Platform for Advancement of Self

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IO1: Selection of the appropriate instruments

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1. Introduction

1.1   Transition in Higher Education

International studies focus on the successful transition into higher education, which is considered a crucial period for both the student and the educational institution (Tinto, 2015). In the last decade, the Organization for Economic Co-operation and Development has reported that approximately one-third of students entering higher education will not graduate (OECD, 2013). The majority of students' withdrawals have been found to occur during the first year of studies (Hultberg et al., 2008; Wingate, 2007), a year that is considered extremely critical for the overall success in undergraduates' studies (Perry et al., 2001). Moreover, the first year of studies has been proven to be crucial for students' early and long-terms academic success (Credé, & Niehorster, 2012). Thus, this initial phase of higher education sets the stage for either earn a degree or dropout from university (Tinto, 1993) and until now, remains a major political concern in Europe (Vosswensteyn et al., 2015).

Transition is not thought of as a single event but rather is regarded more as an on-going process that is repeated over time (Tett, Cree, & Christie, 2017). Students seem to have a difficulty to understand the differences between studying at a university and studying at an upper secondary school or the demands of the university level teaching-learning environment (Haarala-Muhonen et al., 2017). This transition may become an especially stressful period for many freshman students (Coertjens et al., 2017), while they have to deal with a number of serious challenges, such as the need for developing novel learning patterns and also the adaptation of the already existing learning strategies in the new academic environment (Vermunt, 2005). In addition, recent studies report students' difficulties in academic adjustment that mainly are due to ineffective learning strategies and unsatisfactory self-regulation (lack of ability in monitoring learning progress, difficulty adapting their behavior in the demands of the new learning situations and the new learning context) (Zimmerman & Schunk, 2008).

In this line of thinking, the first year of studies in university appears to play an important role in students' future academic achievement and well-being, and consequently in their future professional success and their personal development (Gale & Parker, 2014; Leese, 2010;

Postareff et al., 2017; Trautwein & Bosse, 2017). A combination of cognitive and non-cognitive factors along with aspects of personality seems to influence this crucial period in students' life (Fonteyne et al., 2017; Willems et al., 2018).

1.2   Adaptation & Adjustment to Higher Education

Recent meta-analytic research provides empirical evidence in supporting the theoretical argument that adjustment to university is a multidimensional construct and while students may adjust well on one component of college life (e.g. academic demands), they may adjust poorly on another (e.g. social component) (Credé, & Niehorster, 2012). different fields in combination (learning, personality, mental health).

1.3   Intention to dropout

As the maintenance of low dropout rates has been one of the main goals in higher education institutions while keeping high quality educational standards at the same time, dropout has been viewed from a dual point of view. As seen from a social perspective, students who do not complete their studies can be considered as a bad investment for the institutions as, in many countries, a great number of needy students are funded directly from the institutions budgets themselves. On the individual level, a possible dropout may involve a loss of time and money invested by the student and their family background.

National studies reveal the "dropout phenomenon" and while differences exist across countries, a study of OECD (Organization for Economic Cooperation and Development) reports that approximately one-third of university students entering higher education will not obtain a degree (OECD, 2013). For example, approximately 22% of the students in France and Belgium leave their Higher Education institution without obtaining a bachelor degree (OECD, 2010) while in Germany this percentage is much higher (van Herpen et. al., 2017). According to the Hellenic Statistical Authority (2013), almost half of students entering Greek Universities will either delay to accomplish their studies or drop out from their institution revealing an increased number keeping in mind the high rating of Greece in Europe's policy agenda for this matter ([DG EAC [Directorate General for Education and Culture, European Commission] 2015).

