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The impact of remote learning and forced social isolation on student engagement.

The voice of Italian high schoolers amid the COVID-19 pandemic.

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ABSTRACT

Student engagement is internationally recognised as having a crucial role in the learning processes and outcomes. In the Italian context, however, research on this promising construct is almost entirely absent, despite the numerous issues affecting the Italian school system. The Covid-19 pandemic has accentuated said issues, offering the chance to explore student engagement in a unique context. The present research project aimed to offer a first exploration of the construct in Italy from the perspective of the students, by collecting data on their definition of engagement, their suggestions for the future and by assessing their perceived levels of engagement through an online-based questionnaire. In particular, the study compared engagement levels, referring to experiences prior to and during the pandemic, in a sample of Italian high school students, with a special focus on indicators of social engagement and the impact of social isolation on the overall engagement levels. While overall engagement scores dropped consistently since the beginning of remote learning practices, interesting and contrasting tendencies were detected in the social dimension of the construct, contrary to the original hypothesis. The data collected suggests an active use of the few social interactions available as a way to promote engagement and influence the context, thus providing evidence in support of social engagement theories, while raising hypotheses and implications that deserve further exploration.

Introduction

The already troubled situation of Italy's education system hit yet another obstacle when schools all over the country were forced to shut down and resort to emergency remote teaching, due to the recent outbreak of Covid-19. From the first weeks of lockdown, it was clear that the unprecedented learning environment was negatively impacting both students and teachers. The effect that remote learning seemed to have on students was one of disconnection from school, lack of motivation and loss of interest, all of which are clear signs of disengagement.

Engagement and disengagement theories have been of high interest in the international literature for decades, as key constructs to understand, contrast and prevent school abandonment. However, Italian researchers have paid very little attention to student engagement in the past years, despite the concerning drop-out rates that sadly afflict the country. Not even the negative responses to the emergency remote learning environment seem to have raised interest in the concept. It was, furthermore, disappointing to ascertain that a striking majority of the Italian national reports on the impact of remote learning measures chose teachers as the main source of data, leaving very little space for the students' voice on the matter.

Finding Italian surveys unsatisfactory and recognising the potential of the engagement construct at such a problematic time for education worldwide, the present work proposes an analysis of the academic experience of a sample of Italian high schoolers from an engagement perspective.

In searching for the most appropriate way to carry out this research project, the approach adopted by Holquist et al. (2020) was particularly interesting for three reasons: firstly, Holquist and her colleagues decided to investigate engagement through the insight provided directly by students. Secondly, they inquired about any changes in their subjects' engagement following the insurgence of the pandemic and the consequent shift to online learning. Finally, they highlighted the importance that subjects placed on social relationships in fostering their engagement, suggesting the existence of a social form of engagement that is worthy of further exploration.

All these elements strongly inspired and were incorporated into the design of the present research, which hopes to contribute to the still limited Italian research base on engagement.

More precisely, the purpose of this study was to explore the theme of engagement from the perspective of students through a questionnaire that investigated their learning experience prior to and following the outbreak of the Covid-19 emergency. This questionnaire was designed specifically to detect any changes in the levels of engagement between these two periods. Furthermore, in order to build on the results reported by Holquist et al. (2020) and exploiting the unprecedented context of social isolation caused by the pandemic, special attention was dedicated to exploring the role of social relationships in determining levels of engagement and motivation. The hypotheses guiding this investigation were that a strong decrease in engagement levels would be detected in the part of the questionnaire assessing the subjects' post-pandemic experience, especially in the social dimension of the construct. Building on Holquist et al.'s (2020) research, it was also hypothesised that a socially deprived academic experience would result in lower levels of engagement, thus proving the importance of social relationships as a determining factor and validating the conceptualisation of a social type of engagement.

The data collected in the study confirmed that a decrease in the overall engagement levels occurred quite consistently across the sample; however, social engagement scores saw the smallest average decrease among all dimensions, in opposition to the hypothesis. The results indicated the presence of interesting phenomena regarding social engagement and the ways in which it can be used to actively influence the context, providing evidence in support of the inclusion of a social dimension in the engagement construct. The implications of these results generate interesting questions and propositions that deserve to be addressed in future research.

The present work is articulated into six chapters. The first chapter will offer a brief review of the literature on student engagement and the main debates surrounding its conceptualisation and definition. Chapter II will highlight the relevance of the construct in the field of education, with a particular focus on the Italian context, and will

introduce the recent research developments on social engagement. The third chapter, on the other hand, will be dedicated to the current study, offering an overview of the research design and questions, the participants and the instrument used, while chapters IV and V will deal, respectively, with the results and analysis of the data collected. Finally, the sixth and last chapter will propose some conclusive remarks and suggestions for further research.

I. Student engagement: a multifaceted construct

Student engagement is a complex and multifaceted concept, which has increasingly drawn the attention of researchers and scholars in the field of education, especially in the last thirty years, following the growing evidence of its vital role in student success (Kahu, 2013).

Despite the rich body of literature, there are still unresolved debates over the conceptualisation of student engagement, and researchers have yet to agree on a clear and unanimous definition of the construct.

The present chapter aims to briefly summarise the history of engagement research, to give an overview of the evolution of the construct and the main issues concerning its conceptualisation.

1.1 Origin and evolution of student engagement: a brief overview

While research on student engagement experienced a significant boost following the end of the twentieth century and into the first decade of the twenty-first, the interest in analysing the concept of involvement and its implications can be traced back to the 1930s (Trowler, 2010; Kuh, 2009). The innovative work of educational psychologist Ralph Tyler on the effects of "time on task" laid the foundations for Robert Pace's three-decade-long research on the concept of "quality of effort" (Kuh, 2009). Starting from this concept, Pace (1990) developed the *College Student Experience Questionnaire* (CSEQ), through which he was able to provide evidence that devoting more time and effort to educationally purposeful activities increased the outcomes of students' learning and personal development (Kuh, 2009).

However, it was not until the 1980s that researchers, especially in North America, became increasingly more interested in the concept of engagement and started introducing the term into the literature's vocabulary (Li, 2011).

In 1984, Alexander Astin's seminal work drew from the concepts of "quality of effort" and "time on task" to develop a theory based on student involvement, defined as "the quantity and quality of the physical and psychological energy that students invest

in the college experience" (Astin, 1984, p. 528). Astin's student involvement theory and his important contributions to the *Involvement in Learning* report (National Institute of Education, 1984) were pivotal in highlighting the crucial role of this construct in reaching desirable academic achievements, shifting the attention towards the students' behaviour and motivation, rather than on subject matters (Kuh, 2009; Astin, 1984). Astin's involvement theory opened the way to the evolution of the student engagement concept; since then, in fact, the literature has exponentially grown with contributions that have brought new perspectives and dimensions to the construct.

In these early stages of engagement research there was a growing realisation of the need to involve students in their academic life. However, despite the presence of an underlying primitive concept of student engagement, the term "engagement" had not yet emerged in the literature. Indeed, it was not until the 1990s that the use of engagement as a term became frequent and educational researcher Gary Natriello (1984) was among the very first scholars to adopt it, as illustrated in Mosher and MacGowan's (1985) review, one year later (Appleton et al., 2008). Natriello defined engagement as a student's level of participation in academic activities; however, he actually derived the term from its opposite, namely, the concept of "disengagement" (Appleton et al., 2008; Li, 2011).

The first engagement theories started emerging mainly as a tool to detect, understand, and contrast the gradual process of disconnection of students from school, which eventually leads to school dropout (Finn, 1989; Appleton et al. 2008). The preoccupation with this latter phenomenon urged researchers to identify early signs of disengagement. As a result, initial works on student engagement, such as Brophy's (1983) and Natriello's (1984), mainly investigated observable behaviour related to student's efforts in academic activities and their performance. This type of research conceptualised engagement as a unidimensional construct based on positive behavioural components (Appleton et al., 2006; Li, 2011; Fredricks et al., 2011).

Subsequently, although the vast majority of the research on engagement had been conducted from a behavioural perspective (Kahu, 2013), a number of scholars who were dissatisfied with the merely behavioural conceptualisation of the construct suggested the

existence of an equally important emotional component. In particular, influential theories like Jeremy Finn's (1989) and James Connell's (1990) are among the earliest works to emphasise the importance of student's feelings and explore their relationship with behavioural aspects (Fredricks et al., 2011). Finn's and Connell's theories will be discussed in more detail in the following dedicated section.

Recently, definitions of engagement started incorporating cognitive aspects, such as the use of cognitive strategies and self-regulation into the conceptual framework (Fredricks et al., 2004; Appleton et al., 2008). A revolutionary literature review by Jennifer Fredricks, Phyllis Blumenfeld and Alison Paris (2004) identified three types of engagement and proposed a tripartite theoretical structure of the construct, which has now become the most widely accepted one (Li, 2011). Largely due to Fredricks et al.'s (2004) innovative conceptualisation, most scholars, practitioners and researchers currently agree on the integrated and multidimensional nature of the construct of engagement, although consensus over a unanimous definition and an exact number of dimensions has not yet been achieved (Appleton et al., 2006; Li, 2011; Kahu, 2013).

1.2 Main models and theories of student engagement

As previously mentioned, the concept of student engagement has been explored from a variety of theoretical perspectives, oftentimes drawing from preexisting concepts in the literature, such as motivation, effort, participation and alienation. This resulted in a great number of definitions and conceptualisations of the engagement construct, whose boundaries are often unclear (Appleton et al., 2008). Throughout the years, given the conceptual confusion, scholars have developed models and theories to better understand how engagement works and identify its antecedents (Li, 2011).

In order to offer a more complete understanding of the impact that the different theoretical frameworks had on the process of conceptualising engagement, the present section aims at giving a brief review of the models that most influenced the tripartite conceptualisation.

1.2.1 Finn's participation-identification model

In 1898, Finn presented one of the first models of engagement, devised to explain problematic behaviour and prevent school dropout (Finn, 1989). The relevance of Finn's participation-identification model lays in emphasising the importance of both behavioural and emotional dimensions and in recognising them, for the first time in the literature, as separate components of school engagement or, as termed by Finn, "involvement in school" (Li, 2011).

In the model, engagement is described to have "both a behavioral component, termed *participation,* and an emotional component, termed *identification*" (Finn and Voelkl, 1993, p. 249). Specifically, according to Finn's (1989) articulation of the behavioural dimension of engagement, participation is not a homogenous concept, but can rather range in intensity and quality. He identifies four levels of participation, from the most basic behavioural requirements, such as paying attention and regularly attending classes, to gradually more active and enthusiastic behaviours, such as participating in extracurricular activities and in the school's governance (Finn and Voelkl, 1993). With respect to the identification aspect of the model, Finn defines it as both a sense of belonging, or attachment, to the school and as a sense of commitment on behalf of the students to reach their academic goals.

From an operational perspective, in this model, the student's participation in school activities is what allows the identification process to take place, resulting in positive outcomes, which in turn boost the student's positive behaviour in a self-reinforcing cycle (Finn, 1989).

Relying on the above-mentioned conceptualisation and data from longitudinal studies on at-risk students, the author suggests that students whose development follows a positive participation-identification cycle are more likely to achieve academic completion and success. Conversely, a lack of participation and consequent unsatisfactory academic outcomes necessarily leads to emotional withdrawal and disengagement from school (Li, 2011). Such negative patterns, if not recognised and interrupted, risk culminating in school abandonment, with deleterious consequences on the student's development (Finn, 1989).

Nevertheless, the fundamental implication of student engagement which is stressed in Finn's work is the construct's malleable nature. Indeed, Finn often considers student engagement as the dependent variable in his investigations (see Finn; 1992; Finn and Voelkl, 1993), as he provides evidence of the way it can be deeply influenced by other variables, such as the school's structural environment and the socio-cultural context, to name a few. Malleability is a crucial asset of the engagement construct because it gives teachers a way to manipulate it, more or less directly, by adjusting the different features of the classroom atmosphere (Finn and Voelkl, 1993).

1.2.2 Motivational models

Motivational models of engagement stem from preexisting literature on motivation and incorporate concepts such as self-determination and intrinsic motivation with engagement dimensions (Kahu, 2013; Skinner et al., 2008).

Particularly relevant is the Self-System Model of Motivational Development (SSMMD) adopted by James Connell, James Wellborn, Ellen Skinner and associates, with the aim of shedding light on the internal and external dynamics that can influence student engagement in the classroom, either positively or negatively (Connell, 1990; Connell & Wellborn, 1991; Skinner et al., 2008).

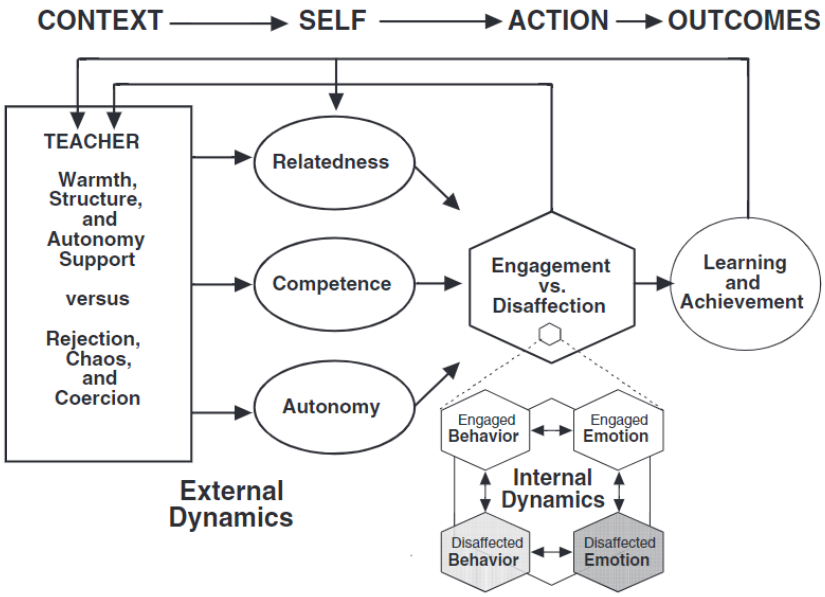
The self-system model of motivation is rooted in the premise that human beings strive to satisfy their basic psychological needs for competence, autonomy and relatedness, which are at the base of what Connell (1990) denominates as self-system processes (SSPs). The SSPs are evaluation processes in which the individual assesses whether their perception of the social context adequately meets the aforementioned needs (Connell & Wellborn, 1991).

As depicted in Figure 1 (Skinner et al., 2008), the SSMMD is articulated into the four major constructs of context, self, action and outcome. *Context* includes all those environmental features that can stimulate student motivation, such as the quality of students' relationships with teachers and peers, while the construct of *self* encompasses the personal needs underlying the self-systems. *Action*, on the other hand, refers to the manifestation of engaged or disaffectionate behaviours and emotions, in response to the

influences of the context and the self. In this sense, engagement can be seen as the reflection of human motivation (Skinner et al., 2009; Wellborn, 1991).

The way that the model's variables interact with each other can be summarised as follows: "features of the context influence how individuals feel about themselves (i.e., SSPs), which in turn predicts whether they will be engaged or disaffected in that context" (Skinner et al., 2008, p. 768). Engagement or disaffection, in turn, lead to outcomes that can impact the context, creating a motivational cycle.

Figure 1 - *A diagram of the self-system model of motivational development (Skinner et al., 2008)*



Engagement, however, is not only influenced by external dynamics, but also by its own internal dimensions. In particular, Skinner et al. (2008) evidenced consistent patterns suggesting that emotional engagement plays a big part in shaping behavioural engagement, with both positive and negative emotions initiating suitable behavioural responses, which in turn feed and reinforce the same emotions that generated them.

While confusion still exists in the literature, the present model contributed significantly to present motivation and engagement as two distinct constructs, despite their tight relations. More precisely, it has underscored how motivation alone is not

enough to reach ideal learning outcomes if it is not supported and sustained by engagement (Skinner, Kindermann et al., 2009; Li, 2011).

1.3 An integrated conceptualisation: the tripartite model of student engagement

The works of Fredricks, Blumenfeld and Paris (2004), alongside Shane Jimerson and colleagues (2003) were pivotal in boosting the major change in the student engagement literature of the last couple of decades, namely the shift from a mostly behavioural, unidimensional, view of the construct, to the idea of engagement as a "meta-construct" comprising multiple dimensions (Appleton et al., 2008; Li, 2011). In their influential literature review, Fredricks, Blumenfeld, and Paris (2004) integrated various conceptualisations of the construct and proposed an empirically founded model consisting of three sub-types of engagement: behavioural, cognitive, and emotional.

According to the authors, while the behavioural and emotional components are fundamental, they are not sufficient to determine whether a student is actually engaged (Li, 2011). Furthermore, incorporating a cognitive dimension to the model takes into account important factors to engagement, such as concentration and effort, that had been previously overlooked.

Although a clear understanding of the way in which the single dimensions work is fundamental, the authors underscore the need to analyse how they relate and influence each other globally, in order to have a comprehensive picture of the construct.

Their conclusions on the potential of engagement largely match Connell's (1990) and Finn's (1989) in reiterating, firstly, the crucial role it has in academic success, and secondly, the malleability of the construct and the possibilities for intervention that this implies. Finally, the authors stress the need to consider all three dimensions simultaneously and meaningfully when analysing student engagement, since a multidimensional view of engagement "allows for a rich characterization of individuals" (Fredricks et al., 2004, p. 83) and can shed a light on how they interact with the learning environment.

Below is a brief description of the three dimensions as defined by Fredricks, Bloom and Paris (2004).

