	.000	.065	[.178; 41.992]
Average	− 1.884	.493	.000	.152	[.399; 17.293]
Resistant	− 3.492	.574	.000	.030	[.094; 101.194]
Committed	− .635	.478	.184	.530	[1.352; 4.816]
Disengaged as comparison group					
Average	.849	.184	.000	2.337	[.614; 3.352]
Resistant	− .759	.265	.004	.468	[.787; 3.592]
Committed	2.097	.289	.000	8.142	[4.621; 14.346]
Average as comparison group					
Resistant	− 1.608	.306	.000	.200	[.365; 9.095]
Committed	1.249	.262	.000	3.487	[.479; 5.827]
Resistant as comparison group					
Committed	2.857	.385	.000	17.409	[.122; 37.025]

CI confidence interval for odds ratio

Different trajectories of student responsibility (RQ3)

In Fig. 2, the personal responsibility scores of every single profile at the three data collection times are reported. The profiles' differences were calculated separately for each time. As shown in the figure, various significant differences among the profiles emerged for each time, drawing distinct characteristics of the adolescents in the different profiles.

At the beginning of the year (T1), *disengaged*, *average* and *resistant* students reported similar and low scores of personal responsibility, with no significant differences among them. *Committed* students scored significantly higher than the three aforementioned profiles, and *compliant* students scored significantly higher than all other profiles.

In the middle of the school year (T2), the profiles differed as follows: *disengaged* adolescents scored lower than all others, *average* and *resistant* students scored higher than the *disengaged*, with no difference between them, and *compliant* and *committed* students scored higher than all the others, with no difference between them.

By the end of the school year (T3), *disengaged* and *average* students scored lower than all the others, while *compliant* and *committed* adolescents showed the highest score, with no difference between them. Again at T3, no significant difference was found between *committed* and *resistant* students, although the first group scored closer to the more responsible students, and the second closer to the less responsible students.

Discussion

The first aim of this study was to identify different adolescents' profiles with respect to their perceptions of teacher-provided autonomy support and student agency. Additionally, we considered
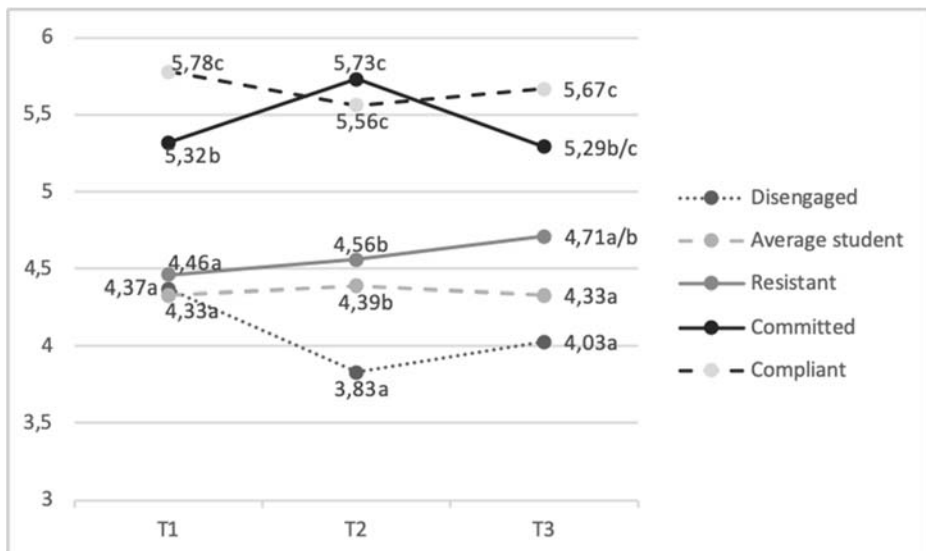

Fig. 2 Student responsibility scores for each profile at the three data collection times Note: for each time, means with different subscripts were different at least at $p > .05$ according to the t test (third step of the three-step approach). The answer scale ranged from 1 to 7; for clarity of representation, we included in the figure points between 3 and 6

the role of perceived interpersonal justice in predicting membership to the various profiles and eventually tracked differences among profiles with respect to student responsibility over the course of the academic year. Key results and educational implications are discussed in the following sections.