The majority of withdrawals have been found to occur during the first year of studies (Wingate, 2007; Christie, Munro, & Fisher, 2004), a year that is considered extremely critical for the overall success in undergraduates' studies (Perry, Hladkyj, Pekrun, & Pelletier, 2001). Furthermore, studies examining academic experiences during the early stages of higher education reveal the vital role these experiences play in students' adjustment, long-term academic success and, ultimately leading to academic discontinuation (Willems et. al., 2018). Researches in different Western countries also report different dropout rates after the first-year of studies. For instance, in the Netherlands one-third of students drop out or switch after the first year while in the US the rate drops to 20%. In addition, studies carried out in Australia, New Zealand and the United Kingdom show that approximately 7% to 19% of students do not return to university for their second year (van Herpen et. al. 2017).

2.   Learning Strategies

2.1   Learning Styles

The Inventory of Learning Styles (ILS) is a self-report instrument which measures different components of student learning, and is based on an integrative learning theory integrating four components of learning: processing strategies, regulations strategies, mental models of learning and learning orientations. Within the PAS project, use is made of a selection of scales from the original ILS (Vermunt, 1994; Vermunt, 2005), tapping specifically the component of learning orientations (motivational drivers for studying) and learning strategies, consisting of both regulation and processing strategies (Vermunt and Vermetten 2004, Vermunt and Donche, 2017)**.** The latter component of the ILS-questionnaire enables to gain more insight into how students undertake a diverse set of learning activities and has been validated extensively in different educational contexts and cultures in higher education (Vermunt & Donche, 2017). Learning strategies have been substantially investigated in longitudinal studies, and given their variable nature, especially in the transition to higher education (Coertjens et al., 2013), they are an interesting component for feedback and guidance in the transition to higher education (see also Donche et al., 2012).

2.2   Self-Efficacy – Motivation – Self-regulation

Student learning strategies are closely related to academic motivation and both components of student learning are related to learning outcomes such as academic performance and dropout (Bailey & Phillips, 2016; Robbins, Allen, Casillas, Peterson, & Le, 2006; Rump, Esdar, & Wild, 2017; Vanthournout et al., 2012; Vermunt & Donche, 2017). ILS-research showed for instance that regarding academic motivation, students studying because of personal interest obtained higher academic achievement across various study disciplines in higher education compared with students whose motivation for learning is more ambivalent (Vermunt, 2005). Learning strategies are viewed as cognitive-processing learning and regulation strategies adopted by students during their learning activities (Vermunt & Donche, 2017). Processing strategies include deep, stepwise, and concrete processing activities; relating, structuring, and critical processing are considered as deep processing, whereas memorizing and analyzing are

thought of as a stepwise approach in processing. Concrete processing is linked to a vocation orientation (Vanthournout et al., 2012). Regulation strategies refer to activities that students adopt to harness their cognitive processing strategies (Schunk & Zimmerman, 2012). Self-regulation is found to be associated with higher achievement, whereas lack of regulation is related to lower academic achievement in higher education (Vermunt & Donche, 2017). Findings regarding the quality of processing of learning content, in terms of deep or surface processing, are rather inconclusive, but often positive associations are also found between the deep processing scales and academic achievement in specific study disciplines (Vermunt & Donche, 2017). Especially when deep processing is also more rewarded in a study discipline or program, and present in evaluation and assessment criteria, a more positive relationship between deep processing and academic achievement can be expected (Vermunt, 2005).

Another important predictor of student learning and academic success and dropout is self-efficacy (Vermunt & Donche, 2017). Self-efficacy can be defined as students' judgments and beliefs of their capabilities to perform a task in the course (Zusho, Pintrich, & Coppola, 2003). For example, self-efficacious students can achieve better in academic tertiary because they give more importance to performance and mastery goals (Komarraju & Nadler, 2013). Moreover, the positive interaction between self-regulated learning and motivation is well established in relative research. Self-regulated learners who show strong self-efficacy are less likely to procrastinate as they seem to control their motivation (Katz, Eilot, & Nevo, 2014). Additionally, Klassen, Krawchuk, and Rajani (2008) found that students who procrastinate lack the confidence needed to apply useful strategies in completing tasks. It is clear that when students combine self-regulation skills and a strong sense of motivation (self-efficacy) may potentially reduce procrastination and facilitate higher academic performance (Burnam, Komarraju, Hamel, & Nadler, 2014), a fact that emphasizes the role of self-efficacy as a factor underpinning procrastination (Steel, 2007).