1.3.1 Behavioural engagement

Drawing largely on Finn's (1989) concept of participation, this dimension of engagement encompasses three different types of observable behaviour. The most evident is positive conduct, namely attending class, complying with the school and classroom norms and, essentially, not being an element of disruption. Secondly, an engaged student should show involvement in learning, which includes behaviours such as actively participating in class discussions, asking questions, being focused, and putting effort into academic tasks. Lastly, participating in extracurricular activities (e.g., sports, school governance, or clubs) is an additional sign of behavioural engagement.

1.3.2 Emotional Engagement

Emotional engagement is rooted in the motivational literature and involves the concept of identification and belongingness within the school (Finn, 1989), as well as affective attitudes towards both the classroom environment and the institution. In particular, emotional engagement entails feeling happy, interested, accepted and having positive relationships with teachers and classmates. Signs of emotional disengagement, on the other hand, involve boredom, anxiety, sadness and negative reactions to peers and instructors.

Emotional engagement is thus fundamental from a motivational perspective, as it is crucial in creating a sense of attachment to the school and preventing school abandonment (Connell and Wellborn, 1990).

1.3.3 Cognitive engagement

Within the cognitive dimension, Fredricks, Blumenfeld and Paris (2004) isolated two different components: a psychological one, which refers to the student's level of motivation, and a cognitive one that relates to the concepts of metacognition and self-regulated learning. These two components were drawn from different currents of

literature that dealt with either one or the other aspect when discussing engagement. The authors, however, advocate that a comprehensive understanding of cognitive engagement can only stem from integrating both the psychological and cognitive components in the definition. More specifically, they conclude that a cognitively engaged student will be motivated, invested, and willing to put effort into their learning through the purposeful and effective use of learning strategies.

1.4 Challenges in the conceptualisation and definition

As previously illustrated, the engagement literature has received contributions from a variety of theoretical traditions. However, while different perspectives have enriched and added crucial nuances to the construct, this amalgamation has inevitably led to confusion and ambiguity within the academic literature (Fredricks, et al., 2016; 2004; Appleton et al., 2008). The main areas of inconsistency concern terminology employed across various studies, the definition of the construct and its conceptualisation.

Aside from the debate over the use of *student engagement* or *school engagement*, the major issues about terminology concern the fact that the same term may be used to indicate different concepts across studies; vice versa, multiple researchers may refer to the same idea with different terminology (Li, 2011). This problem further complicates the already complex operation of defining the engagement construct.

Definitions have indeed struggled to find a common denominator, especially with regards to the themes of engagement versus disaffection or the identification of precursors. Some scholars, in fact, tended to define engagement by comparing and contrasting it to its opposite, namely disengagement or disaffection, with all their respective outcomes (see Connell & Wellborn, 1990; Skinner & Belmont, 1993). Others, however, did not recognise disengagement as a separate construct but attributed the negative outcomes to a lack of engagement. Some researchers paid considerable attention to contextual antecedents (e.g., Furlong et al., 2003; Christenson & Anderson, 2002), while others preferred to focus on defining engagement in itself (Appleton et al.,

2008). An overview of the different definitions and names attributed to student engagement in the literature is presented in Table 1 (Appleton et al., 2008, p. 371).

Linked to the ambiguities in the terminology and definition is the debate on the conceptualisation and, particularly, on determining the number and nature of the construct's dimensions. Although researchers have now generally recognised the tripartite model of engagement – consisting of behavioural, emotional/affective and cognitive dimensions – presented by Fredricks and her colleagues (2004), some scholars have recently suggested adding a fourth dimension to the construct (Fredricks et al., 2016; Bond et al., 2020).

Table 1 - *Variations in terminology and definitions of engagement across the literature*

Name	Authors	Construct definition
Engagement	Audas & Willms, 2001	Extent to which students *participate* in academic and non-academic activities and *identify* with and *value* the goals of schooling.
	Connell & Wellborn,1991	When *psychological needs* (i.e., autonomy, belonging, competence*) are met* within cultural enterprises such as family, school, and work, engagement occurs and is exhibited in *affect*, *behavior*, and *cognition* (if not, disaffection occurs).
	Russell, Ainley, & Frydenberg, 2005	*Energy in action*, the connection between person and activity; consisting of three forms: *behavioral*, *emotional*, and *cognitive.*
	Skinner & Belmont,1993	Sustained behavioral involvement in learning activities accompanied by positive emotional tone (vs. disaffection).
	Skinner, Wellborn, & Connell, 1990	Initiation of action, effort, and persistence with schoolwork and ambient emotional states during learning activities.
Engagement in schoolwork	National Research Council/Institute of Medicine (2004)	Involves both behaviors and emotions and is mediated by perceptions of competence and control (I can), values and goals (I want to), and social connectedness (I belong).
Academic engagement	Libby, 2004	Extent to which students are motivated to learn and do well in school.
School Engagement	Fredericks, Blumenfeld, & Paris,2004	Emotional (positive and negative reactions to teachers, classmates, academics, and school), Behavioral (participation in school), and Cognitive (investment) Engagement subtypes.

(Continued)

Table 1
Continued

Name	Authors	Construct definition
	Furlong et al., 2003	Affective, Behavioral, and Cognitive Engagement subtypes (same as Jimerson et al., 2003) within student, peer group, classroom, and school wide contexts.
	Jimerson, Campos, & Greif, 2003	Affective (feelings about school, teachers, and peers), Behavioral (observable actions), and Cognitive (perceptions and beliefs) Engagement subtypes.
Student Engagement	Chapman, 2003	Willingness to participate in routine school activities with subtle cognitive, behavioral, and affective indicators of student engagement in specific learning tasks.
	Natriello, 1984	Student participation in the activities offered as part of the school program.
	Yazzie-Mintz, 2007	Cognitive/Intellectual/Academic (students' effort, investment, and strategies for learning), Social/Behavioral/Participatory (social, extracurricular, and nonacademic school activities; interactions with peers), and Emotional (feelings of connection to school, including their performance, school climate, and relationships with others).
Student engagement in academic work	Marks, 2000	Psychological process involving the attention, interest, investment, and effort students expend in the work of learning.
	Newmann, Wehlage, & Lamborn, 1992	The student's psychological investment in and effort directed toward learning, understanding, or mastering the knowledge, skills, or crafts that academic work is intended to promote.
Student engagement in/with school	Mosher & MacGowan,1985	Attitude leading toward and participatory behavior in secondary school's programs (state of mind and way of behaving).
	Klem & Connell, 2004	Ongoing engagement (behavioral, emotional, and cognitive components); reaction to challenge (ideally engage optimistically).
	Christenson & Anderson, 2002	Psychological (e.g., belonging), Behavioral (e.g., participation), Cognitive (e.g., self-regulated learning), and Academic (e.g., time on task) Engagement.
Participation identification	Finn, 1989, 1993; Finn & Rock, 1997	Participation in (at four increasing levels) and identification with school (belonging in school and valuing school-related outcomes).

Note. From "Student engagement with school: Critical conceptual and methodological issues of the construct", by Appleton, J. J., Christenson, S. L., & Furlong, M. J., 2008, p. 371-372. Copyright 2008 by Wiley Periodicals, Inc.

For instance, Reschly and Christenson (2006) proposed a taxonomy divided into academic, behavioural, cognitive and psychological engagement. Reeve and Tseng (2011), on the other hand, suggested the addition of an agentic component, while others advanced the hypothesis of a social dimension of engagement, for instance Linnenbrink-Garcia, Rogat, and Koskey (2011), Fredricks et al. (2016b) and Holquist et al. (2020). However, further research is needed to ascertain whether either of those components is an independent dimension (Fredricks et al., 2016). Moreover, not only there is disagreement on how many and which dimensions to include in the conceptualisation, there is no consensus over the dimensions' indicators either, as many researchers still have different opinions on which indicators pertain to one dimension or the other (Bond et al., 2020).

Given the overall confusion, some scholars have tried to find a common thread among the different studies and definitions, in order to find the underlying characteristics of engagement. Relevant reviews by James Appleton et al. (2008), Michael & Hal Lawson (2013), and Yibing Li (2011) have underscored some consistencies across the literature regarding certain aspects of the engagement construct. The first is that researchers have been mainly studying engagement in a broad way, without restricting the focus to one particular subject, but rather on students' emotions, behaviours and thoughts across their overall academic experience. The second, as previously mentioned, is that the conceptualisation of engagement as a multidimensional, "meta construct" is now largely endorsed in the literature, thanks to the influential work of Fredricks and her colleagues (2004), with positive behaviours regularly appointed as indicators of engagement. A third common thread is the idea that student engagement can be deeply influenced by the context, making it malleable and thus allowing teachers to promote it through specific interventions in the learning environment. Furthermore, researchers seem to have come to an understanding about considering engagement and motivation as two separate, yet mutually reinforcing, constructs. The relationship between motivation and engagement will be further

explored in the following section. Lastly, but most importantly, all scholars, practitioners, and researchers agree on the crucial impact that engagement has on academic, as well as social and emotional, outcomes.

These effort in gathering the common traits in the engagement research are extremely valuable for a shared understanding of student engagement. Nevertheless, the need for a precise definition and for more clarity around the operationalisation of the construct and its components is still strongly advocated. The result of this ambiguity is that researchers are inevitably required to distinctly outline a specific definition, together with their own understanding of the concept of engagement in every study, in order to allow a correct interpretation of the findings (Appleton et al., 2008).

1.5 Motivation and student engagement

The role of motivation in education and learning has long been recognised as crucial in the academic literature (Appleton et al., 2008). From expectancy-value theory[1], to Edward Deci and Richard Ryan's (2000) self-determination theory, motivation has attracted researchers' interest for decades, with an increase around the beginning of the millennium (Appleton et al., 2006; 2008). As already mentioned, the motivational models have played an important part in the process of defining student engagement thanks especially to the self-determination theory. This latter theory posed the foundations of the Self-System Model of Motivational Development by conceptualising motivation as a tendency to fulfil a person's need for autonomy, relatedness, and competence (Ryan & Deci, 200; Appleton et al. 2006; 2008). Ryan and Deci's focus on both intrinsic and extrinsic motivation helped shed light on the influence that contextual factors have on motivation, and thus engagement, through a process of "internalization of external demands" (Appleton et al. 2008, p. 378).

Theoretical frameworks of engagement based on motivation have had an important influence on the development of the construct, but they have also originated

[1] The expectancy-value theory presupposes that an individual is motivated to carry out a certain task is influenced by the individual's expectancy of positive outcomes from the given task and the value which is assigned to succeeding them (Dörnyei, 2003),

confusion and ambiguity over the distinction between motivation and engagement, especially in the cognitive dimension (Bond et al., 2020). The fact that both constructs are influenced by the context and are both seen as antecedents to positive outcomes in the students has particularly contributed to blurring the boundaries of engagement and motivation even further (Reschly & Christenson, 2012). Some scholars, in fact, do not differentiate between the two and use the words "motivation" and "engagement" as synonyms (see National Research Council, 2004) or view the whole process as just motivation, without the engagement component, (e.g., Dörnyei, 2003). Others incorporate motivation within the construct of engagement, others again recognise the two as separate, yet related constructs, with engagement viewed as the outward manifestation of motivation (Reschly & Christenson, 2012; Li, 2011). This latter take on the issue is perhaps the most commonly accepted one.

According to this view, the difference lies in the fact that motivation is the direction of students' efforts and the intent that stimulates them, but does not include behaviour; engagement, on the other hand, is its manifestation, the behavioural, emotional, and cognitive translation of that energy into action (Skinner et al., 2009; Appleton et al., 2008; Li, 2011). This conceptualization suggests that motivation alone does not automatically lead to successful learning outcomes, given that a student "can be motivated but not actively engage in a task. Motivation is thus necessary, but not sufficient for engagement" (Appleton et al., 2006, p. 428).

II. Why student engagement: the importance of the concept and new areas of research.

In the last thirty years, engagement theories and their translation into policies have gained increasing attention within the field of education, especially in Anglo-Saxon countries.

There are several reasons behind the growing popularity of the concept. First of all, research on school dropout and longitudinal studies on at-risk students (Finn, 1989; 1993) contributed to underscore the correlation between disengagement and problematic behaviour. These past three decades of research helped to understand the phenomenon of disengagement from school as a gradual process, which can start as early as elementary school and worsen over time through the students' academic career (Li, 2011, Finn & Rock, 1997; Skinner et al., 2009). Starting from this common understanding and prompted by concerning statistics (see National Research Council & Institute of Medicine, 2004), researchers and practitioners have directed their efforts towards identifying early signs of disconnection from school, using engagement theories and predictors to monitor and contrast disaffection tendencies (Appleton et al., 2008). Engagement has in fact proved to be a valuable tool for preventing academic failure and school abandonment, and multiple studies have gathered evidence supporting its fundamental role in promoting school completion and academic success (Klem & Connell, 2004; Appleton et al., 2008; Fredricks, Blumenfeld & Paris, 2004).

The versatility of the construct contributes even further to its appeal to experts and practitioners of the education field, from primary school to university. The fact that engagement is highly malleable and shaped by the context holds important implications for educational policies, as it provides a valuable margin of action. This means that educators can actively influence their students' level of engagement by intervening on the alterable factors of the learning environment, for instance, their relationship with the students, the way they give feedback or their teaching practice (Appleton et al., 2008; Fredricks et al., 2016).

The promotion of school engagement has shown to be beneficial not only for students' academic achievements but also from a developmental point of view. Several

scholars conducted research evidencing a self-reinforcing link between low levels of engagement in school and problem behaviour, such as delinquency and substance use (e.g., Finn, 1989; Finn & Zimmer, 2012; Wang & Fredricks, 2014). Conversely, encouraging student engagement, especially from the early stages of secondary education, seems to reduce the insurgence of said problematic behaviours, as well as having a positive effect on the students' mental health and their development (Finn & Zimmer, 2012; Fredricks et al., 2016).

Schools can therefore find in the engagement construct a powerful medium not only to improve academic outcomes but also to offer their students a suitable environment for positive youth development. The school context, in fact, plays a fundamental role in shaping the developmental process of adolescents, being the place where they spend a considerable amount of their day during such a delicate period of growth (Eccels & Roeser, 2011). Ensuring that a student is engaged in their learning environment, after all, falls perfectly into the important mission of educational institutions to provide "physical and emotional safety, appropriate supervision, clear structure, engaging activities, and skill-building opportunities" (Li, 2011, p. 134).

2.1 The Italian context

Despite the compelling data that correlates high levels of engagement with academic and developmental benefits, the Italian research community does not seem to share the same interest in the construct as their international colleagues.

In the literature research performed for the current study, a notable absence of Italian contributions on the subject matter was observed: only a few articles and papers featuring the term "engagement" emerged, with all of them dating no earlier than 2015. Furthermore, most of these works fail to address and analyse the construct as conceptualised in the international literature. Gabriella Vitale (2015; 2016), for example, focuses on the projects and institutions that aim to re-engage students who already dropped out of school, rather than on the concept of engagement as a tool for dropout prevention. The author, however, underlines the lack of such an approach in Italy, given that the current Italian efforts in contrasting school abandonment seem to consist mainly

in channelling at-risk students towards vocational schools or Second Chance Schools (Vitale, 2017) rather than closely examining and trying to fix an undeniable engagement problem. A recent study conducted by researchers at the University of Torino (Lattke, De Lorenzo et al., 2019) contributes to acknowledging the role of engagement in dropping out processes. In particular, the study analyses how school engagement, academic performance and drop out risk relate to each other.

On the other hand, a 2018 Swiss-Italian study on a population of adolescents in Switzerland dealt with school engagement, being defined as a positive attitude towards school, in their analysis of ways to prevent school burnout (Gabola & Meylan, 2018).

The first and, perhaps, only Italian research to analyse and measure[2] the construct of engagement consistently with the international literature is the study conducted by Consuelo Mameli and Stefano Passini (2017). Their study represents the first contribution to the validation of a student engagement measurement scale in Italy. Mameli and Passini (2017) considered engagement as a four-dimensional construct comprising cognitive, behavioural, affective and agentic engagement.

A very recent study considered the effects of the Covid-19 pandemic on university students through the analysis of *Study Engagement* and *Studyholism* (Loscalzo, Ramazzotti and Giannini, 2021). In this research, however, the construct of *Study Engagement* refers to the students' "pleasure/motivation towards studying" (Loscalzo, Ramazzotti and Giannini, 2021) and is not conceptualised in a way that corresponds to the academic literature on engagement.

Of course, it is possible that some additional research on the subject matter was conducted in the Italian context. However, if this were to be the case, it certainly is hard to access and is not being given proper attention, at least not to the same extent as engagement is considered outside of Italy. Another possibility is that engagement was investigated using terminology that differs from the most widely used in the literature.

[2] The authors used two different scales in their study: the Student Engagement Scale (see Lam et al., 2014) to measure the emotional, behavioural and cognitive dimensions and the Agentic Engagement Scale (see Reeve & Tseng, 2011) to meausre the agentic component.

Regardless of these hypotheses, the lack of Italian research and interest in the construct of engagement is concerning and quite surprising, given the country's reports on the quality of education and dropout rates (Mameli & Passini, 2017). The latest report on early school leaving[3] published by the Italian National Institute of Statistics, in fact, registered a dropout rate of 13.1% for the year 2020 (Istat, 2021). While still representing a slight improvement compared to 2018, this percentage remains higher than the European average of 9.9%, making Italy the country with the fourth-highest rate of *Early Leavers from Education and Training* in Europe (Eurostat, 2021). Furthermore, Italy is among the seven countries that failed to lower their dropout rate to the 10% benchmark, which the European Commission had set as a goal in their Europe 2020 strategy[4] (Istat, 2021).

