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COIMBRA

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PERFORMANCE-AVOIDANCE GOAL ORIENTATION AND TEST ANXIETY:

THE MEDIATING ROLE OF INSECURE STRIVING, SHAME AND SELF-COMPASSION

Dissertação no âmbito do Mestrado Integrado em Psicologia, área de especialização em Psicologia Clínica e da Saúde, subárea de especialização em Intervenções Cognitivo-Comportamentais nas Perturbações Psicológicas e Saúde, orientada pela Professora Doutora Maria do Céu Salvador e apresentada à Faculdade de Psicologia e Ciências da Educação.

Julho de 2020

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Agradecimentos

Esta foi uma viagem de 5 anos pautada por desafios, conquistas, tropeços, derrotas e recomeços que fazem de mim, em boa parte, aquilo que hoje sou. E, porque um caminho não se faz sozinho, deixo o meu profundo agradecimento a todas as pessoas que fizeram parte dele em diferentes registos, distâncias, tempos e afetos:

À Professora Doutora Maria do Céu Salvador, pela simplicidade carregada de bondade, compaixão e generosidade espelhada em gestos discretos. Pelo incomparável saber, fazendo-me ver para lá do visível. Por, desde sempre, encontrar em si tranquilização, por me permitir caminhar em segurança e, sobretudo, por me reconduzir. Por me ensinar que quando arriscamos, ficamos mais perto da excelência. Que privilégio os nossos caminhos se terem cruzado. Mais que uma orientadora, é para mim, uma mentora. O meu genuíno obrigada!

À Drª. Cláudia Pires, por me confiar este projeto. Pelas viagens à escola de Ansião, recordando um dos seus ensinamentos –"as pessoas fazem mesmo o melhor que sabem"- que me ficou na memória e que não esquecerei. Quero agradecer-lhe pelo rigor, pela amabilidade de ler cuidadosamente este trabalho e por todas as sugestões.

Ao Dinis, por seres o meu 112 nesta tese. Por todas as vezes que atendeste os meus pedidos e por seres fonte de ajuda nas reviravoltas deste trabalho. Por seres "implacável" na estatística. Pelas palavras de alento e tranquilização. Pela tua amabilidade e grandiosa generosidade. O meu sincero obrigada!

Às minhas colegas de tese, por partilhar esta experiência convosco. Em especial à Mariana, por tantas vezes ouvir as minhas lamentações, por me explicar todas as minhas exaustivas dúvidas e pelo espírito de entreajuda.

A todas as escolas, que foram o veículo para alcançar o término desta etapa tão importante da minha vida. A todos os alunos que me abriram a porta das suas "casas". Sem vós este trabalho não seria possível. O meu imenso obrigada.

À Doutora Maria João Martins, por me fomentar o interesse pelas perturbações psicóticas nos passos de bebé que dei no projeto de investigação. Por me ter dado uma bagagem para a vida. Por me ensinar o rigor e a disciplina que esta profissão exige. Por me ter feito crescer. Estou-lhe, imensamente, grata.

À Professora Doutora Paula Castilho, pela supervisão no projeto de investigação. Por encontrar em si uma vontade de refazer o mundo e por ser uma pessoa que não vê das margens, com a qual me identifico e me inspiro tantas vezes.

À Inês Leal (Inesita), pela tua sensibilidade incomum. Pelas partilhas, pelas brincadeiras e desabafos. Pelos conselhos que tocam o coração e por seres uma boa companheira. Acredito muito em ti!

Ao Instituto de Psicologia Médica, por ser a casa onde dei os primeiros passos na investigação. Tenho saudades!

Ao CUMN, sítio este em que encontrei a paz que precisava em tempos desassossegados e por mesmo à distância em tempos de pandemia, encontrar luz. Aos Leigos para o Desenvolvimento, por ter reencontrado o meu caminho de fé.

À Catarina Marcos ("madrinha"), pela tua bondade sem igual. Pela tua alma pura que me apaixona e me faz querer ser como tu. Pelo encorajamento nesta reta final!

À Drª. Vera Campos, por em tão pouco tempo construirmos uma relação de confiança. Por me ajudar nesta escalada da verdadeira essência do eu. Por me ajudar a libertar de velhos padrões e permitir que eu ouça a minha própria voz.

À Martinha (madrinha de praxe) por me ver crescer desde a entrada na faculdade, por todas as risadas que dei contigo e pela tua "maluquice" que adoro. À Rita Monteiro e à Carla pela amizade e companheirismo!

Ao Roberto, pela tua humildade e amizade sincera. Saudades dos velhos tempo!

Ao Jonas, por seres o meu "partner", pelo teu coração generoso e pela cumplicidade no olhar. Por acreditares em mim e pelo alento! Ao Gonçalves, pelas piadas secas que me fazem rir sempre. Ao Pedro, pelo apoio emocional. À Anabela, pela pessoa prática que és.

Aos de sempre: Sofia, Catarina e Bruno. É bom poder chamar-vos de "meus", de sempre e para sempre.