3.   Personality factors

3.1   Resilience

Resilience has been acknowledged as a capability to bounce back and recover from stressful circumstances in order to adjust to the environment (Smith et al., 2008; Turner et al., 2017). It is usually studied as a dispositional trait linked to personality (Sagone, & De Caroli, 2014) that acts as a protective factor against extreme stress and adversity, while individual maintains normal physiological and physical functioning (Russo et al., 2012). Previous research in a university sample has noted that resilience is negatively correlated to stress (Ahern & Norris, 2011; Shi et al., 2015), and in the meanwhile, promotes students' well-being (Turner et al., 2017). Moreover, it has been considered as a skill that assists university students in their transition to higher education (DeRosier et al., 2013), and is usually been involved in helping to understand student retention and success (Cotton et al., 2017). In relation to procrastination, it has been found that high resilient individuals show fewer procrastinative behaviors at all stages of the career decision-making process (Shin & Kelly, 2015). It is without a doubt that in today's competitive and demanding university context, resilience is critical and should be taken into account, mainly because it works as a buffer against procrastination.

3.2   Sense of Coherence

In order for students to make progress and achieve in studying at university, contemporary research suggests that attention should not only focus on successful learning, but also on promoting students' well-being (Heikkilä et al., 2012; Postareff et al. 2017). A critical factor that is affecting students' well-being is the sense of coherence (SOC; Antonovsky, 1993). SOC refers to a stable global orientation that taps the extent to which a person perceives his or her world as comprehensive, manageable, and meaningful (Antonovsky, 1987). Comprehensibility is the perception that incidents and circumstances are structured and understandable. Manageability is the sense of being able to deal with life challenges. Lastly, meaningfulness is the belief that challenges are worthy of investment. This combination of cognitive, behavioral and motivational aspects forms the concept of SOC. It is suggested that SOC's components

may offer a clear, substantive model in understanding the complexity of systemic relations in environments such as education (Davidson et al., 2012; Lutz, 2009).

SOC boosts resilience and promotes one's health (Antonovsky, 1998). Also, it has been linked to positive outcomes such as well-being, adaptive coping, health related behaviors and academic performance (Eriksson and Lindström, 2006; Grayson, 2008; Cohen et al., 2008; Salamonson et al., 2016; Togari et al., 2008). As a consequence, it might be expected that university students with a high SOC would have less difficulty than others in coping with the problems of university life, and if encounter academic problems, it is more likely to deal with them more efficiently. Indeed, it has been found that students with high SOC are more able to deal with career decision process (Lustig and Strauser, 2002), to employ problem-solving strategies rather than avoidant coping (Amirkhan and Greaves, 2003) and to be more self-regulated in their learning approach (Salamonson et al., 2016). Therefore, it could be suggested that SOC is a personality trait that improves students' efficient coping with the university demands, moderating their negative impact on well-being.

3.3 Procrastination

Procrastination can be defined as "the voluntary delay of an intended and necessary and/or [personally] important activity, despite expecting potential negative consequences that outweigh the positive consequences of the delay" (Klingsieck, 2019, p. 26). Almost, all students occasionally procrastinate and approximately every second student regularly procrastinates in one or another domain of their studies (Rothblum, Solomon, & Murakami, 1986; Steel, 2007). Contemporary findings indicate that 30% - 60% of students regularly postpone completing their educational tasks (Onwuegbuzie, 2004). Moreover, it is closely associated with students' retention, academic achievement and dropout intentions (Bäulke et al., 2018; Kim & Seo, 2015) with some factors like emotion regulation, motivation and self-regulation appear to buffer its negative effect (Dunn, 2014; Eckert et al., 2016). In addition, procrastination seems to result from a complex array of factors that "work" against it; namely: emotional, motivational and cognitive factors (Pychyl & Flett, 2012). A recent study has revealed an integrated picture of these variables in relation to procrastination, "showing the

way" for future research (Rebetez, Rochat, Linden, 2015). Nevertheless, procrastination is thought as a pivotal factor that may be detrimental in student's academic achievement and pace of study.