Between concerning dropout rates, unsatisfactory results from national standardised tests and the increasing social inequalities between the North and the South of the country (INVALSI, 2021), it is surprising that a beneficial construct like engagement has had such little resonance in Italy. Recognising the potential of the construct and implementing engagement policies at a ministerial level could perhaps represent a new strategy and a useful weapon in Italy's battle against the phenomenon of early school leaving.

2.2 Engagement in remote learning during the Covid-19 emergency

The construct of engagement was of particular interest in online learning environments even before the outbreak of the Coronavirus pandemic (e.g., Robinson & Hullinger, 2008; Martin & Bolliger, 2018): with engagement being particularly influenced by environmental factors, virtual courses offered unique contexts for observation and analysis of the construct.

[3] The rate of *Early Leavers* is represented by the population of young people aged 18-24 who have completed, at most, a lower secondary education and have not embarked in any further education or training (Istat, 2021).
[4] Europe 2020 is a ten-year strategy proposed by the European Commission in 2010, set to achieve five ambitious goals by the end of 2020. One of these goals was indeed lowering the phenomenon of *Early School Leavers* from 15% to 10% (European Union, 2010).

With the onset of a COVID-19 pandemic at the beginning of 2020, countries all around the world found themselves in a state of emergency, which forced them to eliminate all non-essential in-person activities, in order to limit the spread of the virus. The limitation of social interactions included schools as well, causing institutions to shift all education to an online format; this unexpected, sudden need to resort to Emergency Remote Learning violently shook education systems worldwide (Khlaif, Salha, & Kouraichi, 2021).

This global crisis has created a variety of unique remote learning environments, which differ from the traditional e-learning courses previously studied in the literature. The main, big difference between the two modalities of e-learning lies in the level of preparedness and structure that support them (Affouneh et al., 2020). First of all, traditional online courses have a specific instructional design, thought out and planned for being delivered virtually; Emergency Remote Learning, on the other hand, is the sudden shift of courses that were originally planned for face-to-face delivery to an online format (Khlaif, Salha, & Kouraichi, 2021). The latter is thus a last-minute adjustment of the delivery medium for content and activities that were planned for traditional classroom settings, while the first type of e-learning is specifically structured for online delivery.

Additionally, traditional e-learning courses are typically held by professionals with appropriate levels of digital literacy and technological skills, while the same cannot be said for the remote teaching that was conducted during the COVID-19 emergency. Not all teachers in the school system, in fact, have experience in online teaching and many of those lacking ICT skills and training were caught unprepared for the challenge (Henriksen et al., 2020). The unfamiliarity with digital tools for online education certainly made adjusting to an already unstable situation even harder.

This combination of unpreparedness, uncertainty, and consequences that the social isolation had on students and teachers' mental health (UNESCO, 2020) has inevitably impacted education processes negatively, with a consequent influence on student engagement (Chiu, 2021; Khlaif, Salha, & Kouraichi, 2021).

The Covid-19 crisis, unfortunately, has given rise to new challenges while simultaneously accentuating problems that already afflicted educational systems.

In the Italian context, for instance, the emergency measures have aggravated an already problematic situation characterised by disparities between Northern and Southern Italy, and an overall lack of resources and educational infrastructure (Lucisano, 2020). Furthermore, the shift to online teaching has highlighted a concerningly low level of digital literacy among Italian teachers, which is an unsurprising revelation considering that the average age of teachers in Italy is strikingly higher than any other European country. In 2017, more than half of the Italian teachers were over 50 years old and 17% were 60 and older (Eurostat, 2019). A research project conducted by Pietro Lucisano (2020) in the first phase of the emergency evidenced that not even a third of the practitioners who participated in the study had received training on the use of technology in education prior to the pandemic.

With school closures and the forceful transition to online learning, teachers with no IT skills found themselves dealing with an unfamiliar medium of communication, which obviously had a heavy impact on their teaching outcomes. However, in the absence of an alternative, these teachers were given a chance to familiarise themselves with digital tools, which could later enrich traditional in-person learning experiences, once the public health crisis comes to an end. This forced boost in the teaching population's digital literacy has perhaps allowed Italy to compensate for its digitalisation delay, compared to the rest of Europe (European Union, 2020).

It is in such an unstable and unique learning environment that the importance of student engagement becomes even more evident and, now more than ever, practitioners should take interest in its potential (Chiu, 2021; Martin & Bolliger, 2018; Khlaif, Salha, & Kouraichi, 2021). With a context that impacts the learning experience so negatively, limiting deeply the social component that characterizes it, teachers have a crucial role; they have a chance to exercise the malleability of the construct to both promote students' engagement and use it as a tool to, in turn, modify and improve the context.

2.3. Social engagement: a new dimension?

Today's learners are quite different from the type of learners of thirty or even twenty years ago (Parsons & Taylor, 2011). It should not be surprising, since society has changed drastically in the last few decades and the exponential growth and development of technology has influenced every part of our lives, from our jobs to entertainment, to the way we communicate and learn.

Students of the new millennium have high levels of digital literacy, often higher than their teachers', and are used to highly communicative environments. Although many from previous generations might not consider digital forms of communication as "real connections", the so-called digital natives, namely Millennials, Generation Z and Generation Alpha, use technology on a daily basis to interact with an array of materials and people from all around the world (Parsons & Taylor, 2011; Windham, 2005). Such easy access to instant communication has made the current generation of students need more interactive and social learning environments (Parsons & Taylor, 2011). The results of a variety of surveys and interviews, in fact, repeatedly show that strong relationships and positive interactions with both teachers and peers improve student engagement and that students seek this type of connections (see Willms, Friesen, and Milton, 2009; Dunleavy & Milton, 2009; Wang et al., 2016; Fredricks et al., 2016).

It is now clear and widely accepted in the literature that teachers have a pivotal role in shaping the student's learning experience and that their relationship with the students is at the heart of a positive environment in the classroom (see Pedler, Hudson & Yeigh, 2020 for a review). If the context is able to considerably influence student engagement and teachers have the power to control and design such context, then they also have a significant role in determining the level of engagement of their students (Goldspink et al., 2008; Shernoff et al., 2016; Van Uden, et al., 2013; Skinner & Belmont, 1993).

The crucial influence of teacher-student and peer-peer relationships on all types of engagement (cognitive, behavioural and emotional) has led some researchers to consider these social interactions as a dimension of its own, with specific indicators. The addition of a fourth, social dimension of engagement was thus proposed in recent

conceptualisations of the construct (e.g., Linnenbrink-Garcia, Rogat, and Koskey, 2011; Finn & Zimmer, 2012; Martin & Rimm-Kaufman, 2015; Fredricks et al. 2016b; Wang et al., 2016; Holquist et al., 2020).

Similarly to the rest of engagement types, social engagement has been conceptualised differently across studies. For instance, Lisa Linnenbrink-Garcia, Toni Rogat, and Kristin Koskey (2011) decided to include a social-behavioural type of engagement in their study to account for all the social interactions around classroom activities. Finn and Zimmer (2012) defined social engagement as "students' prosocial behaviour in classrooms and the quality of social interactions with peers around instructional content" (Fredricks et al., 2016b, p. 6).

Daniel Martin and Sara Rimm-Kaufman (2015), as well as Fredricks and her colleagues (2016b), also added a social dimension to their measurement of student engagement in math and science, but they also underscored the need to bring students' insight on the subject matter into the conversation. It is indeed thanks to interviews with the students that they were able to identify and include in their scale indicators of social engagement. Some examples of such indicators are sharing ideas, helping each other in cooperative learning or peer tutoring situations, having positive interactions with teachers, and asking for their help when in need (Fredricks et al., 2016b).

Building on these results, Ming-Te Wang and colleagues (2016) incorporated a social dimension in their development of a survey measure of student engagement in the STEM domain, taking into account not only the quality of relationships with peers and teachers but also the effort of creating and maintaining such relationships.

2.3.1. The starting point of the present research

Recently, Samantha Holquist and her colleagues (2020) decided to investigate engagement through the insight provided directly by students, to possibly broaden the common understanding of the construct and of the ways to promote it. Their research and the results were particularly interesting and inspiring to the present work for a variety of reasons.

Firstly, Holquist et al. (2020) contributed to enrich the research base on student engagement with a study that examined the students' perspective and their own definition of engagement. The researchers, in fact, underscore the tendency of policymakers and educators to not consult the main beneficiaries of the policies and programs they design, and advocate for a collaboration between students, teachers and educational researchers to understand the current student needs. To explore the matter, Holquist et al. (2020) organised focus groups with adolescents to discuss the meaning of engagement according to the students, what supports it and what hinders it in a school context and what effect the shift to virtual learning had on their level of engagement.

The second interesting aspect of the research is that four types of engagement emerged in the students' responses: consistently with the literature, the subjects talked about aspects of behavioural, cognitive and emotional engagement. However, students also mentioned the important role of interactions with teachers and classmates in supporting their learning, and how this social aspect of education had an impact also on their emotional and cognitive engagement (Holquist et al., 2020). The results of these focus groups suggest and support the hypothesis that a social component of engagement exists and is connected to the other three dimensions, especially with behavioural engagement. The tight relationship between social and behavioural engagement, in fact, is what creates the most confusion and scepticism towards this four-dimensional conceptualisation. However, Samantha Holquist and her colleagues believe there are enough elements to distinguish between behavioural engagement (e.g. taking notes, raising hands, asking questions, etc.) and social engagement (e.g, creating relationships with teachers and peers and relying on them to stay motivated), even though they are strongly interrelated.

Additional research is certainly needed to further explore this conceptualisation and to determine whether social relationships can represent a distinct dimension, a sub-dimension of behavioural engagement, or just a highly impacting contextual factor. Nevertheless, the above-mentioned research is an important first step in the direction of an engagement theory that does not focus merely on individual learning, but rather takes into account the social components of learning, embracing the new needs of the more

recent generations of students (Fredricks et al., 2016b). In fact, besides the powerful implications that the concept of social engagement has when it comes to strategies for promoting overall engagement, the research conducted by Holquist et al. (2020) was especially interesting because it came at a time where the need for social interaction was particularly pressing. During the Covid-19 emergency school closures and the shift to online education contributed to a state of social isolation, which was especially difficult for adolescents, who find themselves at a delicate stage of life with heightened and sensitive social needs (Orben, Tomova, & Blakemore, 2020). Such forceful limitation of human interaction has perhaps made the importance of the social dimension of learning more noticeable, thus offering a unique opportunity to ponder over social engagement and analyse it more in depth from the perspective of students and teachers. The third aspect of this research that made it particularly valuable, in fact, is the inquiry about any changes in students' engagement following the insurgence of the pandemic and the consequent shift to online learning. The consequences of remote emergency learning on student engagement are just beginning to be explored.

For these reasons, the research conducted by Holquist and colleagues (2020) was particularly interesting and was the main inspiration for the present work, which collected data on the differences reported by a group of Italian students in their level of engagement prior to and during the pandemic, with particular attention to indicators of social engagement.

III. The research project

As illustrated in the first part of the present work, the concept of student engagement is extremely vast and comprehensive; because of this complexity, the literature on the subject matter is characterised by several unanswered questions and open debates over a common definition and conceptualisation. Research in the field is still far from a conclusion, as the conceptual boundaries of engagement keep shifting to include, or exclude, new elements, dimensions and indicators. The present study hopes to serve as a valid contribution to the research by offering data and perspectives aimed at filling some of the gaps and at enriching the research base on social engagement.

In particular, drawing from the study conducted by Holquist et al. (2020), this research attempted to gain a better understanding of the construct of engagement through the perspective of students in a sample of Italian high schoolers, with a particular focus on exploring the social aspects of engagement and the effects of remote learning on the students' perceived engagement level. The students' voice was taken as the only source of data, in an attempt to establish a collaboration with them and truly understand their educational experience, their needs and suggestions.

The choice to opt for a mostly quantitative questionnaire was largely dictated by time constraints and limited resources available; it is important to note that the present research was designed and conducted by a single researcher as part of her dissertation project[5]. However, a questionnaire was also the best tool to gather the largest amount of participants possible and start to build an Italian database given the lack of studies on engagement in Italy.

Despite the fact that the majority of the data was collected in a quantitative way, this descriptive study is rather qualitative in orientation. Its purpose, in fact, is not a statistical analysis and generalisation of the results, but rather a more qualitative exploration of the phenomenon through a questionnaire, which allows to gather data on the level of engagement perceived by the students themselves. Furthermore, to compensate for the quantitative format of the instrument, the survey also includes open

[5] The present study was presented as a final dissertation for a master's degree in Language Sciences (Language education curriculum) attended at Ca' Foscari University of Venice.

questions where students can report freely any striking experiences, opinions and suggestions they might want to share.

3.1. Definition of terms

In order to clarify the theoretical framework adopted by the present study, a more specific definition of the terms related to engagement is offered below.

Student engagement: for the purpose of this study, student engagement is seen as "the extent to which students are involved, attached, and committed to the academic and social activities provided in school" (Li, 2011). It is a multidimensional construct that is constantly influenced by the interaction and relationships between the student and the context, making it a "collective effort" (Holquist et al., 2020). It is divided into four distinct, but interrelated dimensions: emotional, behavioural, cognitive and social engagement.

Emotional engagement: the presence of positive emotions in reaction to classroom activities, the school context, teachers and peers. It also includes positive feelings such as interest and excitement towards the learning process and content (Wang et al., 2016).

Behavioural engagement: refers to the active participation and involvement of the student in academic activities and the compliance with classroom norms (Fredricks, Blumenfeld & Paris, 2004).

Cognitive engagement: refers to the student's thought processes, self-regulation and conscious use of learning strategies to understand difficult concepts (Fredricks, Blumenfeld & Paris, 2004).

Social engagement: encapsulates both "the quality of social interactions with peers and adults, as well as the willingness to invest in the formation and maintenance of relationships while learning" (Wang et al., 2016, p.17) and to promote and support said learning.

3.2. Context of the study: how the pandemic affected the Italian school system

Before delving into the study itself, an outline of the particular context in which the research was conducted is necessary.

As briefly mentioned in the previous chapters, at the beginning of 2020, the Covid-19 emergency forced governments worldwide to impose closures and restrictions in a variety of contexts and, in some cases, call for actual lockdowns. Italy was the first European country to announce a sudden nationwide lockdown on March 9th 2020, in an attempt to limit the spread of the Coronavirus (Horowitz, 2020). Schools all over the country suspended all in-person activities and resorted to remote learning, known in Italy as *Didattica a Distanza*, or simply *DaD*.

For most activities, these unprecedented measures remained in place nationally until the middle of May, but schools remained online-based until the end of the school year, with very few exceptions (Fregonara & Riva, 2020). Throughout the summer of 2020 the problem of how to safely return to in-person education was at the centre of social and political debates, however, when schools finally reopened in September, teachers, principals and students were confronted with many issues still to be resolved: lack of teachers, of desks and chairs, inadequate infrastructures that did not allow social distancing, lack of public transportations that would serve the schools, all of which would not guarantee the safety of students and teachers (Intravaia, 2021).

Unfortunately, the rest of the year was not any less turbulent. The restrictive measures started being implemented regionally, rather than on a national scale and Italy was thus divided into zones, which were revised periodically, with more or fewer restrictions depending on the infection rates. This system created an incredibly unstable situation for schools, forcing them to frequently switch from in-person to remote learning, and vice versa, in order to follow the isolation protocols and the constantly changing restrictions. Schools had to adapt to such an unpredictable context and "pure" remote learning (*DaD*) was replaced by *Integrated Digital Didactics* (*DDI)*, a dual teaching method that alternated between periods of in-person learning and online lessons.

Therefore, when the data collection for the present research was conducted in June 2021, the participants were carrying complex baggage of experiences: first an entirely online semester, then a very discontinuous school year marked by constant changes of plan in terms of the type of education and learning environment they received.

It is important to keep in mind that in this study, despite small regional differences, this is the general context that is addressed whenever subjects answer questions or talk about their academic experience since the beginning of the pandemic. Students were in fact questioned on very similar sets of items, the first set referencing their experience prior to the pandemic emergency, and the second about how the same aspects might have changed since March 2020.

It should also be noted that the concept of classroom and classmates changes significantly from the Italian Education System and the British or American one. In the United Kingdom or in the United States, teachers have their own classroom to which students go depending on their schedule. In these latter education systems, students have a chance to work and study with different peers for every class they attend, sometimes even from different grades. In Italy, however, each grade is divided into fixed groups of students who are assigned one classroom, have the same schedule, and thus the same professors. The teachers are the ones moving from one classroom to the next, while the students remain in their designated classroom, with their designated classmates. Therefore, the concept of classmates in Italy is narrower than in other countries, but it also implies deeper bonds between peers and a stronger need for social relationships with said peers.

When considering the questions and comments related to a subject's classmates, it is important to keep in mind this aspect of the Italian school system.

3.3. Research questions and hypotheses

The perceived plummet in the students' level of motivation and engagement since the beginning of the pandemic and the desire to collect some insight on the phenomenon

directly from the students is what set the background of the present study. The research questions that guided this investigation are the following:

1. Has the level of engagement perceived by the students changed since the beginning of the Covid-19 pandemic?

   It is hypothesised that students will perceive a decrease in their level of engagement since the beginning of the pandemic and the shift to DaD and DDI.
2. To what extent has the deprivation of academic social relationships impacted their level of engagement?