Student profiles

The five profiles that emerged from our analyses largely overlapped our expectations and confirmed the value of a person-oriented approach in depicting a composite image of the adolescent population in schools. Going further from our hypotheses, and consistently with other studies revealing a positive and co-dependent relationship between perceived teacher autonomy support and student agency (Jang et al. 2016a; Matos et al. 2018), we found three rather than two profiles—i.e. the *disengaged*, *average* and *committed* adolescents—showing low, medium and high scores, respectively, on both our variables. *Disengaged* students seem to "give up" from school, presenting a deep detachment perhaps because disappointed by a learning environment seen as restrictive. *Average* students scored a bit higher than the *disengaged* on both indicators, but still quite low. We can figure out these adolescents as "middling" and not disturbing students (those who do not make their voices heard even if they feel that their needs for autonomy are ignored by the teachers), presumably neither satisfied nor dissatisfied. In total, more than half of our participants were clustered in one of these two groups, and this finding, although consistent with the literature reporting a decline in students' motivation and commitment from the early years of the secondary school (Anderson et al. 2019; Wang and Eccles 2012), is alarming as it denounces a generalized tendency of adolescents to refrain from active participation in school life.

Some room for a more optimistic view is offered by the *committed* profile. Given their high perceptions of teacher-provided autonomy support and their high reported tendency to provide personal and proactive contributions in class, adolescents in this group may be considered as "optimal" learners. Running counter to the vision of a school that limits students' opportunities to be direct and active protagonists of their educational pathways (Howe and Abedin 2013; Rajala et al. 2016), the *committed* profile reveals that there are adolescents who feel confident in shaping their own learning context when they find support and legitimization for their actions in the relationship with the teacher (Reeve and Tseng 2011).

Even more interesting for our discussion, and in line with our expectations, are the *compliant* and *resistant* profiles, which largely remained in the shadows in previous investigations conducted with a variable-oriented approach. The findings concerning these two groups add important information to the well-known positive connection between students' perceptions of teacher autonomy support and agency (Jang et al. 2016a; Matos et al. 2018), as they suggest that other combinations of these two variables should not remain overlooked. Even if they perceive a favourable learning environment, where teachers provide high autonomy support, *compliant* students do not seem to be inclined to manifest agentic behaviours in the classroom, which means that they probably prefer to follow rather than to steer the course of the class activities. We advance two possible interpretations for this finding. First, it is possible that students in this group conceive agency as being quite a negative aspect of student behaviour. This would not be surprising, as several studies (Goodboy 2011; Rajala et al. 2016) have highlighted that teachers often look at students' agentic participation, especially in its challenging and resistant forms, as an undesirable threat to their authority. A second explanation lies in students' individual differences, as their dispositions to expose themselves in class may vary to a great extent (Korem 2019).

Lastly, the *resistant* profile represents a small number of adolescents who, while perceiving low autonomy support, are inclined to act agentically in the classroom. Contrary to the *disengaged* profile, these are probably students who do not "give up" while simply accepting what is going on, but on the contrary try to exert control (Bolkan and Goodboy 2016) possibly to create fresh conditions to be autonomous (Matos et al. 2018) and to change and improve a learning environment presumably perceived as being unsatisfactory.

The transformative and crucial power of agency becomes even clearer when one considers the role of justice in predicting membership in profiles.

Interpersonal justice as a predictor of profile membership

In line with our expectations, and consistently with the studies suggesting that justice could be intended as a prerequisite for the need for autonomy to be fulfilled (Mayer et al. 2008; Molinari and Mameli 2018), the comparison in pairs of profiles indicated that students perceiving higher interpersonal justice from the part of the teacher have a higher likelihood to belong to the profiles characterized by high perceptions of teacher autonomy support, i.e. the *committed* and *compliant* groups. Inversely, when students perceive low interpersonal justice, they are more likely to belong to the *disengaged* profile than to the *average*, *committed* or *compliant* profiles, and the same holds true in the comparison between the *average* and the *committed* and *compliant* profiles.