4.   Emotional factors

4.1   Academic Emotions

The novel demanding setting and the academic challenges of university is likely to emerge a variety and a wide range of emotions among students, that can affect their academic success (Pekrun and Stephens, 2010). Academic emotions are considered significant factors that contribute in learning and cognitive development (Linnenbrink-Garcia & Pekrun, 2011; Schutz & Pekrun, 2007). They can shape key learning processes such as cognitive structures, motivation to learn and academic success (Pekrun, 2011). Students that experience positive emotions are likely to achieve higher grades, participate more actively in class activities and engage in effective cognitive and metacognitive strategy use (Villavicencio & Bernardo, 2013). On the other hand, negative emotions lead to lower levels of achievement, to avoidance motivation and to decreased effort (Dettmers et al., 2011). In addition, academic emotions are studied as predictors in students' intention of dropping out from their studies (Respondek, Seufert, Stupnisky, & Nett, 2017) and in students' well-being (Goetz, Pekrun, Hall, & Haag, 2006).

4.2   Emotion regulation

The way students control and regulate their emotions appear to predict successful adaptation and learning (Ben-Eliyahu & Linnenbrink-Garcia, 2013; Pekrun & Linnenbrink-Garcia, 2012). Contemporary research explores and distinguishes emotion regulation strategies in two categories: cognitive reappraisal and expressive suppression of the emotion (Gross, 1998). Reappraisal is mainly related with positive benefits such as good interpersonal relationships and better text comprehension (Ben-Eliyahu & Linnenbrink-Garcia, 2013; Gross & John, 2003). Conversely, expressive suppression is associated with negative emotions, difficulties in transition phases, lower functioning levels and depressive symptoms (Ben-Eliyahu & Linnenbrink-Garcia, 2013; Gross & John, 2003).

As stated previously, students experience a wide variety of emotions that influence not only the way they go about learning, but also their well-being and retention (Pekrun and Perry,

2014). It is therefore of great importance to control and regulate these emotions. Emotion regulation refers to the processes that influence which emotions we have, when we have them, and how we experience or express these emotions (Gross, 1998). It is a supportive mechanism to regulate emotions in order, not only to achieve better learning outcomes, but also in maintaining students' well-being (Pekrun & Perry, 2014). Emotion regulation includes two forms-basic strategies, reappraisal: reframing the situation to reduce undesired emotions and suppression: not expressing one's emotions (Gross & John, 2003). Generally, research suggests that reappraising a situation is typically associated with beneficial effects such as greater experience of positive emotions and higher levels of positive functioning, while suppression is related with detrimental effects such as lower levels of positive emotions and greater experience of negative emotions (Gross & John, 2003· Ben-Eliyahu & Linnenbrink-Garcia, 2013). The first strategy is considered antecedent-focused (occurring prior to the emotion), whereas the second strategy is considered response-focused (occurring after and in response to the emotion). Students that report using more often the reappraisal strategy, experience higher positive emotions and in the same time report lower negative emotions, while the use of suppression is associated with lowered positive emotions (Ben-Eliyahu & Linnenbrink-Garcia, 2013).

Findings indicate that when reappraisal leads to successful emotion regulation, suppression is related to maladaptive outcomes such as rumination, lack of authenticity and emotional clarity, and lower levels of positive emotions (Gross and John, 2003). In the educational context, emotion regulation plays a crucial role affecting learning strategies and students' emotions (Ben-Eliyahu and Linnenbrink-Garcia, 2013). For example, reappraisal is considered a useful learning tool for students in order to increase their study related behaviors (task performance and enthusiasm), promoting academic achievement (Leroy et al., 2012). In fact, the recurring use of reappraisal is positively associated with academic performance (Leroy and Grégoire, 2007). Emotion regulation seems to cover (pertain) all aspects of students' emotional life during their studies, including learning.