   It is hypothesised the impoverishment of social relationships with teachers and peers, and the limitation of the social aspect of learning activities contributed greatly to lower student engagement levels. If the quality of social relationships in the learning environment were to appear as a determining factor in establishing the level of student engagement, the results would support the conceptualisation of a social dimension of engagement, as already suggested by Holquist et al. (2020).

3.4. Participants

The sampling process attempted to reach the largest number of participants as possible with the limited resources and time frame available. The data was collected using an online questionnaire that was sent to several teachers and principals in the provinces of Turin, Brescia, Venice and Naples at the end of May 2020. Teachers and principals were contacted via email, they were explained the research project and asked to submit the questionnaire to their classes if they wished to participate in the study. The online format was chosen for logistical reasons, being the easiest and fastest way to collect data at such a critical time of the year for schools, and given the increased familiarity with digital education tools after a year of remote learning.

The targeted population were Italian students in their third through fifth year of upper secondary school[6] in the institutes that were contacted. First and second year students were excluded from the research design because they would be unable to offer relevant comparisons and insights given their lack of a pre-pandemic high school experience.

Of all the schools that were contacted, only one principal and three teachers from the provinces of Brescia and Turin responded and were willing to submit the questionnaire to their students. The students responded under the encouragement of their teachers, however, participation was ultimately voluntary, as nobody was forced to fill out the questionnaire. Both the teachers and students were informed on the objectives of the investigation and on the nature of the research questions. Participants consented to the use of their data for the purpose of this research and were guaranteed maximum protection of their privacy, for the questionnaire could be completed anonymously and did not demand any sensitive personal information.

As shown in Table 2, the final sample consisted of 123 students between the ages of 16 and 21, all attending either the third, fourth or fifth year of upper secondary school in the province of Brescia or Turin. The sample was composed of 94 subjects who identified as female (76.4%), 27 as male (22%), and 2 as other (1.6%).

Furthermore, at the beginning of the survey, subjects were asked to indicate what type of upper secondary school they attended, whether a *liceo,* a technical school, or a vocational school[7].

[6] Secondary education in Italy consists of 8 years. It is divided into three years or lower secondary school, or middle school, and five years of upper secondary school, or high school. Furthermore, upper secondary education comprises different types of high school, technical institutes and vocational schools.

[7] In Italy, there are three main paths students may choose once they finish middle school. *Liceo* is the equivalent of high school, where students are given strong academic training, with specialisations in certain areas of study, depending of the type of *liceo* attended. Technical school, or *Istituto Tecnico*, offers a more technical training aimed at preparing students for specific work fields such as technology, tourism, commerce, and so on. Vocational school, or *Istituto Professionale*, is a highly specific, job-oriented type of institute, which focuses on providing students with practical training aimed at directing students into the labour market.

Table 2 - *Subjects categorised by gender, year of attendance and type of secondary school attended.*

		Respondents	**Percentage**
Gender	Male	27	22%
	Female	94	76.4%
	Other	2	1.6%
Year	3rd	16	13%
	4th	63	51.2%
	5th	44	35.8%
Type of school	Liceo	78	63.4%
	Istituto Professionale	22	17.9%
	Istituto Tecnico	23	18.7%

3.5. Instrument of data collection

As already mentioned, the data was collected through an online questionnaire that was submitted to the students by their teachers. The instrument was designed especially for the present study drawing from questionnaires in available publications (see Hart, Stewart & Jimerson, 2011; Martin & Rimm-Kauffman, 2015), in order to incorporate items related to cognitive, behavioural, emotional and social engagement into a single questionnaire. The items were also adapted to reflect and investigate the singular context students faced during the pandemic.

The questionnaire was divided into five parts with a mix of multiple choice and non-compulsory open-ended questions:

a. Demographics (1-5): this first part aimed at gathering demographic information on the subjects, such as their first name (optional), gender, age, type of secondary school and grade attended.
b. Definition of student engagement (6-7): this section aimed at exploring the meaning of engagement according to the students and whether they perceived themselves as engaged or disengaged students.
c. Pre-pandemic engagement (8-35): the third section aimed at getting an idea of the subject's self-reported level of engagement prior to the beginning of the Covid-19 emergency, both overall and in the specific areas of engagement. To do so, subjects were given a series of affirmations and were asked to indicate their level of agreement on a 4-point Likert Scale, from *strongly disagree*, to *strongly agree*. The 4-point scale was chosen over the 5-point scale in order to avoid neutral responses. At the end of the section, two optional open-ended questions were included to offer the student a chance to share any particularly positive or negative experiences they had during a class or with a professor.
d. Engagement during the pandemic (36-63): at the beginning of this section, the students were asked to indicate whether they perceived a decrease in their level of engagement compared to their experience before the pandemic. The multiple-choice questions in this section mirrored the pre-pandemic questions, adapting them to the current situation, in order to detect any changes in the specific areas of engagement between the two periods. Similarly to the previous section, the final, optional questions were open-ended and inquired about any relevant experiences during class or with a professor during the emergency remote learning phase.
e. Suggestions (64): the last section was composed of one optional, open ended question, whose purpose was to collect students' suggestions about how to better support their engagement in school in the future.

Table 3 - *Items from sections 3 and 4 measuring student engagement prior to and during the Covid-19 pandemic with their respective scores.*

Dimension	Item	Max. points
	Pre-pandemic engagement	
Affective Engagement	D1. I believe what I learn in school to be interesting and useful to me.	3
	D2. I was normally bored in class. [*Reverse Scored*]	3
	D3. I usually felt like going to school in the morning.	3
	D4. I am happy to attend my school.	3
	D5. When I understood a difficult topic in class I would feel satisfied and fulfilled.	3
		Tot. 15
Behavioural Engagement	D6. I was committed during class time.	3
	D7. I would always try to pay attention in class.	3
	D8. I would participate in class activities.	3
	D9. I would put in just the amount of effort needed to pass the class. [*RS*]	3
	D10. When my professor was speaking, I wouldn't get distracted.	3
		Tot. 15
Cognitive Engagement	D11. Whenever I learned a new concept, I'd try to link it to my personal experiences and previous knowledge.	3
	D12. I would study concepts superficially, just enough to be able to report them in a test. [*RS*]	3
	D13. I would try to make links between subjects.	3
	D14. I would revise my notes regularly, regardless of upcoming tests.	3
	D15. If a topic debated in class interested me, I would do additional research autonomously at home.	3
		Tot. 15
Social Engagement	D16. My professors would try to understand me and my classmates' points of view.	1.5
	D17. I've always had a good relationship with my professors, and I knew I could talk to them in case I had any problems in school.	1.5
	D18. My professors have always listened to me and were interested in my opinions and those of my classmates.	1.5
	D19. I knew I could count on my classmates' help whenever I didn't understand something in class.	1.5
	D20. Whenever I didn't understand something, my professors would explain it again to make sure I'd understand.	1.5
	D21. I don't think there is a good level of communication between my professors and the class. [*RS*]	1.5
	D22. I've always found discussing with my classmates very useful.	1.5
	D23. My professors would give me useful feedback and suggestions on how to do better.	1.5
	D24. Whenever we worked in groups, I would feel more motivated and engaged in the activity.	1.5
	D25. My professors would assign homework without considering the time we needed to dedicate to other subjects or to recreation. [*RS*]	1.5
		Tot. 15

	Engagement during the pandemic	
Affective Engagement	D26. The modalities of emergency remote learning have discouraged me. [*RS*]	3
	D27. I found remote learning to be less boring than in-person classes.	3
	D28. I usually felt like connecting to my online classes in the morning.	3
	D29. I am happy about how my school responded to the Covid-19 emergency.	3
	D30. I am proud of the way I adapted to this new way of learning.	3
		Tot. 15
Behavioural Engagement	D31. I was committed during class time.	3
	D32. I've always tried to pay attention in class.	3
	D33. I have participated in class activities.	3
	D34. I've put in less effort than usual, just the bare minimum to pass the class. [*RS*]	3
	D35. When my professor spoke, I didn't get distracted.	3
		Tot. 15
Cognitive Engagement	D36. I've tried to connect what I was learnt in school to what I was going through.	3
	D37. I have studied new concepts superficially; I haven't made an effort to truly understand them. [*RS*]	3
	D38. I've tried to make links between subjects.	3
	D39. I've revised my notes regularly, regardless of upcoming tests.	3
	D40. I've done spontaneous additional research on interesting topics we discussed in school.	3
		Tot. 15
Social Engagement	D41. My professors have tried to put themselves in my and my classmates' shoes.	1.5
	D42. My relationship with professors has gotten better: I feel like this experience has brought us closer as people.	1.5
	D43. Professors have shown to be interested in our opinions and have encouraged class discussions.	1.5
	D44. My classmates and I have helped each other whenever one of us was in need.	1.5
	D45. My professors have adapted their teaching methods to the new online media, in order to meet our needs.	1.5
	D46. I feel like communicating with my professors has gotten harder. [*RS*]	1.5
	D47. Studying with my classmates and asking them for advice has been a great support for me.	1.5
	D48. My professors have been interested in how we were doing, offering advice on how to better handle the stress of the current times.	1.5
	D49. Whenever we've worked in groups or done any activity that required more social interaction I've felt more motivated and engaged.	1.5
	D50. Professors have been assigning homework without considering the time we needed to dedicate to other subjects or to recreation. [*RS*]	1.5
		Tot. 15

Although the present research has no statistical objectives, a measuring scale was designed for comparison purposes and to make it easier to identify any tendencies or remarkable differences between the two periods, or between the different dimensions of engagement.

The measurement made use of a point system obtained from the Likert scale responses of the subjects. The points were assigned to make a maximum total of 15 points per engagement dimension (see Table 3). Cognitive, behavioural and affective dimensions all had five items: four of them being indicators of engagement and one being an indicator of disengagement. This latter one was reverse scored (RS in the table), in order to assign lower points to a positive answer and higher points to a negative answer. For the aforementioned dimensions, normal scoring would therefore assign points as follows: *strongly disagree* = 0; *mildly disagree* = 1; *mildly agree* = 2; *strongly agree* = 3. Reverse scoring, on the other hand, would assign 0 points to *strongly agree* answers, 1 point to *somewhat agree* answers, and so on and so forth.

The social engagement dimension presents a slightly different scale, due to the higher number of items. Since this research wanted to pay particular attention to social aspects of engagement, the number of items created for this dimension is twice the items for the other dimensions, namely ten items. The points scale for social engagement was thus adjusted to make the measurement consistent within and between all dimensions.

Each item in the social engagement category is worth a maximum of 1.5 points: *strongly disagree* = 0; *somewhat disagree* = 0.5; *somewhat agree* = 1; *agree* = 1.5. For this dimension, two items were reverse scored instead of one to follow the x2 ratio on the total of items.

The final engagement scores for each dimension and the total overall points were then converted into percentages for better understanding.

The list of items from sections 3 and 4 with their respective points value is reported in Table 3, while the entire questionnaire translated into English is reported in Appendix A.

IV. Results

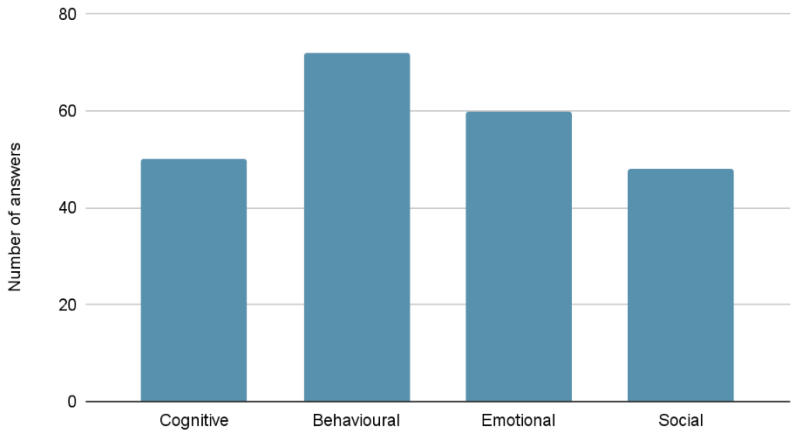
This chapter will present an overview of the results, with the main data grouped by section or category of question. Results will be presented starting from section two since demographic results gathered in section one have already been summarised in the previous chapter.

4.1. Student engagement according to the subjects

In the second section of the questionnaire, subjects were asked to indicate what, according to them, being engaged in school entailed and to indicate whether they considered themselves to be engaged students.

For their definition of student engagement, subjects were asked to complete the sentence "To me, being engaged in school means…" with one or more options of the four presented. Each of the options they could choose from was related to a specific engagement dimension. As can be seen from the graph in Figure 2, the dimensions of engagement that were most selected were behavioural and emotional. Behavioural engagement was in fact choosen by 58.5% of the subjects and emotional engagement by 48.8%. Social and cognitive dimensions of engagement were included in the definitions by 39% and 40.7% of subjects respectively. Despite a noticeable advantage of the behavioural dimension over the cognitive and social ones, there does not seem to be an overwhelming difference between the different types of engagement in the students' definitions. Furthermore, 26 subjects included more than two dimensions in their idea of engagement, and 9 selected all four.

Figure 2 – *Students' view of engagement*



With respect to the classification of their own engagement, the majority of participants, namely 83.7%, perceived themselves as overall engaged students. A more detailed presentation of this result is offered in Table 5, showing the differences within categories of gender, year and type of school attended.

Table 5 – *Percentage of subjects who consider themselves to be overall engaged students. Comparison of results within categories of gender, year and school attended.*

		% of engaged students per category
Gender	Male	81.5%
	Female	84%
	Other	50%
Year	3rd	93.7%
	4th	80.9%
	5th	84%
Type of school	*Liceo*	83.3%
	Vocational school	86.4%
	Technical school	82.6%

4.2. Differences in engagement before and after the pandemic

Section number three and four were dedicated to inquiring about the perceived level of engagement of subjects prior to and during the outbreak of the Covid-19 pandemic. As previously explained in chapter three, the engagement measurement

portion of the questionnaire assigned scores for each dimension of engagement as well as an overall engagement score for each subject. The table below (*Table 6*) reports an average of all responses in the various domains.

At the beginning of section 4, subjects were asked whether they felt less engaged since the pandemic started. The results show that 62% of respondents admitted to feeling like their level of engagement was currently lower than it was before the outbreak of Covid-19; however, when comparing the single overall engagement scores, 81.3% of subjects presented lower levels of engagement since the beginning of the pandemic, while 23 subjects presented the same or a higher score compared to the pre-pandemic context. Where the overall engagement did in fact decrease, it did so by 12.9% points on average, as shown in Table 6.

Table 6 – *Comparison between average engagement scores before and after emergency remote learning due to the outbreak of the pandemic.*

	Emotional	**Behavioural**	**Cognitive**	**Social**	**Overall**
Pre-Covid	65.7%	69.6%	54.0%	58.1%	**61.9%**
During Covid	42.1%	58.9%	43.7%	51.2%	**49.0%**

The following subchapters will compare the average results for each dimension of engagement.

4.2.1. Emotional engagement

Of all four dimensions, emotional engagement is the area with the biggest score difference, with a drop of 23.6% in the perceived engagement between the pre-pandemic context and the current situation. One of the most striking differences between the two sets of items[8] lays in the students' average eagerness to go to school in the morning: as

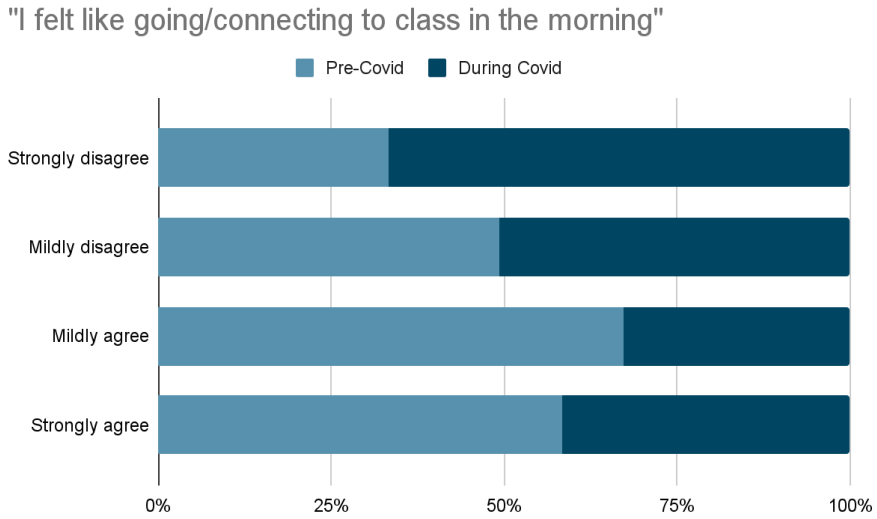
[8] One set of items being the questions about the students' pre-Covid academic experience and the other being the questions about their current experience.

shown in *Figure 3*, subjects noticeably declared to be less motivated to connect to class during the pandemic emergency in comparison to their feelings about going to school in the morning before the pandemic.

Furthermore, subjects seemed to be averagely more bored during remote learning, with only 21.2% of subjects who agreed strongly or mildly to online classes being more interesting than in-person learning. This latter result is also consistent with the responses about the teaching methods adopted during the emergency. In fact, 71.6% of the students responded affirmatively (i.e. *strongly agree* or *mildly agree*) to the item "The teaching methods adopted by my professors during remote learning have discouraged me". However, around 60% of the respondents admitted to being proud of the way they adapted to the remote learning conditions.