Notably, perceived interpersonal justice did not significantly distinguish the likelihood of belonging to the *compliant* or *committed* profiles. As mentioned in the introductory section, it is possible that when perceptions of teacher-provided autonomy support and of interpersonal justice are similar, other variables—possibly linked to students' individual characteristics (Korem 2019) —may be relevant in leading students to be *committed*, thus inclined to offer their agentic contribution in class, or *compliant*. According to our results, gender is one of these variables, as in the comparison of groups, we found that female students reported a higher likelihood to belong to the *compliant* rather than to the *committed* profile. The analysis of gender differences goes beyond the scope of this article, and further studies with a person-oriented approach are needed to better clarify the role of this dimension in membership of various student profiles. Nevertheless, this finding is not surprising, as previous studies conducted in the Italian context (e.g. Mameli and Passini 2017) highlighted higher levels of agentic engagement in boys.

Another intriguing result emerged in the comparison between the *disengaged* and *resistant* profiles, both of which are characterized by negative student perceptions of autonomy support while they differ in student agency. In more detail, we found that lower perceptions of interpersonal justice were associated with higher likelihood of belonging to the *resistant* rather than to the *disengaged* profile. In line with previous studies (Assor et al. 2005; Winkler and Rybnikova 2019), this result confirms that there are adolescents who react to the limitations in autonomy support on the part of the teachers by standing up to a relational environment perceived as being unfair. The person-oriented approach thus allowed us to highlight a new insight in the current literature, based on the evidence that student resistant agency (Mameli et al. 2019a) in the face of injustice is not just a general trend between variables, but also a concrete and challenging condition experienced by a small, though not negligible, group of students.

Student responsibility for different profiles

The last step of our analyses provided some insights into the importance that perceived teacher autonomy support and student agency play in bearing personal responsibility in learning. Both the

committed and the *compliant* students, in each of the three waves considered, obtained the highest values on student responsibility, maintaining in most of the cases a significant difference with the other three profiles, and with no significant difference between them in both the second and the third waves. As previously discussed, we know that these adolescents share a perception of high teacher autonomy support, while they differ with respect to their agency scores (high for *committed* and low for *compliant* students). These aspects leave room for two considerations. First, and in line with previous literature (Gagné and Deci 2005; Vansteenkiste et al. 2008), this result emphasizes the importance of perceived teacher autonomy support for students to feel responsible for their learning. Second, while the *compliant* students start with the highest level of responsibility, the *committed* students start secondary school with a lower perception of being personally responsible for their learning and their scores become higher, and statistically similar to those of the *compliant* ones, over the course of the year. With due caution owing to the fact that we have not applied longitudinal analyses to these data, we put forward the idea that agency shows its strength in promoting responsibility, a result that supports the international recommendations of fostering active participation and engagement in schools.

A different picture emerges from the findings concerning the *disengaged* and *resistant* profiles. As seen in the previous steps of the current investigation, these adolescents share a negative evaluation of the interactive environment, both in terms of autonomy and interpersonal justice. They instead differ in their agency scores, with the *disengaged* tending to withdraw and the *resistant* tending to act agentically. This range reverberates in their feelings of being responsible. While the adolescents in the two profiles start the year with similar low levels of perceived responsibility, they differ in the other two waves, with a significant difference in the middle of the year when the *resistant* adolescents perceived higher responsibility as compared with the *disengaged*. This finding confirms the importance of agentic behaviours, which allows us to distinguish adolescents who progressively distance from school involvement, from adolescents who struggle to have a role in their learning paths.

Finally, *average* students maintained similar low scores in all the three waves. If we add this result to the ones already described, we come to the conclusion that these adolescents need to gain visibility in the school contexts, as they run the risk of entering the slippery slope toward the *disengaged* profile.