5.   Mental Health factors

5.1   Emotion dysregulation

Emotions and the way students regulate their emotions during transition play an important role in students' academic life (Postareff et al., 2017; Srivastava et al., 2007). On the other hand, emotion dysregulation is considered as a difficulty in regulating emotions during stressful situations (Semplonius & Willoughby, 2018) interfering with individuals' targeted goals (Thompson, 2019) and playing a major role in college life (Fischer et al., 2007). According to Gratz and Roemer (2004), emotion dysregulation includes both the ability to navigate through difficult emotional responses and also the capacity to be able to distinguish a wide range of emotions while accepting these emotions and to suppress them. They suggest a repertoire of strategies that describe difficulties in regulating negative emotions: (a) lack of emotional awareness (awareness), (b) lack of emotional clarity (clarity), (c) impulse control difficulties (impulse), (d) nonacceptance of emotional responses (nonacceptance), (e) difficulties engaging in goal directed behavior (goals), and (f) limited access to emotion regulation strategies (strategies). Specifically, the awareness aspect represents a tendency to pay attention to and understand emotions; the clarity aspect addresses the extent to which a person acknowledge and is clear about the emotions that one is experiencing; impulse represents the ability to remain in control when they confront negative emotions; nonacceptance of emotional responses reflects a tendency to experience negative secondary emotional responses or a nonaccepting reaction to distress, mainly shame, guilt, or self-blame regarding one's own (negative) emotions (Nordgren, Monell, Birgegård, Bjureberg, & Hesser, 2020); goals are associated with effective engaging in goal-directed cognition and behavior when a person is under stress (Hallion, Steinman, Tolin, & Diefenbach, 2018); and last, strategies reflect a belief that there is nothing that can help regulate negative emotions, or feel better when someone is distressed.

Emotion dysregulation, a crucial factor in an individual's life, is considered as a difficulty in regulating emotions during stressful situations (Semplonius & Willoughby, 2018) interfering with individuals' targeted goals (Thompson, 2019) and playing a major role in college life (Fischer et al., 2007). In a recent quantitative study, Wagner and Brahm, (2017) recognize that

students who are afraid of failing their courses have a lower possibility of advancing towards their first year. Moreover, the difficulties in emotion regulation were negatively correlated with GPA (Hartman et al., 2017), and may lead freshmen to severe mental health issues (e.g. depression) along with problems with social satisfaction and well-being (Kneeland & Dovidio, 2019; Tamir et al., 2007).

5.2   Depression, Stress and Anxiety

Anxiety is a common issue among students and this can be partly explained by their life stage as they are in a middle of a major life transition, that of transition from childhood to adulthood. During the first year of studies students are confronted with new tasks, demands and competitive environments that cause high levels of stress and anxiety (DeBerard et al., 2004; Leese, 2010; Respondek et al., 2017). Moreover, they face unique stressors such as separation from family and home, changes in friendships and new responsibilities. It has been found that students' adjustment generally worsens the first 2 years in the domains of psychological functioning, cognitive-affective strategies and social adjustment. One-third of university student population experiences symptoms of anxiety and depression (American Psychiatric Association, 2013; Bitsika & Sharpley, 2012). Moreover, according to WHO, anxiety disorders are the most prevalent class of disorders with an estimated prevalence of 11.7-14.7% with phobias being the most prevalent individual disorder (9.0-11.1%) along with Major Depressive Disorder (4.5-7.7%). Psychological distress may influence quality of life and may lead to other problems such as substance abuse as well as increased withdrawal from study as first year students compared to their counterparts in the second and third years . Students that experience high levels of anxiety are less efficient using less self-regulated learning strategies (Pintrich, 2004) and characterized by low levels of well-being, self-acceptance and self-control (Hembree, 1988). Furthermore, anxiety is positively correlated with delays in starting or completing tasks on time and meeting deadlines (Fernie et al., 2016; Spada et al., 2006), thus possibly leading students to procrastinate more often (Chang, 2014).