Finally, despite some general discontent with respect to the teaching methods, more than half of the subjects still said to be satisfied with their school's response to the emergency and the overall appreciation of the attended school has only slightly decreased.

Figure 3 – *Comparison between responses to questionnaire items prior to and during the pandemic contexts.*



4.2.2. Behavioural engagement

According to the average of responses, behavioural engagement decreased by 10.7% between the two sets of questions. The subjects' responses show indeed fewer signs of commitment and effort during class time, especially with regard to actively participating in class activities and paying attention (*Figure 4* and *Figure 5*). It is interesting to note that the major oscillations between the two sets of responses occurred in the middle of the Likert scale, while *strongly agree* responses presented very similar outcomes in both sections of the questionnaire. The data shows, in fact, a redistribution of subjects' responses from the agreement side of the continuum towards the disagreement side in the questions related to the pandemic context. This data, therefore, seems to suggest that in subjects who normally present more nuanced behaviours in the situations inquired, the balance has shifted considerably towards disengaging behaviours.

Figure 4 – *Comparison between responses to questionnaire items prior to and during the pandemic contexts.*

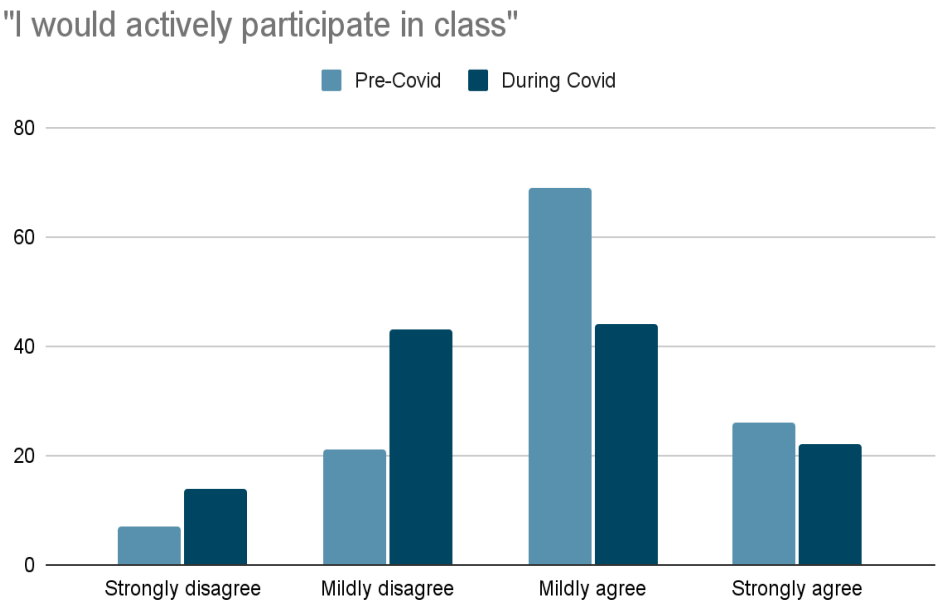
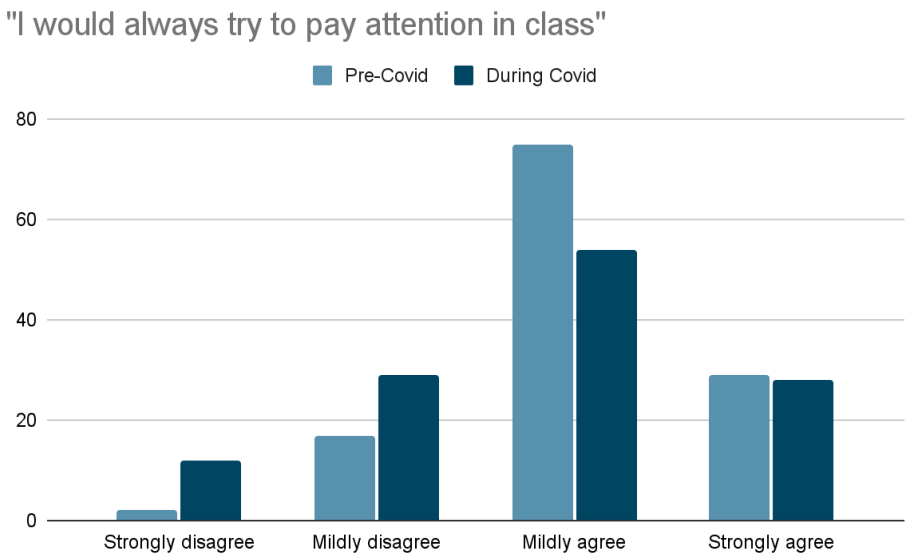


Figure 5 – *Comparison between responses to questionnaire items prior to and during the pandemic contexts.*

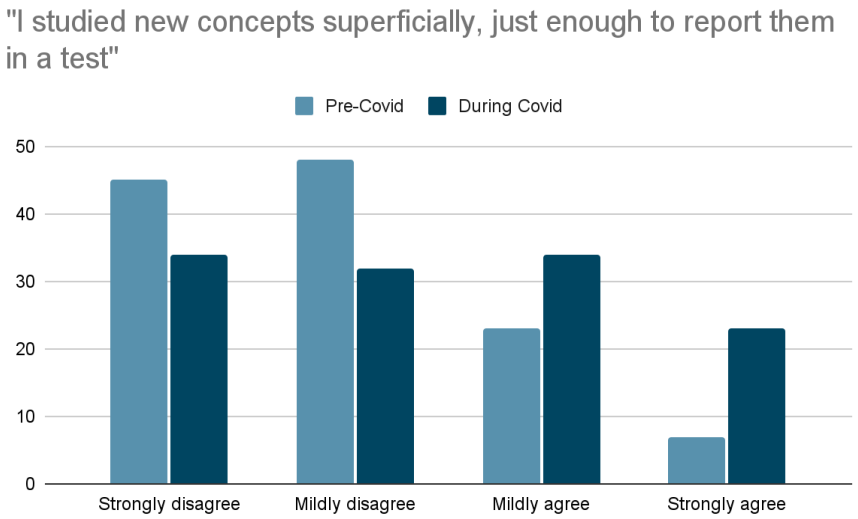


4.2.3. Cognitive engagement

With an average decrease similar to behavioural engagement, the differences in the cognitive dimension mainly concern the level of mindfulness involved in the learning process and the consistency in academic efforts. This latter factor presented the same tendency highlighted in the behavioural engagement results, that is to say, redistribution of originally mid-scale answers towards the negative pole of the Likert scale. More specifically, the item "I regularly revised my notes, regardless of upcoming tests" received the same amount of *strongly agree* and *mildly agree* answers in both sets of questions. The first half of the Likert scale, on the other hand, saw *mildly disagree* answers drop from 44.7% to 34.1%, and *strongly disagree* responses increase from 39% to 50.4% in the pandemic context.

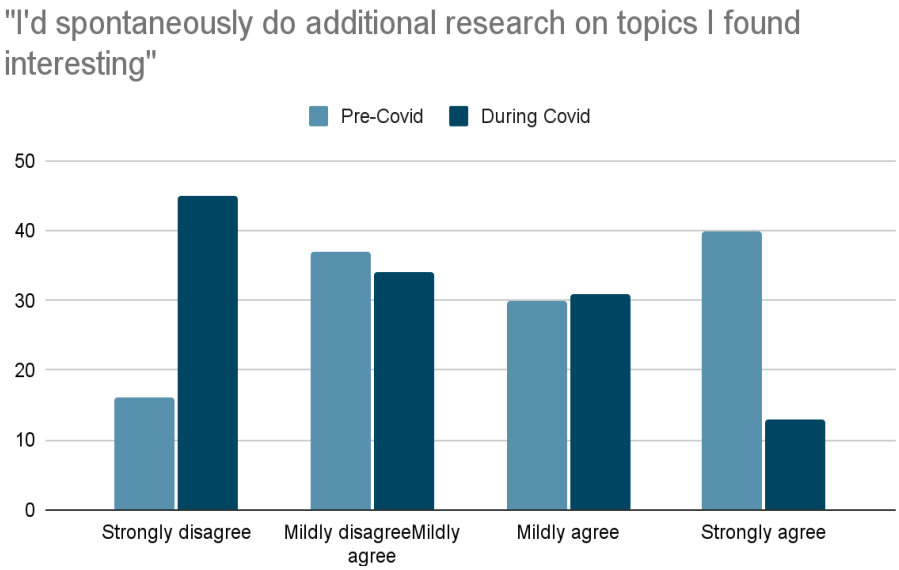
The other striking difference that was observed is the reduction of mindful learning. As shown in *Figure 6*, subjects reported approaching new concepts learnt in school more superficially during the pandemic, than in their pre-Covid experience.

Figure 6 – *Comparison between responses to questionnaire items prior to and during the pandemic contexts.*



Such loss of commitment to deep understanding can also be highlighted in another item of the questionnaire. When asked whether they would do spontaneous additional research on topics discussed in school that interested them, subjects responded very differently when comparing regular and remote emergency learning contexts (see *Figure 7*). What is particularly striking is the shift registered in the "strong poles" of the scale: strong agreements dropped to a mere 10.6% in the pandemic situation from an over 32% position and, conversely, strong disagreements rose from a low of 13% pre-Covid to a 36.6% during the pandemic.

Figure 7 – *Comparison between responses to questionnaire items prior to and during the pandemic contexts*



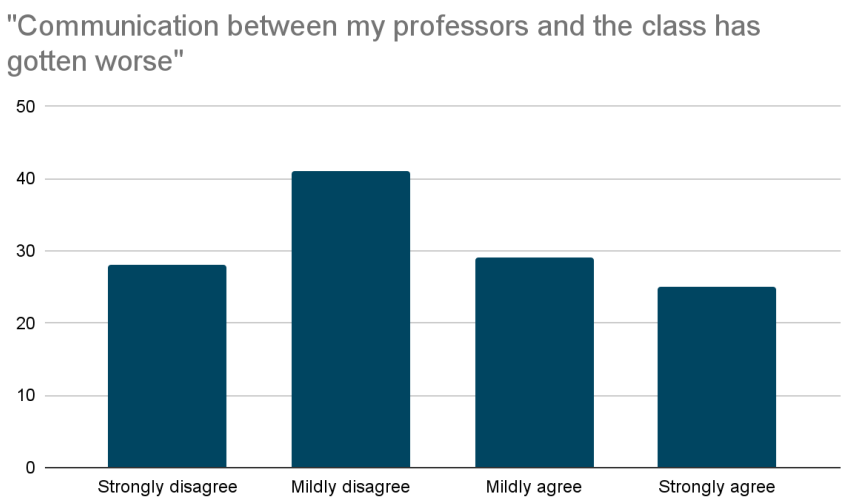
4.2.4. Social engagement

Out of all dimensions, social engagement presented the smallest average reduction during the pandemic. The parts of the questionnaire dedicated to social engagement explored the quality of the subjects' relationships with their teachers and classmates and how that has changed since the outbreak of the pandemic. The data gathered does not indicate major or drastic quantitative changes, however, there are still differences worth mentioning.

Overall, it seems that most of the changes occurred in the relationship with the professors, rather than with the subjects' peers. In particular, a fair amount of students tended to feel less understood and listened to by their teachers, as shown by the responses gathered for items concerning the perceived empathy of professors, their interest in the subjects' opinions and the encouragement of class discussions. Despite 70.7% of subjects declared to have always had a good relationship with their teachers prior to the pandemic, 62.6% felt like the remote learning environment was not beneficial to said relationship and expressed either strong or mild disagreement when asked whether the pandemic experience brought them closer to their professors on a humane level.

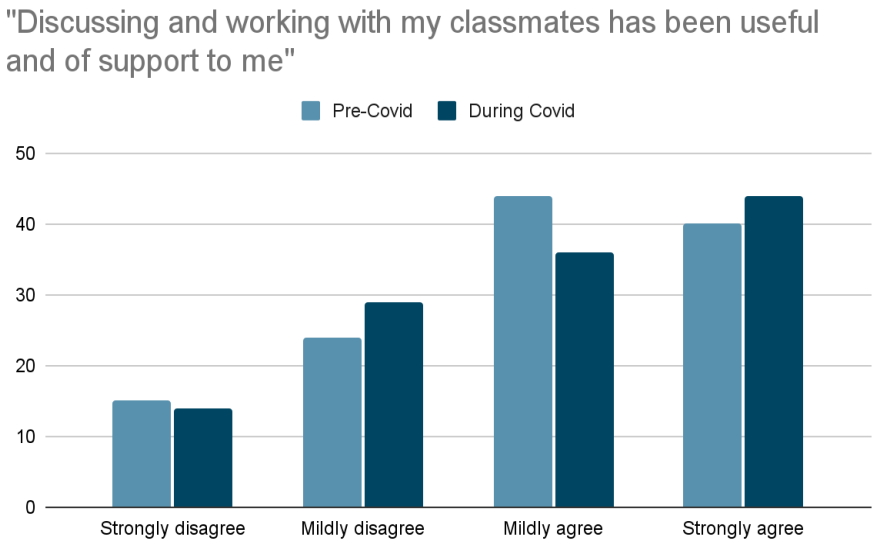
With regard to the communication between professors and their class, while a vast majority of subjects described a good level of communication prior to Covid-19, the results describing this academic year's situation are more heterogeneous (see *Figure 8*).

Figure 8 – *overview of responses to questionnaire item*



Relationships with peers, on the other hand, seem to have stayed averagely unaltered between the two sets of questions. In particular, discussing with and seeking the help of classmates was generally considered of support both prior to and during the pandemic (*Figure 9*); similarly, over 60% of respondents felt more motivated and engaged during activities that required group work or more social interaction in both contexts.

Figure 9 – *Comparison between responses to questionnaire items prior to and during the pandemic contexts*



4.3. Open-ended questions: adjusting the perspective

The responses to the open-ended questions in sections three and four contribute to a deeper understanding of certain aspects of engagement, mostly in the social and cognitive dimensions. The complete, translated answers to the open-ended questions are reported in Appendix B, C and D.

4.3.1. Reports of particularly positive or negative experiences

The quantitative data on social engagement did not register a great average change from the pre-Covid context and the current situation. However, it is interesting to note how often elements concerning social engagement were discussed in the open-

ended items. In the answers to the questions regarding both contexts, in fact, the aspects of engagement that were mentioned more frequently were of social and cognitive nature. Aspects of emotional engagement were also discussed but in a smaller part.

When asked to recall any particularly positive or negative memory of a specific class prior to the pandemic, 45% of subjects who responded to this question talked about social relationships or a social aspect of their learning experience. Specifically, respondents mentioned episodes that hindered or improved their personal relationship with professors, lessons that involved opinion exchanges and debates which were seen as both positive for the class environment and useful to the learning process. For instance, one negative memory reports: "*one of my professors, thinking that I had cheated during a test, once told me that if I went on that way, I could only aspire to be a butcher or a street-sweeper (as if that was an insult and those weren't decent jobs)*". Positive memories that relate to social engagement, on the other hand, are ones like "*My teachers helped me during a rough patch*", or "*I remember one lesson where the aim was to talk about ourselves in order to establish a dialogue between classmates and professors*", or again "*a positive experience was having class discussions that my teacher would start, because they helped me understand certain concepts better*".

In the section dedicated to the pandemic context (see Table 7), roughly the same percentage of open answers was focused on aspects of social engagement. Interestingly, the content of said responses was a lot more homogeneous than in the pre-covid section and, aside from two exceptions, the subjects who opened up about the social aspects of their experience in this section were not the same as the pre-pandemic context. From the responses gathered, it seems that the social aspects of the learning experience which most impacted subjects during the pandemic revolved around dialogue with professors, group activities and the lack of in-person learning experiences.

In the cognitive dimension, responses prior to the pandemic revolved almost exclusively around the professors' teaching methods and the ways they promoted or hindered learning. Subject 111, for instance, remembers how his former philosophy teacher "*taught us to always go beyond common thinking, by listening to our opinions and always starting discussions regarding current issues*", or subject 93, who highlights

how a positive experience was the practice of his teacher to "*always repeat new concepts in multiple different ways and to use practical examples*". In the answers to the questions about the pandemic, however, the responses tackling cognitive engagement mainly reported a shared difficulty in staying focused during online lectures or ways in which their professors adapted or did not adapt their teaching methods to the emergency remote learning context.

4.3.2. Reports of particularly positive or negative relationships

The open questions inquiring about any particularly positive or negative relationships with teachers in sections three and four helped gain more insight into what determines the quality of a relationship from the point of view of students. They helped to better understand dynamics that promote or hinder social engagement, alongside whether and how they might have changed since the outbreak of the pandemic.

The subjects who decided to offer a testimony of their relationship with teachers in the pre-pandemic context were 40, reporting both positive and negative experiences. Among the aspects that negatively influenced the relationship with teachers the common threads seem to be the biased nature of their behaviours, which in turn leads them to not recognise students' efforts, and the lack of interest they show in students' opinions and perspectives. However, many students have also reported aspects and experiences that determine the good relationship they have with their teachers. In general, students said to have developed a relationship of trust and respect with professors who listen to them and value their opinions, are willing to help them in case they do not understand something, and care about them as human beings. Many students, in fact, seem to value the type of connection with their teachers that goes beyond schoolwork. For example, S117 says that an aspect that impacts her positively is "*[...] simply feeling appreciated*", or S32 who opened up about a serious family issue and said her teacher genuinely cared about her situation and was extremely empathetic.