Conclusion

This study has some limitations that should be borne in mind when interpreting the results. First, our work relies on a single Italian sample of 9th grade students. Further investigations, possibly conducted in other contexts and with larger populations, are needed to generalize our results. Second, our study is based on students' self-report data. This means that we cannot take it for granted that our results match the reality of everyday classroom practices, especially because we only considered adolescents' perspectives, thus overlooking teachers' points of view. Third, as in any other study, our findings are inevitably limited to the variables we chose, as well as to the way these variables were operationalized in the specific self-report scales we used. We are conscious that other variables—related for instance to students' individual characteristics, dispositions and values—might be relevant in explaining the associations we have found, and thus need to be considered in future investigations. In parallel, we acknowledge that choosing other scales to measure the same variables we considered could give results different from ours. Finally, our approach to the data lacks a longitudinal analysis that would have allowed us to

understand, for example, if the identified profiles tend to remain stable and which trajectories responsibility follows over time.

Despite these limitations, the results presented in this paper provide interesting insights for educational practice. By adopting a person-oriented approach, our work made it possible to identify various groups of students characterized by different and non-trivial combinations of perceived teacher autonomy support and student agency. The most positive profile is the *committed*, which depicts the image of brilliant students, active and responsible, gratified overall by their relationship with teachers. However, these represent less than a third of our student population. The results concerning *disengaged* and *average* students—who together constitute the majority of our sample—put a brake on optimistic considerations and raise concerns as to the capacity of schools, at least as far as Italy is concerned, to actually promote equal and supportive student-centred practices (Mameli et al. 2020; Tas et al. 2019). Indeed, these two profiles indicate that too many adolescents are dissatisfied with their relationship with teachers and seem to experience their educational experience as "numbed", both in terms of agentic contributions to classroom life and of the sense of responsibility for their own learning. To this respect, the extent to which disengaged and average students have the potential to become interested and committed learners, with teachers providing appropriate levels of autonomy support and encouraging learners' self-efficacy, should be considered in future investigations.

Finally, we wish to suggest some reflections on two profiles of adolescents whom we believe warrant particular attention in the classroom context. First, the *compliant* students assume a rather contradictory role as they, on one side, feel autonomous and responsible, and on the other, remain in the shadow without taking an active part in their learning path. Second, the *resistant* students tend to raise their voices, perhaps challenging the teacher's authority, to transform the learning environment. Dealing with a general feeling of discontent, both in terms of autonomy support and justice, these students do not stand aside, do not withdraw, do not passively accept the teacher's direction, but on the contrary they tend to be "subject" to their own school trajectory.

These adolescent profiles raise some questions that the educational world cannot overlook. Are *compliant* students truly "good" learners? Are *resistant* adolescents truly provocative and difficult students (Winkler and Rybnikova 2019)? Considering the importance that agency has taken on in the recent cultural and scientific debate (Rajala et al. 2016), these challenging questions call for teachers to reflect on the strategies they adopt for favouring the direct participation of students who tend to avoid self-exposure, or for accepting, rather than rejecting, oppositional or resistant actions, and try to use them as leverages for improving the learning environment. If taken seriously, the universal plea for a school capable of promoting authentic, proactive and transformative contributions by the future citizens in the twenty-first century, requires all school actors and policies to put forth reflections on the educational values that school conveys in everyday interactive classroom life.

Compliance with ethical standards

Conflict of interest   The authors declare that they have no conflict of interest.

Ethical approval   The research was conducted in accordance with the ethical norms of the Italian National Psychological Association and with the approval of the local Ethical Committee.

Informed consent   Informed consent was obtained from all individual participants included in the study and their legal guardians.

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Engagement. Well-being and social relations in school and school climate.

Most relevant publications in the field of Psychology of Education:

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Learning environments. Classroom justice. student engagement. agency. responsibility and well-being.

Most relevant publications in the field of Psychology of Education:

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Classroom justice. Responsibility and rights. Observational methods. The quality of educational processes.

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