Especially, anxiety appears to affect significantly the way students approach learning, their academic achievement and their well-being. Students that experience high levels of anxiety are

less efficient. They use less self-regulated learning strategies (Pintrich, 2004) and they are distinguished by low levels of well-being, self-acceptance and self-control (Hembree, 1988). Moreover, high levels of anxiety impact working memory, distraction and reasoning . It is not surprising thus, that anxiety is a major predictor of academic performance.

The negative side effects of depression, anxiety, and stress among college students demonstrate the importance of screening, identification and treatment as needed.

6.   Outcome factors

6.1   Pace of Study & GPA

In addition to low dropout intention, prior research traditionally defined academic success as achievement based on course grades or grade point average (GPA; Richardson et al., 2012). University academic achievement has been found to predict educational and career success. Meta-analysis demonstrated that grades are positively related to career success, besides intelligence or parental socioeconomic status (Strenze, 2007). International findings claim that past academic performances—represented by high school grade point average or a standardized achievement test score—are the most powerful predictors of achievement at university level (Hackett et al. 1992; Perry et al. 2001). Much energy has been devoted to examining past performance, and research and theories attempting to accurately grasp the impact of this performance on academic achievement have emerged in educational literature (Richardson et al. 2012). Dollinger et al. (2008) concluded that past performance and abilities could explain about 37 % of the academic achievement of college students.

7.   Selection of Appropriate Questionnaires

7.1   Inventory of Learning Styles (ILS)

To measure students' learning strategies the Inventory of Learning Styles (ILS) was administered (Vermunt, 1994, 1998). The version of ILS that we use consists of 47 items divided in two parts. The first part includes questions about i) processing strategies: deep (4 items, e.g. "I compare the conclusions drawn in different chapters"), stepwise (6 items, e.g. "I memorize definitions as literally as possible"), and concrete processing (3 items, e.g. "When I am studying a topic, I think of cases I know from my own experience that are connected to that topic"), and ii) regulation strategies: self-regulation (5 items, e.g. "I add something to the subject matter from other sources"), external (5 items, e.g. "I study according to the instructions given in the study materials or provided by the teacher") and lack of regulation strategies (4 items, e.g. "I notice that I have trouble processing a large amount of subject matter"), respectively.

The second part addresses questions about learning orientations: personal interest (5 items, e.g. "I do these studies because I like to learn and to study"), test oriented (5 items, e.g. "I view the choice I have made to enroll in higher education as a challenge"), vocation oriented (5 items, e.g. "The main goal I pursue in my studies is to prepare myself for a profession"), and ambivalent (5 items, e.g. "I doubt whether this is the right subject area for me"). Participants in the first part answer each item on a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always). In the second part, each item is scored also on a 5-point Likert scale, ranging from 1 (disagree entirely) to 5 (agree entirely).

7.2   Motivated Strategies for Learning Questionnaire (MSLQ)

Motivated strategies for learning was measured with the Motivated Strategies for Learning Questionnaire MSLQ (Pintrich et al., 1991), one of the most widely used instruments for measuring students' self-regulated learning. For the purposes of our study we use only the self-efficacy of learning and performance subscale (8 items, e.g. "I expect to do well in this class").

Each item is scored on a 5-point Likert scale, ranging from 1 (disagree entirely) to 5 (agree entirely).

7.3   The Resilience Scale – (RS)

In order to measure resilience, the Resilience Scale – RS (Wagnild & Young, 1987) was selected. RS is a self-reported measure of 25 items. Responses are summed to produce a total score. The participants are asked to state the degree to which they agree or disagree with each item on a 5-point Likert-type scale from 1 (disagree entirely) to 5 (agree entirely). All items are positively scored. The total scores thus range from 25 to 125 with higher scores reflecting higher resilience. Items examples are: "I have self-discipline" or "I can usually look at a situation in a number of ways".