The responses to the question on the pandemic context were much more heterogeneous. The subjects divided themselves into three main categories: some lamented a deterioration of the relationship between teachers and students, others did

not notice any particular changes between the pre-pandemic and the current situation, others again feel like they have gotten closer to their teachers since the beginning of the pandemic. A positive impact on relationships that was almost unanimously mentioned by this latter group of subjects was the time dedicated to conversation with their teachers. It was highly appreciated by students when teachers would take some time off of lectures to talk to the students and ask them how they were holding up, share ideas on how to better cope with the difficult situation they were all living. In some cases, this allowed for teachers and students to know each other a little better and create new friendships, just like S59 reports: "*I didn't use to have a relationship with all my classmates. Now, thanks to the dual learning, I've created new relationships"*.

4.3.3. Suggestions for the future

At the end of the questionnaire, subjects were offered the chance to embark on a final reflection on the answers they had just given. The last item was, in fact, an open-ended question inquiring about the opinions of subjects on how student engagement could be promoted and whether they had any desire for change or suggestions for the future. The subjects who responded to this last non-mandatory question were 42 and the answers provided were quite diverse and insightful (see Appendix D).

A couple of respondents did not seem hopeful about the possibility of the issues that bothered them being resolved or they felt like they could not offer any useful suggestions; for example, S87 laments that "*It's impossible to stimulate participation during remote learning, even with class discussions. Everyone does whatever they want, there's no discipline*". The remaining responses offered recommendations on a variety of aspects. Some of them were concise, practical answers suggesting specific strategies for engagement or specific changes they would like to see. This type of answer does not elaborate on the reasons or on the deeper implications said changes would have, but they are clear and go straight to the point. Some answers, on the other hand, were very extensive and explored more in depth the reasons behind the need or desires for new approaches, offering an explanation on how certain changes can improve engagement.

The topics and the areas of change discussed in the responses were several, from specific practical strategies to broader changes of mentality and approach. For example, some subjects suggested that teachers should ask more questions to the students and stimulate their active participation in order to promote engagement. They also pointed out multiple times that group projects are a great tool to do so, and to stimulate interaction, as suggested by S20: "*propose more group activities or interactive lessons. We need to feel stimulated and socially engaged after spending a year and a half locked inside*". In parallel to asking for more interactive lessons, students obviously feel the need for less frontal lectures, which they find less engaging.

There seems to be a popular request for better communication and organisation between teachers who, according to the students, should coordinate better when scheduling tests and giving assignments in order to spread them out more evenly and not overlap them unnecessarily with other teachers' exams and projects. Additionally, a good part of the subjects suggests decreasing the amount of work assigned for home because it normally consumes most of their free time outside of school.

Other suggestions regarding specific strategies or practical changes include discussing current events and taboo topics during the lessons or during specific seminars: some subjects feel they know too little about what is occurring in the world and that school does not provide them with the tools and information they need to understand them, but rather focuses on a pre-approved curriculum that rarely includes relevant contemporary issues.

However, as already mentioned, responses to this question also included the need for broader changes in the teachers' approach and relationship with the students. More specifically, subjects demanded more empathy from their teachers, who sometimes tend to not see them or care for them as human beings, but instead treat them based on their academic results. Many subjects, in fact, lamented not feeling understood and listened to by their professors, and expressed a desire for more time dedicated to sharing their opinions and state of mind during class time, in order to create a more human bond that goes beyond the strictly academic relationship between teachers and students. As S11 advised, teachers should

> "Have more empathy. [...] It's not fair to demoralise or discredit us, just because we don't do well in school. I am me, I should not be treated like a number, like a grade I get. You need to build a more human relationship with your students, understand their needs and care about how they are feeling [...]".

Furthermore, some subjects feel that their opinions are discredited and considered not valuable by their teachers, should they not align with their thinking. This goes to such an extent that some of the subjects have stopped or fear expressing their opinions, to avoid being discredited and called disrespectful by their professors.

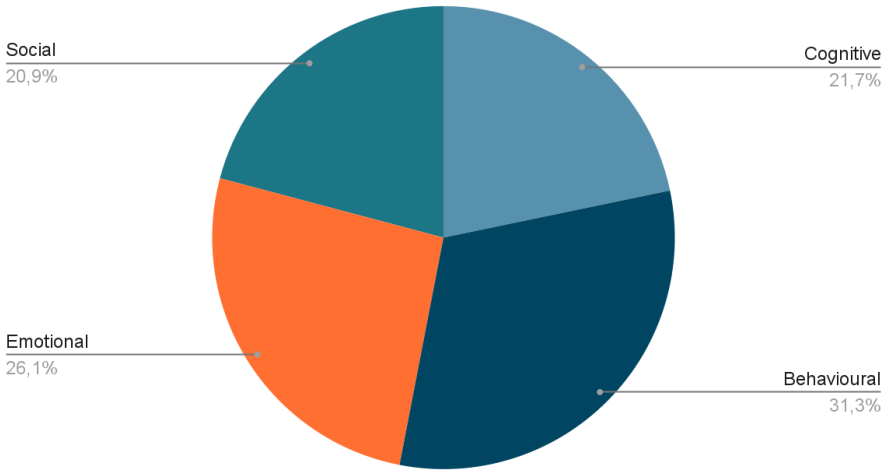
Finally, but not less important, subjects have also highlighted the need for more awareness and support on mental health. After these past months of struggle, some students have noticed the lack of attention paid to mental health by both their teachers, who do not wish to listen, and by their school, which often do not offer resources or access to professionals. S119, for instance, confessed to seeking help to process issues and social isolation caused by the pandemic and wishes that his school would have been more helpful: "*I think schools should offer students the chance of virtual meetings or chats with psychologists or other professionals. It would have personally helped me a lot, since I had to resort to seeing a therapist once a week [...]*".

V. Discussion of results

5.1 Definition of student engagement as a four-dimensional construct

As one of the first studies on student engagement conducted in Italy, the present research made sure to inquire the students' understanding of the construct by asking what being engaged meant to them, before attempting any measurements. When looking at the overall results for the students' definition of engagement, the multidimensional nature of the construct clearly emerges (*Figure 10)*. Although the behavioural dimension seems to have received slightly more attention, similar to the literature on the subject matter, the picture painted by the subjects is one of a construct divided, almost evenly, into four dimensions.

Figure 10 – *Graph of students' definition of engagement*



The data, therefore, accounts for a multidimensional definition of engagement consistent with the conceptualisations found in the literature, even with the addition of a fourth, social type of engagement, which fits smoothly with the rest of the dimensions, resulting in a quite balanced overall picture. This first result is also consistent with the results of Holquist's focus groups (2020), where students' responses suggested the

presence of a social dimension to engagement in addition to the standard three, and thus seems to validate the framework proposed by Holquist and her colleagues.

However, this is not the only data in support of the existence and importance of a social dimension of engagement. The open-ended questions, in fact, allowed students to share freely what most influenced them positively and negatively in their academic experience and what could be changed, in their opinion, in order to promote student engagement. Many of the suggestions for the future, precisely 52%, concerned the social area of engagement: students asked for better and "more human" relationships with their teachers, for better communication, for the inclusion of more group activities and other socially stimulating activities, while others simply asked to go back to in-person classes and never go back to remote learning again. From these answers, it is clear that the subjects value the social dimension of their academic experience and that the lack of social relationships has impacted them negatively. One subject even confessed to needing therapy to deal with the deprivation from social contacts, among other things.

5.2 Answering the research questions

The first main research question inquired whether there was any change in the level of engagement perceived by students since the outbreak of the Covid-19 pandemic. It was hypothesised that a decrease would be detected between the engagement levels perceived before and during the Covid-19 emergency and consequent remote learning practices. The results reported in Chapter 4.2 show that both the subjects' declarations and their test scores indicate a decrease of engagement in the majority of the sample. Even though the two sets of data do not match entirely — 62% of subjects identifying as less engaged versus 81.3% of the overall engagement test scores being lower during the pandemic — both of them indicate that current engagement levels have decreased considerably compared to the pre-pandemic situation, and thus support the hypothesis.

On the other hand, answering the second research question is far more complex. The second question aimed at getting an understanding of the impact that the lack of social contact had on the students' engagement level. It was hypothesised that the quality of social relationships in the learning environment would be a determining factor in

establishing the overall level of student engagement and, thus, the impoverished social context that the pandemic created would have had an important role in lowering the engagement levels in the subjects.

From the quantitative data collected, however, social engagement seems to be the dimension that was least impacted by the new pandemic context, with an average decrease of 6.9% while other dimensions all surpass 10%. This piece of data, however, clashes with other data indicating the importance of social interactions on engagement, for example, the already discussed results of the subjects' definition of the construct and responses to the open-ended questions. It is, in fact, striking to note the frequency with which factors related to social engagement are mentioned by the subjects in their answers. The emphasis that respondents put on the quality of relationships with their teachers especially, and on academic activities that require social interaction leads to thinking of social relationships as an important factor to student engagement, as also suggested by various scholars (Holquist et al., 2020; Wang et al., 2016; Martin & Rimm-Kaufman, 2015; Fredricks et al. 2016b).

Therefore, if the social dimension is as important as suggested by all this data and the Covid-19 emergency drastically limited social contacts, the logical prediction would be for social engagement scores to drop in the pandemic engagement assessment. So, how is it possible that social engagement scores saw the least decrease between the two periods and, in some subjects, they even improved during the pandemic context? At a first glance, these results may seem contradictory; however, a closer look is needed in order to fully understand the quantitative data, and the open-ended answers offer extremely insightful material for a more complete perspective.

Responses to the open-ended question inquiring about particularly positive or negative experiences confirm that the lack of social contact throughout this past year and a half of lockdowns has indeed had a negative impact on the students. This emerges both from the responses mentioning the negative effects of social distancing and from the ones valuing the few social interactions available during the lockdown as extremely important, or from expressing the joy felt when finally going back to school in person. Particularly striking is the number of respondents mentioning group projects and

working with peers as especially positive experiences or as suggestions for improving engagement in the future. However, it is when taking a closer look at some of these responses that a possible explanation for the results of the questionnaire starts emerging. Many subjects, in fact, decided to report as positive experiences those times in which their teachers dedicated a moment, during online classes, to ask them to talk about themselves, about how they were holding up in those difficult times. Many also reported this as the main reason behind an improvement in their relationship with said teachers, which finds further confirmation in the 37.4% of positive responses to the questionnaire item: "My relationship with my teachers has gotten better: I feel like this experience has brought us closer as people". Subject 31 reported wearing funny hats at the beginning of every online class to make his teachers and peers laugh and to lighten the mood, while subject 59 confessed that, thanks to dual learning, she created new relationships with those classmates she did not use to talk to. Finally, several respondents indicated group activities, lessons where they were required to interact with their peers and calling their classmates to work on school projects as positive experiences.

Making the most out of the few occasions of social interaction available, nurturing old relationships and creating new ones, making room for moments to work with peers and bringing people together, all of this is nothing but social engagement in action. If we look back to Wang's definition (Wang et al., 2016), social engagement includes not only the quality of relationships with classmates and teachers but also the effort put into maintaining said relationships to promote learning. Working towards maintaining and improving social relationships and seeking learning situations that involve social interactions, therefore, is not only a sign of social engagement, it is also an active way to promote it, resulting in a recursive cycle. It is in fact important to highlight the active role the students play in the social dimension in order to explain why it was conceptualised as an actual dimension of engagement, rather than a contextual feature.

As already discussed in Chapter 1, in the Self-System Model of Motivational Development (Connell & Wellborn, 1991; Skinner et al., 2008) student engagement is influenced both by external and internal variables that interact with each other and translate into actions manifesting engaged or disengaged behaviour. This model and

many other theorisations of engagement recognised the importance of the quality of relationships in influencing student engagement, however they thought of it as an external variable, as part of the context. The present conceptualisation of engagement, on the other hand, does not consider social relationships as a contextual variable, but rather recognises the active role that the student plays in the relationships with teachers and peers. Social relationships require at least two players with a mostly equal share of responsibility for the quality of the interactions. In the case of a student-teacher relationship, the latter has perhaps more control over the tone and quality of the relationship; however, the student is still an active participant with responsibilities and a margin of action, not a passive recipient. As already seen, in fact, social engagement also refers to the maintenance of social relationships and to the way the student uses them to promote their learning processes.

When keeping in mind all of the elements mentioned above, the little decrease in the social engagement levels starts to make more sense in light of the responses to the open-ended questions. Perhaps, the few occasions for social interaction available during remote learning were actively used by the students as a tool to compensate for the disengagement tendencies in the other dimensions. That is to say that those moments of social engagement, such as group activities, studying with a classmate, and the conversational space before the beginning of a class were used to boost morale and motivation, to bond and deepen the relationship with teachers and peers at a time of desperate need for social connection.

The hypothesis to the second research question was, therefore, partially rejected, because it was mainly focused on the negative impact of the restrictions on social contacts, without considering that younger generations are way more accustomed to and comfortable socialising through technology than adults and that they might turn a restrictive context into an opportunity. From the results of the present study it seems that, while social isolation definitely had a strong and negative impact on the subjects' personal and academic lives, some of them were able to use their daily, albeit virtual, social contacts with teachers and peers to overcome the difficult situation they were all facing, not letting the context influence social engagement, but rather actively using

social engagement as a way to better respond to the context. This adjustment might, therefore, be the reason why a considerable decrease in social engagement was not recorded in the questionnaire section dedicated to the pandemic, despite the socially impoverished context. Furthermore, although the first part of the hypothesis was not supported by the data, the results still support the importance of social relationships to the overall engagement level and thus bring evidence in favour of the conceptualisation of a social dimension of engagement.

In light of this analysis of the results, a revision of the items related to the social dimension included in the present questionnaire might be necessary for future research, as they focused primarily on assessing the quality of relationships without giving enough space to the active role of the subjects in maintaining and using said social interactions to promote their learning and their social engagement.

5.3 Students' suggestions for the future

The subjects' responses to the optional final question offer some insightful suggestions for the future along with inspiration for further research. In addition to the responses that were already analysed, a good part of the subjects conveyed their wish to be allowed to participate more during classes, most of which are monopolised by the teacher who rigorously adheres to the traditional frontal teaching method. Those students expressed a neglected sense of curiosity; they want their teachers to ask them meaningful questions and to involve them in the lesson, they wish to be trained to think and encouraged to explore and debate new topics.

This strong desire for active and meaningful participation in the class discussions seems to call for an inquiry-based approach, that is, a student-centred teaching method that allows students to acquire new competencies and knowledge thanks to an inquiry process of meaningful questions and collaboration with peers, that eventually leads to discovery (Friesen & Scott, 2013). This teaching method might be unknown territory for many Italian teachers; however, an inquiry-based approach would not only meet the students' need for active participation but could also contribute greatly to creating a more engaging learning environment (Friesen & Scott, 2013). By introducing

meaningful, open-ended questions into the teaching practice, questions that require students to reflect, make connections and give their own interpretations, teachers would promote all dimensions of engagement at once. An open-ended question directed to the whole class, in fact, requires students to actively participate in the conversation and activates their thought processes in order to make links and formulate hypotheses, hence promoting behavioural and cognitive engagement at the same time. This effect can be achieved on the whole class if the teacher encourages everybody to offer their opinion and does not stop at the first response, valuing every contribution as meaningful or interesting. Therefore, this essential rule of inquiry-based learning also promotes both emotional and social engagement, as it allows students to learn through social interaction and gratifies and values their opinion, making them feel appreciated and proud.

This approach cannot, obviously, single-handedly solve all engagement issues, as every student is unique and might be engaged by different activities. However, monitoring the introduction of an inquiry-based teaching style in the Italian context and observing its effects on student engagement and learning outcomes would be an interesting proposal for future research. In doing so, perhaps, results supporting inquiry-based learning as having a positive influence on student engagement will possibly favour the adoption of this approach, at the expense of the traditional frontal lectures.

VI. Conclusions

This thesis wished to be a contribution to the limited research on student engagement conducted in Italy to the present day, but also to collect data on engagement at such a unique time and in an out of the ordinary context for Italian education. In particular, this research project aimed to explore the construct from the perspective of the students after a year and a half of lockdowns and discontinuous remote learning mandates, through a questionnaire that compared the subjects' recent experience to their experience prior to the Covid-19 pandemic.

Two main research questions and hypotheses were formulated to guide the study. The first one anticipated a perceived loss of engagement since the outbreak of the pandemic and was confirmed by the results, which highlighted a decrease in the levels of engagement in the majority of the sample.

The second question inquired about the role that the deprivation from social contacts had on student engagement levels, hypothesising that such social isolation would partially be responsible for a decrease in the overall engagement and would translate into lower social engagement scores. This outcome would prove that the quality of social relationships is influential in determining the level of engagement and would support the introduction of a social dimension to the construct. According to the data collected, the first part of the hypothesis was proven incorrect, as the questionnaire's scores detected the least decrease in the social engagement dimension. This piece of data, however, clashed with the results of other sections, which were indicative of the importance of social relationships to engagement. An explanation for this phenomenon was found in Wang's definition of social engagement as both the quality of social relationships and the effort put into maintaining said relationships. By taking into account the active role played by the students in the dimension of social engagement, the responses to the open-ended questions indicated that a part of the subjects actively sought moments of social interaction and tried to make the most out of the few occasions for socialising that remote learning allowed. It is when acknowledging that social engagement is not only influenced by the context but can also be used, in turn, as a tool

to influence the context itself, that the quantitative data on engagement levels does not contradict the importance played by its social dimension.

It should be borne in mind, however, that the findings of this study are to be seen in the light of some limitations, primarily the narrow focus chosen to investigate the academic experience of the subjects. Due to time constraints and lack of resources this investigation was limited to indicators of student engagement without taking into account the multiple factors that play a role in shaping the much bigger and more complicated context of a student's academic life, such as the socio-economic status and cultural background. Although aware that student engagement cannot be completely isolated from the broader picture and the various factors that influence it, the researcher thought the pandemic offered a unique chance for comparison as it put every student and teacher in a very similar situation. This common variable, resulting from a shared experience of restrained social contact and remote learning, can hopefully compensate for the narrow focus of the investigation and the exclusion of other contextual variables. It should also be remarked that, due to a lack of similar studies conducted in Italy in the past, the present research had to rely on data that was offered in retrospect by the subjects, for the section regarding their pre-pandemic academic experiences.

Due to the design of this study, the present research findings cannot, therefore, be generalised. However, they offer a first exploration and assessment of the construct in Italy from the perspective of students, while also highlighting their needs and raising issues that will hopefully be addressed and further explored in future research. It would be interesting to discover whether the initially discrete average levels of engagement of the present sami9ple and the considerable drop detected in the pandemic context are an isolated case or whether they are indicative of a broader, more generalised tendency affecting Italian students. If future research should indeed unveil a student engagement problem in Italy, this should be taken into great account in the country's battle against school abandonment and would possibly push schools and practitioners to focus on engagement as a tool to improve the students' academic experience and thus prevent drop-outs.

Finally, the last item of the questionnaire was dedicated to students' suggestions for future improvements regarding school engagement and offered great insights into their needs. In particular, one of the most compelling suggestions was the allowance for more active participation during class discussions and the desire to be asked more meaningful questions. Although it should not be considered a "one-size fits all" solution, an interesting proposal for future research would be the introduction of an inquiry-based approach to observe its effects on student engagement, given its potential to work on all fronts of the construct simultaneously.

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APPENDIX A

Translation of the questionnaire used for data collection:

Section 1 - Demographics

- Name + first letter of last name (optional)

  _____

- Age:

  _____

- Gender:
  - M
  - F
  - Other
- Type of school attended:
  - Liceo
  - Istituto professionale
  - Istituto tecnico
- Year attended
  - 3
  - 4
  - 5

Section 2 - Definition of student engagement

- Complete the following statement choosing one or more options:

To me, being engaged and involved in school means….

- Investing time and energy in my education, going beyond the minimum requirements imposed by my professors.
- Following and participating in the lessons by taking notes and asking questions.
- Having positive feelings, such as being interested in what I'm studying, feeling happy when I'm in class, feeling accepted and like I belong in my school community.

- Creating and relying on positive social relationships with both my teachers and classmates

- Do you consider yourself to be an engaged student?
    - Yes
    - No

Section 3 - Pre-pandemic engagement

- To complete this section, focus on your academic experience prior to the Covid-19 pandemic. Please rate to what extent you agree or disagree with the statements below on a scale of 1 to 4 (1 = strongly disagree; 2 = mildly disagree; 3 = mildly agree; 4 = strongly agree).

	Strongly disagree	Mildly disagree	Mildly agree	Strongly agree
D1. I believe what I learn in school to be interesting and useful to me.	☐	☐	☐	☐
D2. I was normally bored in class.	☐	☐	☐	☐
D3. I usually felt like going to school in the morning.	☐	☐	☐	☐
D4. I am happy to attend my school.	☐	☐	☐	☐
D5. When I understood a difficult topic in class I would feel satisfied and fulfiled.	☐	☐	☐	☐
D6. I was committed during class time.	☐	☐	☐	☐
D7. I would always try to pay attention in class.	☐	☐	☐	☐
D8. I would participate in class activities.	☐	☐	☐	☐
D9. I would put in just the amount of effort needed to pass the class. (RS)	☐	☐	☐	☐
D10. When my professor was speaking I wouldn't get distracted.	☐	☐	☐	☐
D11. Whenever I learned a new concept, I'd try to link it to my personal experiences and previous knowledge.	☐	☐	☐	☐

D12. I would study concepts superficially, just enough to be able to report them in a test.	☐	☐	☐	☐
D13. I would try to make links between subjects.	☐	☐	☐	☐
D14. I would revise my notes regularly, regardless of upcoming tests.	☐	☐	☐	☐
D15. If a topic debated in class interested me, I would do additional research autonomously at home.	☐	☐	☐	☐
D16. My professors would try to understand my and my classmates' points of view.	☐	☐	☐	☐
D17. I've always had a good relationship with my professors, and I knew I could talk to them in case I had any problems in school.	☐	☐	☐	☐
D18. My professors have always listened to me and were interested in my opinions and those of my classmates.	☐	☐	☐	☐
D19. I knew I could count on my classmates' help whenever I didn't understand something in class.	☐	☐	☐	☐
D20. Whenever I didn't understand something, my professors would explain it again to make sure I'd understand.	☐	☐	☐	☐
D21. I don't think there is a good level of communication between my professors and the class.	☐	☐	☐	☐
D22. I've always found discussing with my classmates very useful.	☐	☐	☐	☐
D23. My professors would give me useful feedback and suggestions on how to do better.	☐	☐	☐	☐
D24. Whenever we worked in groups I would feel more motivated and engaged in the activity.	☐	☐	☐	☐
D25. My professors would assign homework without considering the time we needed to dedicate to other subjects or to recreation.	☐	☐	☐	☐

- Do you remember any particularly good or bad experiences concerning a class? If so, please describe it briefly. What were the positive or negative aspects which impacted you the most? (e.g. specific activities, teaching methods, etc.)

_____

_____

_____

- Do you remember any particularly positive or negative relationship you had with your teachers? If so, please describe it briefly. What elements of the relationship they had with you and your class impacted you the most?

_____

_____

_____

Section 4 - Engagement during emergency remote learning

- Do you feel like your current level of engagement in school has decreased compared to your academic experience prior to the pandemic?
    - Yes
    - No

- Now focus on your academic experience ever since the outbreak of the Covid-19 pandemic. Please rate to what extent you agree or disagree with the statements below on a scale of 1 to 4 (1 = strongly disagree; 2 = mildly disagree; 3 = mildly agree; 4 = strongly agree).

	Strongly disagree	Mildly disagree	Mildly agree	Strongly agree
D26. The teaching methods adopted by my professors during emergency remote learning have discouraged me.	☐	☐	☐	☐
D27. I found online classes to be less boring than in-person classes.	☐	☐	☐	☐
D28. I usually felt like connecting to class in the morning.	☐	☐	☐	☐
D29. I am happy of the way my school has responded to the emergency.	☐	☐	☐	☐
D30. I am proud of how I was able to adapt to the new learning context.	☐	☐	☐	☐
D31. I've been committed during class time.	☐	☐	☐	☐
D32. I've always tried to pay attention in class.	☐	☐	☐	☐
D33. I've participated in class activities.	☐	☐	☐	☐
D34. I've put in less effort than usual, just enough to pass the class.	☐	☐	☐	☐
D35. When my professor was speaking I didn't get distracted.	☐	☐	☐	☐
D36. I've tried to link what I learnt in school to my current situation and what I am going through.	☐	☐	☐	☐
D37. I've studied new concepts superficially, I haven't tried to truly understand them.	☐	☐	☐	☐
D38. I've tried to make connections between subjects.	☐	☐	☐	☐
D39. I've revised my notes regularly, regardless of upcoming tests.	☐	☐	☐	☐
D40. I've done additional research at home on interesting topics we discussed in class.	☐	☐	☐	☐
D41. My professors have tried to put themselves in our shoes.	☐	☐	☐	☐
D42. My relationship with my teachers has gotten better: I feel like this experience has brought us closer as people.	☐	☐	☐	☐
D43. My professors have proved to be interested in our opinions and have encouraged class discussions.	☐	☐	☐	☐

D44. My classmates and I have helped eachother whenever one of us was in need.	▢	▢	▢	▢
D45. My teachers have adapted their teaching methods to the new context, in order to meet our needs.	▢	▢	▢	▢
D46. Communication between my professors and the class has gotten worse.	▢	▢	▢	▢
D47. Discussing and working with my classmates has been useful and of great support to me..	▢	▢	▢	▢
D48. My professors have been asking how we are doing and giving us tips on how to better deal with this stressful situation.	▢	▢	▢	▢
D49. Whenever we've worked in groups I felt more motivated and engaged in the activity.	▢	▢	▢	▢
D50. My professors have assigned us homework without considering the time we needed to dedicate to other subjects or to recreation.	▢	▢	▢	▢

- Do you remember any particularly good or bad experiences concerning a class during this year of Covid-19 emergency? If so, please describe it briefly. What were the positive or negative aspects which impacted you the most? (e.g. specific activities, teaching methods, etc.)

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- During this past year, have you developed any particularly positive or negative relationship with a teacher? If so, please describe it briefly. What elements of the relationship they had with you and your class impacted you the most?

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Section 5 - Suggestions for the future

- Reflecting on the answers you just provided about your academic experience prior to and during the Covid-19 pandemic, what do you think could be done to improve in the future? Do you have any suggestions for your teachers/principal on how to stimulate engagement and motivation in students?

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APPENDIX B

Translation of the responses to the open-ended questions in section 3 of the questionnaire.

a) "Do you remember any particularly good or bad experiences concerning a class? If so, please describe it briefly. What were the positive or negative aspects which impacted you the most? (e.g. specific activities, teaching methods, etc.)"

Subject	Type of engagement	Answer
S1	Cognitive	My political economy teacher asking "how do you think we could solve this problem?" and complimenting whoever would give the correct answer. Positive aspect: the teaching method. This way students remember the solution to that problem and whoever gave the right answer feels particularly motivated.
S14	Cognitive/ Emotional	I remember that, initially, I couldn't understand my math teacher's methods and this demotivated me.
S16	Cognitive	I liked real-life examples.
S20	Social/ Cognitive	Interactive lessons with games or class debates where we had to express our own opinions.
S24	Social	My professors helped me when I was going through a difficult time.
S26	Cognitive/ Social	One of my professors puts in a lot of effort to make sure we understand every aspect of his subject, giving us access to lots of different resources (also digital ones) and investing a lot of time and energy into it.
S29	Emotional	During some Italian lessons, we had guest teachers who were really passionate about the topic we discussed.
S30	Cognitive/ Social	Personal stories were very insightful to me. Sometimes our school would invite someone, and it was really helpful.
S35	Cognitive	In Hygiene Education I am able to memorise things already from the teacher's explanation, so that when I get home I only need to re elaborate concepts through a summary and don't need to spend too much time studying.

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Subject	Type of engagement	Answer
S46	Social	Law class: my teacher gladly listened to our goals and our ideas. It was very nice.
S47	Social	One of my professors, thinking that I cheated during a test, once told me that if I went on that way, I could only aspire to be a butcher or a street-sweeper (as if that was an insult or those weren't decent jobs)
S52	Social	One time, during religion class, one of my classmates expressed his opinion on a matter we were discussing and the teacher tried to impose their point of view without taking into account our thoughts on the matter. I think that some activities that help a lot with collaboration and can also be fun are group projects or research on topics that are not on the curriculum or even just talking about current events.
S63	Social/ Emotional	My maths teacher is always available for extra lessons and I really like this because it shows how much she loves her job.
S64	Social	A positive experience is whenever teachers try to understand their students' points of view, their problems and their needs and try to help instead of making things harder.
S75	Social	A positive memory that I have about a specific class is when during our maths our professor talked to us about things concerning our own protection, if I can call it that, especially for us girls. She told us how to best get out of ugly situations. I like talking about this stuff with my classmates and my teachers because we can help each other in case of unpleasant episodes and we can vent and try to fix the situation. I don't remember any particularly bad experience concerning a class.
S80	Social/ Cognitive	Philosophy lessons were really interesting when the whole class would discuss the various philosophers and we would express our opinions about them.

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Subject	Type of engagement	Answer
S87	Social	When I was in middle school a teacher targeted me without any apparent reason, maybe because I was a little chatty, but no more than any one of my classmates. At a parent-teacher conference, she told my mum that I was a negative influence on my peers and that she should almost be ashamed of me. No teacher had ever said anything negative about me before. Of course, after this, she tried to surprise test me all year to give me bad marks.
S88	Cognitive	Yes, I remember a particularly positive experience, which mostly concerns a professor's teaching method that really engaged me.
S90	Social/ Cognitive	Particularly positive experience: class debates that my teacher started, which would help me understand things better.
S92	Social/ Cognitive	My science teacher often doesn't feel like lecturing, so he gives us activities to do in pairs, but most of the time they're on topics he's never explained.
S115	Emotional	During the first year I didn't understand Chemistry. My teacher was very demanding and I would often feel like I was left on my own.
S118	Emotional/ Social	Still to this day I have a teacher who hates me, she's been giving me low marks without any legitimate reason for 4 years and she makes obvious differences between me and my classmates, even in public, she treats me differently and horribly.
S123	Cognitive	A really positive memory concerns my former Art History teacher, we wouldn't use books during her classes. Her lessons consisted in just looking at the picture of the artwork itself and talking about it.

b) Do you remember any particularly positive or negative relationships you had with your teachers? If so, please describe it briefly. What elements of the relationship they had with you and your class impacted you the most?

Subject	Answer
S1	My Political Economics teacher was always willing to help me if I didn't understand something. He even proposed I participated to a contest because he believed in me. He's always been professional with me and my classmates. For example, he would grade our oral tests based on our actual performance and was not biased (either positively or negatively) by who was standing in front of him.
S8	Yes, I had a difficult relationship with my teachers last year.
S9	Yes, teachers are often willing to help me
S11	I feel that I have good communication with some of my professors, I can talk to them in case I have any issues and I know they genuinely care about me. Not so much with other teachers, they don't pay attention to their students' needs and they create an image of me based on how committed I am in school. Which is so wrong, because I am not the grades I get.
S13	One of my professors, when we talk to him about any problem (school-related or not) he listens to us, but then he never does anything about it.
S14	I remember a positive experience I had with one teacher; one time I broke down during an oral evaluation and she took me out of the room to understand what was wrong and try to help me.
S17	I've generally always gotten along with my teachers.
S23	My professors are always open to conversations and there is a good level of communication between them, in order to coordinate on how to make our curriculum as interesting as possible.
S24	No, they're all good in general, nobody stands out.
S26	Positive relationship: I feel free to say I didn't understand something and start a conversation.
S29	I generally have a good relationship with all my teachers who commit to helping me.

(Continued)

Continued

Subject	Type of engagement	Answer
S31		Nothing in particular, professors generally care about problems a student might have.
S32		I told my teacher about a big family issue that I had and she's always been very empathetic and cared about me.
S37		My second year Italian teacher would listen to us and support us in anything and her eyes conveyed endless love for her students and for her job.
S42		My teachers treat me well.
S46		After three years of Vocational School, I transferred to a *Liceo* and one of my new teachers didn't think I was up to that type of school, given my "academic origin".
S47		During my third year we had a very young and charismatic teacher who managed to get me into a subject that I normally don't like.
S52		There have been episodes similar to what I described previously, but it's obviously not the same with every professor, there are also teachers who listen to your opinions and are more open-minded. I've always had a good relationship with my classmates, I've always been in very collaborative and organised classes and I think this has been really important.
S56		During an oral exam, after I couldn't remember a detail, one teacher said, in front of the whole class: "I'm not going to beat you up myself because I'm sure someone else will take care of it once you get out of here".
S60		I remember that I had a teacher who couldn't stand me, and I couldn't stand her. Every oral exam with her ended up with me having a nervous breakdown due to all the wasted time and effort I put into studying for her class and due to the low grades she'd give me because she didn't like me. Her dislike towards me led her to not acknowledge. my efforts.
S63		I've always been honest with my math teacher and she's always been honest with me, and always available.
S64		Most teachers are unbiased and always available to all their students, in fact, I have good relationships with most of my teachers. But a small part of teachers tend to be biased and try to put some students in a difficult position or refuse to help them even though they could.

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Subject	Answer
S75	At the moment I don't remember a positive experience. A negative memory I have of a teacher is when my English professor gave me a 2/10 because I couldn't find an exercise I did in my notebook. I personally think that grades should be given to tests, exams, presentations and group works, not to homework that is given almost every day. Some days later, this professor apologised to the class for being so moody with us and said it was for personal issues, but I still ended up with a 2/10 mark. I think that school and personal life shouldn't be mixed because the effects of personal issues end up affecting us and this bothers me.
S78	Relationships based on trust, honesty and respect both towards my teachers and my classmates.
S79	I've always had a very positive relationship with my Philosophy teacher, who's always been willing to go over concepts we didn't understand again. Furthermore, she's always accommodated our needs and tried to get us to the end of the year without any fails.
S80	I've always compared myself to my classmates, and I've always felt inferior to people getting higher grades than me. One of my teachers reassured me and told me that I should only look at myself and be proud of the effort I put into my studies, without comparing myself to others.
S88	Yes, I remember a negative relationship with one of my professors, he didn't understand me.
S85	The relationship we've created with our Greek and History & Philosophy professors, because they're both always willing to help us when we start being tired and they tend to joke around to lighten up the lessons.
S86	With one of my teachers, I was able to speak freely without feeling judged or assessed.
S87	I've had really beautiful relationships with my teachers both in middle school and high school, one of which was with my Italian, History and Geography teacher back in middle school, who encouraged me to choose a Classical Liceo to follow my dreams.
S89	Yes, the relationship I had with my former Italian Grammar and Latin teacher. He was always available for clarifications and discussions, he would encourage me in any further research I suggested and would even give me extra material if I needed it. Even though he's not my teacher anymore, we still talk to this day about common interests.