7.4   Difficulties in Emotion Regulation Scale (DERS-18)

DERS-18 is a short version of the original DERS (Gratz & Roemer, 2004) that has been recently developed by Victor and Klonsky (2016). It is used to evaluate various aspects of emotion regulation difficulties. It comprises 6 subscales, namely awareness (e.g. "I pay attention to how I feel"), clarity (e.g., "I have no idea how I am feeling"), goals (e.g., "When I'm upset, I have difficulty getting work done"), impulse (e.g., "When I'm upset, I become out of control"), strategies (e.g.," When I'm upset, I believe that I'll end up feeling very depressed"), and non-acceptance (e.g., "When I'm upset, I feel guilty for feeling that way"). The items in DERS-18 are rated on a 5-point Likert scale ranging from 1 (I do this almost never) to 5 (I do this almost always). A higher score indicates greater emotion dysregulation.

7.5   Depression – Anxiety – Stress Scale (DASS-21)

The DASS-21 is a self-reported instrument that independently assesses three factors: depression, anxiety, and stress (Lovibond & Lovibond, 1995). For our study we use only the anxiety scale (7 items, e.g. "I felt scared without any good reason"). Anxiety scale is scored on a 5-point Likert scale ranging from 1 (I do this almost never) to 5 (I do this almost always). A higher score is indicative of high level of anxiety.

7.6   Procrastination Assessment Scale Student (PASS)

Procrastination was assessed with the PASS (Solomon & Rothblum, 1994), a self-reported measure that evaluates the frequency of students' procrastination. Participants are asked to answer questions regarding procrastination in a 5-point Likert scale in six academic domains: writing a term paper, studying for an exam, keeping up weekly reading assignments, academic administrative tasks, attendance tasks, and school activities in general. Answers range from 1 (I do this almost never) to 5 (I do this almost always) with the highest score indicating higher procrastination.

7.7   Pace of study and GPA

Students' pace of study was assessed by (self-reported) Grade Point Average (GPA) and courses success rate. Success rate is computed as the proportion of the number of courses they had passed until the time of data collection and then, to the total number of courses they have already attended.

8.   Conclusions

The selection of the above variables and the development of this project (PAS) on a particular combination of factors that brings together cognitive and non-cognitive dimensions, are in line with current research in learning in higher education including the identification of students at risk (Willems, Coertjens, Tambuyzer, & Donche, 2018). The present study, in terms of the selection of particular variables, was led by two main lines of research. One concerned the Finnish and Belgian (University of Antwerp) group work (e.g., Finnish and Belgian universities; Fonteyne, Duyck, & De Fruyt, 2017) and the other involved the ongoing research by a Greek group (University of Ioannina) of educational psychology researchers who explore associations between mental health and learning (Karagiannopoulou, Milienos, Kamtsios, & Rentzios, 2020). The variables adopted in this project correspond to these two groups of research. The learning, motivation, self-regulation, self-efficacy, (meta)cognitive variables and pace of study/GPA come from the first group of research and the anxiety, resilience, emotion dysregulation and procrastination along with learning and achievement variables draw from the second group of research. The combination of these two groups of variables can be seen in the forefront of the line of research that associates mental health and learning suggesting a 'holistic picture' of the learning process where students and teachers get involved in their full self. Besides, according to Nilsson's & Lindström's (1998) innovative view, health and learning are considered as integrally related processes.

Such a perspective suggesting associations between learning and mental health can be seen of great importance not only in terms of alignment with the increasing research interest reported above but also in terms of an increasing need for Universities to develop policies of equity and improve students achievement (a range of endeavours even poor, towards the development of online questionnaires to be filled in by the newcomers in order to predict students at risk-University of Turin) providing them with the support they need in order to become active agents of their learning. From this perspective, our endeavor to introduce in the PAS variables that come from the personality and self-literature, usually examined in the field of mental health, draws on Moreau, Macnamara, & Hambrick (2019, p. 4) suggestion that 'Acknowledging the role of factors that are difficult to change is important because it enables

the allocation of resources where they can have a real impact, taking into account individual needs, to allow meaningful improvements. In our view, continuing to accept claims that are unsupported by evidence hinders scientific progress and prevents evidence-based policies'.

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