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Subject	Answer
S91	I've always been happy with my teachers, I can't think of one in particular, but I always appreciate it when teachers ask us about ourselves and chat with us a little bit before starting their lecture
S92	I have a particularly positive relationship with my History & Philosophy teacher because she doesn't care only about my academic results, but also about how I feel and about my extracurricular activities.
S93	Positive: my teacher being understanding.
S94	No. The aspects that have influenced me the most are class cohesion, room for conversation, and joining forces for a common goal.
S95	A negative thing about one of my teachers is that she would dump on us her personal frustration, we would get completely random grades, both positive and negative, that didn't make any sense.
S104	The Math teacher I had in my 1st and 2nd year would always cover my tests in red marks and fail me, despite the fact that I was excellent in math. She would insult me and emotionally exhaust me every day. My English teacher, who wasn't able to have a simple conversation in English, found out that I didn't study much but I still did very well in her subject (I have a C2 certificate). This bothered her so much and thus refused to give me grades higher than 7/10.
S108	Negative, this one teacher was too demanding and was even cruel occasionally.
S111	I remember more than one positive relationship, some of which still continue to this day. If I had to point one out it would have to be the relationship with my English teacher, who's believed in me since day one and has always recommended activities to improve my level.
S115	I've never had any relationship that was particularly positive or negative, I've always kind of done my own thing, I've never been too close with any of my teachers.
S117	An aspect that positively impacts me is simply feeling appreciated.
S118	My classmates and I have been psychologically abused for two years by one teacher in particular.
S123	I have very positive memories of some of my teachers. In particular, of my Art History teacher who has always respected us students, and therefore we have always respected him. He would always listen to us and help us anytime we needed a hand.

APPENDIX C

Translation of the responses to the open-ended questions in section 4 of the questionnaire.

a) Do you remember any particularly good or bad experiences concerning a class during this year of Covid-19 emergency? If so, please describe it briefly. What were the positive or negative aspects which impacted you the most? (e.g. specific activities, teaching methods, etc.)

Subject	Type of engagement	Answer
S8	Cognitive	The concept maps we did in Psychology on Google Classroom
S17	Social	One professor spent an hour talking to us, asking how we were doing and what the school could improve.
S24	Social	We dedicated two hours to free conversation, forgetting about the school curriculum for once.
S26	Social	Positive class: one of my teachers would always ask how we were doing at the beginning of the class and would plan his lesson based on our suggestions.
S29	Social	The positive experiences were the ones involving group activities, a negative aspect were the technical issues.
S30	Cognitive	I particularly liked a class in which our professor changed his teaching method and invited some people to participate in the lecture.
S31	Emotional	During emergency remote learning I would try to make my teachers and peers laugh by wearing funny hats or helmets depending on the class, in order to boost morale.
S33	Social	A negative experience to me was the fact that we were stuck home for a long time and I didn't see my teachers and classmates. The other day I had a psychology oral evaluation and I had a lot of anxiety, but my professor helped me overcome this obstacle.
S35	Social/ Cognitive	Many professors, thinking we had more time to study, have loaded us with tests and exams so that we'd have multiple tests each day during the in-person week. As a result, some of them went well, some very badly.

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Subject	Type of engagement	Answer
S47	Social	Remote learning was horrible because it took away one of the few good things about going to school, which is the direct relationships with classmates and teachers, this has been the negative experience after Covid.
S52	Social	I remember that some days one of my professors asked us how we were holding up and I found that very sweet because one shouldn't be taken for granted that you're okay during this period of Covid. Quite the opposite, actually. With respect to learning activities or teaching methods they have both been hard because we couldn't participate in any in-person seminar or go to internships, it's all been done remotely and this has been very demotivating. We still did some group activities but always online, never in-person at someone's house and this has also been pretty hard.
S61	Emotional	In general, boredom, apathy and lack of interest prevailed.
S78	Emotional	I remember a class during the last period that was so boring and disengaging that made interest and attention drop, both mine and the professor's, who left while showing a video.
S84	Social	Group activities, they were more engaging.
S88	Cognitive	I remember a negative experience because it was harder to focus and pay attention to the teacher during remote learning, due to the many distractions at home.
S91	Social/ Cognitive	A positive experience was being listened to by our professors when we were tired and struggling. A negative one was in December when we were all exhausted and wrecked from the many tests and from being separated from each other.
S92	Cognitive	We always had lecture-style classes, just like we did back at school, the problem is that it's harder to stay focused during remote learning. In my opinion, they should have changed the teaching methods and adapted them to the circumstances.
S93	Cognitive/ Social	Positive: interactive classes.

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Subject	Type of engagement	Answer
S94	Social	During the Covid emergency, my classmates and I would call to work together on presentations for our business strategy class.
S111	Emotional	During the lockdown, every day that I would get out of bed was important to me, school gave me a good motivation not to surrender to the boredom or the stress of that period. That being said, there was a really great episode involving my English teacher, who started playing Christmas themed songs during one of our last classes in December
S113	Social/ Cognitive	I had a negative experience in every single class because of some professors that do not see beyond their screens. Every single word by them felt heavier, I tried my best to maintain a good GPA and, at the same time, decent mental health, but it's hard when your efforts aren't appreciated.
S117	Social Cognitive/	I remember an art history class, the first in-person class we had after a long time. The best class of my academic life.
S119	Behavioural	During Italian classes in particular, it was really hard for me to pay attention during remote learning. So hard that I lost all hope and gave up on even trying to focus, I started studying just enough to pass the class. Unfortunately, this wasn't the only subject it's the one where this happened, but it's the one where the difference stands out more.
S123	Social	I remember that some professors would start every class by asking whether we were doing well or not. And I think this question is not to be taken for granted, especially during covid. So I was really glad to see that some professors (not all of them) cared about that.

b) During this past year, have you developed any particularly positive or negative relationship with a teacher? If so, please describe it briefly. What elements of the relationship they had with you and your class impacted you the most?

Subject	Answer
S1	Relationships stayed as they were before the pandemic.
S8	Yes, let's say that having a neutral and relaxed relationship is good enough.
S9	Positive
S11	Relationships with some teachers have gotten better, they've tried to meet us halfway and have been empathetic. With others, the relationship has deteriorated, their mindset was "I'll load them with homework since they're home, it's not like they have anything else to do".
S14	Relationships have stayed the same.
S17	I've drifted apart from my professors a little bit during remote learning compared to the pre-pandemic context.
S20	Yes, one of my professors always invited us to reflect on the situation we were currently living and to express our feelings, to confide in her and the rest of the class.
S22	Some teachers thought that the emergency remote learning context would be easier on us students since we were home, and thus took the excuse of our "increased free time" to assign more homework and give us more deadlines. They were disorganised and didn't communicate with one another.
S23	During the remote learning period, both teachers and us students realized the importance of meeting face-to-face, so I think that our relationship has gotten better since going back to in-person classes.
S24	No, they've all been good. Now that we're back to school in person, our relationship has gotten better.
S25	We are more open and honest with our teachers now; I feel that they treat us almost like adults. If we have a problem, we don't hesitate to talk about it.
S26	Having recently changed school, I had to quickly adapt to the new environment. Nevertheless, I've created good relationships right away because both my teachers and classmates have always been willing to help me.

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Subject	Answer
S29	During the Covid emergency, most of our professors showed interest in our feelings and mood at such a difficult time.
S30	I liked a moment in particular during emergency remote learning. My classmates and I were demotivated, and my teacher decided to help us by dedicating her class time to asking us how we were doing instead of lecturing.
S31	I had some issues at home and some of my teachers took an interest in my situation, which I didn't expect, but that means they care.
S32	Yes, during a very vulnerable time for me, one of my teachers always asked how me and my family were doing.
S33	I have a positive relationship with my Special Education Teachers because they've helped me a lot during the Covid emergency.
S47	I've gotten closer to one teacher.
S52	In my opinion, teachers should not only be competent in their subject but should also be able to engage their students and create a bond with them so that they can enjoy school. I changed school this year and I've created good relationships with some teachers, who I appreciate for caring about us. On the other hand, others don't care at all and are only focused on carrying on with the school curriculum. It really depends on the teacher. My class this year is well organised because we have great class representatives, but there are some peers who are disrespectful towards the rest of the class by not showing up when it's their turn for oral exams. But aside from that, we are a pretty close-knit group.
S56	Relationships with my teachers have deteriorated.
S59	I didn't use to have a relationship with all my classmates. Now, thanks to the dual learning, I've created new relationships.
S60	I've developed a particularly negative relationship with a new teacher this year. There's no harmony between us, she's yelled at me to shut up multiple times, she said she's happy she didn't meet me earlier and she's been loading me with terrible marks
S63	They have stayed the same as always.
S64	I don't have relationships with anyone in particular.

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Subject	Answer
S75	I've developed a negative relationship with my Italian and History teacher, who was very demanding, exclusively towards me, every time she asks any questions or decides to do oral tests, I'm the first one to be called, even for make-up tests that I didn't request. I haven't developed any other relationships either positive or negative with the other professors, it's been the same as every year.
S78	There's inertia in the relationship with my professors, but it's always been honest and respectful.
S79	No, because there was no relationship beyond the online lectures.
S85	Current relationships are very similar to pre-covid ones.
S86	No, I've distanced myself quite a lot from the relationships I had with my teachers.
S88	Relationships with my teachers are particularly positive because they've always been willing to help, would always understand how I was feeling and would see things from my point of view.
S89	No, my relationship with teachers hasn't changed since the outbreak of the Covid-19 pandemic.
S90	Positive, my professors are very friendly and sometimes we even talk about extra-curricular topics.
S91	I have a positive relationship with a teacher who listened to me and worried about me when I had an emotional breakdown.
S92	I've kept the same good relationship with my History and Philosophy teacher.
S95	With the exception of a couple teachers, I've always had a good relationship with the rest of them.
S108	Negative, he didn't believe anything we told him and would accuse us of turning our webcams off, when the problem was his internet connection.
S111	All the relationships that were already positive, got even better. A fundamental aspect of it was the ability of teachers to put themselves in our shoes.

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Subject	Answer
S113	I don’t have a relationship with most of my professors, only one teacher has shown some interest in our opinions and point of view, I don’t think I can say to have an actual relationship with her, but she surely has been a dim light in all of this darkness.
S115	I wouldn’t know.
S123	There honestly haven’t been many changes in the relationships with my professors this past year. I mean, I’ve always had a good relationship with most of them, and it’s been the same throughout the pandemic as well.

APPENDIX D

Responses to the open-ended question in section 5.

"Reflecting on the answers you just provided about your academic experience prior to and during the Covid-19 pandemic, what do you think could be done to improve in the future? Do you have any suggestions for your teachers/principal on how to stimulate engagement and motivation in students?"

Subject	Answer
S1	Ask questions during class, not to specific students, but to the whole group. Always give a 10-minute break in between online classes.
S6	Try to get seniors back to 100% in-person classes to have some continuity in view of senior exams.
S7	Go back to in-person classes.
S11	Have empathy. We're people after all, young people who don't know much about life yet. It's not fair to demoralise and discredit us, just because we don't do well in school. I am me, I should not be treated like a number, like a grade I get. You need to build a more human relationship with your students, understand their needs and care about how they are feeling, because I do that with my teachers. Besides the hierarchical relationship that school creates (which is so wrong in my opinion), one should consider the other person as a whole. I know that school and personal life should be separated, but sometimes you just can't.
S17	Group activities.
S20	Propose more group activities or interactive lessons. We need to feel stimulated and socially engaged after spending a year and a half locked inside.
S21	There should be more effective communication.
S22	Coordinate more with the other teachers so that we don't have periods overflowing with deadlines and exams.
S24	Be more understanding, communicate with the other teachers so that we're not loaded with homework, especially if the deadlines are tight and overlap with others.

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Subject	Answer
S25	First of all, there should be a reform in the Italian school system, we should update school curriculums to make them more interesting and effective. Only after that, we can focus on the teachers' work.
S27	More activities that involve interaction between students, for example group works or group projects.
S28	Make lessons more engaging and interesting to help students to not get distracted.
S29	Group activities are stimulating.
S30	Yes, I have some suggestions. I think there should be more classes where we talk about how we're feeling and what's worrying us, so that we can discuss more with our teachers.
S31	It'd be nice if they could distribute tests better throughout the year. We have empty weeks followed by weeks full of exams.
S40	Be there for us emotionally.
S42	Use a language that's suited for young people.
S47	Teachers should try to put themselves in our shoes and vice versa. Many professors don't understand that we should be more understanding with each other during this difficult time.
S52	This year I've realized that many current events or topics are not discussed in school, teachers just strictly follow the school curriculum without realizing we are ignorant on a lot of things that are happening in the world or on taboos which would be useful to know about. I think it would be very interesting and a lot more engaging to attend conferences or seminars with experts so that we can discuss and expand our knowledge. I read that many students have decided to leave school since the pandemic began and remote learning was introduced and I find this sad, but also understandable, because our interest and willingness to learn has decreased since ever since we're locked inside our houses without any human contact. We all need to talk, vent, engage and spend time with other people. In the moment I went back to school in person I felt reborn, it almost didn't feel real and I'm sad that I "missed" more than one year (from a social point of view) and spent it seeing almost nobody. Going back was really nice and stimulating, even though they loaded us with tests.

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Subject	Answer
S53	We should talk about taboo topics, about what's going on in the world, have meetings with experienced professionals within the orientation programs,
S56	Teachers should care more about their students, not just from an academic perspective, but also about the relationship they have with them.
S57	I think teachers should have tried harder to put themselves in our shoes. During the first lockdown in particular, the amount of homework they would assign us was enormous, and the deadlines were very tight. This year the situation's a little better, but since we alternate between weeks in remote and in-person learning, we end up having most of our tests and oral exams in the in-person week, which makes it very stressful.
S59	I'd suggest teacher to listen more to their students and to motivate them.
S61	I'm in class at the moment and I'm sleepy and bored, I wouldn't be able to offer useful suggestions, so I just hope this Covid situation resolves so we can go back to normal soon.
S63	Make students participate more during class and engage them more.
S64	I'd suggest teachers to put themselves in our shoes before planning loads of tests and oral exams and to think that our personal lives are made of other things beyond school.
S75	I think teachers should assign less work to do at home so as not to stress us out too much and lead us to enjoy studying more. As for us students, I think that in-person classes are the best for paying attention, although I don't think it's possible yet to stick to just in-person education. In any case, we should pay attention even remotely.
S76	Try to understand us more, don't load us with homework or tests, because we're human being and we need to rest and have some fun every once in a while, we're young, we're not made of stone.
S77	There should be a lot more interest in our personal issues: we're in a school context, and what obviously matters the most is teaching and learning, but just like our professors have their problems, we also have issues of our own. In my opinion, teenagers' mental health and wellbeing should be in first place. Between family problems and personal issues, sometimes the weight of school is unbearable, homework is too much, there's too much to study. Sometimes we do badly in school because we can't focus on it exclusively. I often don't feel understood, and I feel that teachers are not that willing to help. Sometimes they're harsh, they snap back at us and become angry. It's not always our fault when we do badly.

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Subject	Answer
S78	It's fundamental to teach students how to overcome difficult situations or how to put their knowledge into action, because knowledge is useless without skills.
S79	Decrease the number of hours spent in front of the screen, for both students and teachers.
S84	Less frontal lessons, try to engage students more.
S85	Our school was very well organised and our teacher tried to engage us in every way, but as a student I find it really difficult to pay attention when I'm surrounded by distractions.
S86	Make the lessons less "plain lectures" by engaging students more, perhaps with debates or opinion exchanges.
S87	It's impossible to stimulate participation during remote learning, even with class discussions. Everyone does whatever they want, there's no discipline.
S88	Maybe choose topics that might interest everyone to avoid boredom and distraction.
S89	During remote learning teachers should try and engage their students more: frontal lectures should be softened up, since it's harder to stay focused online.
S111	Teach your students to think outside the box, pushing them to make links between subjects and master the subject, don't worry about us being any competition, we're just students, we'll just be grateful for it.
S113	Listen to your students. A lesson is worth nothing if the students feel bad. Teachers often tend to underestimate their students' complaints just because they're the adults or because they don't have the same opinion as them. Given the power of dialogue, I wish I could talk to my teachers without fearing to initiate a relationship. Some teachers can't stand the fact that we might have different ideas and, even if we express is in the politest way, they consider us disrespectful. Pay more attention to mental health, it's not enough to tell students to go to the school psychologist. Engage me in the lesson by asking for my opinion.
119	I think schools should offer students the chance of virtual meetings or chats with psychologists or other professionals. It would have personally helped me a lot, since I had to resort to seeing a therapist once a week to manage bad thoughts and behaviours caused by the pandemic and by the lack of social relationships.

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Subject	Answer
S122	There should be more student-teacher dialogue. It'd be nice if teachers didn't always put grades and following the curriculum first, but rather tried to get closer to their students who might not be going through the best period and might feel unmotivated. I'd like a realer school and teachers, who know how to interact with their students and how to convey passion for their job, sharing it with their students, rather than provoking them anxiety and stress.
S123	I think the most useful thing you can do for your students is ENGAGING them, and not always resorting to the usual frontal lessons where the teacher sits and lectures (or reads directly from the book) for a n hour. In my opinion classes should be made more engaging with activities or by encouraging links with students' personal experience, or by watching videos or movies related to the topic.