À Inês (Zocas), por estares perto mesmo quando estás longe. Por teres sido o puzzle mais difícil de desvendar e por teres sido o meu porto seguro. Agradeço-te por acreditares mais em mim do que eu própria, pelo encorajamento, pelas aventuras, pelas confidências e por tudo. Serás eterna!

Ao Tiago, que me ensinou que o amor pode ser leve e descomplicado. Pela partilha de uma maravilhosa história que levo comigo e que nunca esquecerei. Pela tua preciosa ajuda destas tabelas desta tese e pela tua "POC". Não chegam as palavras para te agradecer por tudo. Que possas ser sempre genuíno, bondoso e tranquilo. Tenho muito orgulho em ti!

À minha família (Cázinha, tio Davide, Vó Vitória, Vidinho e Dani), que sempre estiveram presentes nos momentos de conquista, de felicidade, de tempestade e tristeza. Por serem a minha base segura e não precisar de mostrar do que sou capaz para saberem quem sou. Pela união e pelo amor incondicional.

Ao meu irmão, pela cumplicidade, pelos silêncios que falam, pelos segredos que levamos juntos.

À minha mãe, por me encorajar a seguir o meu sonho. Por me amparar e por ser um pilar. A ti, mãe, devo-te tudo o que sou. O amor não se agradece.

A ti Coimbra, que me acolheste e moldaste à tua imagem. Hoje entendo o significado da palavra *saudade*, espelhada em cada canto e recanto teu.

"Porque eu sou do tamanho do que vejo

E não do tamanho da minha altura…"

Fernando Pessoa

Performance-avoidance Goal Orientation and Test Anxiety: The mediating role of Insecure Striving, Shame and Self-compassion

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Abstract

Few studies have studied maladaptive psychological processes on Test Anxiety in adolescents. Nevertheless, performance-avoidance goal orientation (a type of performance goal orientation characterized by desire to avoid situations which could demonstrate incompetence), insecure striving (beliefs about the need to compete to avoid feelings of inferiority), shame (a self-conscious emotion associated with feelings of rejection and inferiority) and lack of self-compassion (a self-to self-relationship that lacks warmth and kindness) have been associated with test anxiety. However, to our knowledge, no study has considered all of the variables together, exploring the impact of performance-avoidance goal orientations, insecure striving, shame and lack self-compassion on test anxiety. This was thus the aim of our study.

The sample consisted of 463 adolescents between 14 and 18 years old (M = 15.46; SD = 1.22). Results showed that performance-avoidance goal orientation, insecure striving, shame and test anxiety correlated positively with each other and negatively with self-compassion. Furthermore, a mediation model estimated with PROCESS revealed that insecure striving, shame and lack of self-Compassion (subscale Actions) fully mediated performance-avoidance goal orientation's effect on test anxiety. These findings suggest that Compassion-focused Therapy may be a helpful approach to work with test anxiety, due to its focus on evolved defensive strategies derived from the threat and drive systems. Therefore, test anxiety may be approached by tackling insecure striving and shame, stimulating the soothing system through the development of a compassionate mind. Limitations and future studies are also discussed.

Key-words: performance-avoidance goal orientation; insecure striving; shame; self-compassion (actions subscale); test anxiety; compassion-focused therapy

Resumo

Poucos estudos estudaram processos psicológicos maladaptativos na ansiedade aos testes, em adolescentes. No entanto, a orientação para o resultado do tipo evitamento (um tipo de orientação para o desempenho, caracterizado pelo desejo de evitar situações que possam demonstrar incompetência.), competição insegura (crenças sobre a necessidade de competir para evitar sentimentos de inferioridade), a vergonha (uma emoção auto-consciente associada a sentimentos de rejeição e inferioridade) e a falta de autocompaixão (uma relação eu-eu desprovida de calor e de bondade) têm sido associadas à ansiedade aos testes. No entanto, daquilo que temos conhecimento, nenhum considerou todas estas variáveis juntas, explorando o impacto da orientação para o resultado do tipo evitamento, competição insegura, vergonha e falta de auto-compaixão na ansiedade do teste. Esse foi, portanto, o objetivo do nosso estudo.

A amostra foi constituída por 463 (N = 463) adolescentes entre os 14 e os 18 anos (M = 15.46; SD = 1.22). Os resultados demonstraram que as variáveis de orientação para o resultado do tipo evitamento, competição insegura e ansiedade aos testes se correlacionaram positivamente entre si e negativamente com a autocompaixão. Além disso, um modelo de mediação estimado com o PROCESS revelou que a competição insegura, vergonha e falta de compaixão (subescala ações) mediou totalmente os efeitos da orientação para o resultado do tipo evitamento na ansiedade aos testes. Estes resultados sugerem que a Terapia focada na Compaixão pode ser uma abordagem útil para trabalhar a ansiedade do teste, devido ao seu foco nas estratégias defensivas desenvolvidas, derivadas dos sistemas de ameaças e procura. Portanto, a ansiedade aos testes pode ser abordada trabalhando a competição insegura e a vergonha, estimulando o sistema de tranquilização através do desenvolvimento de uma mente compassiva. Limitações e estudos futuros também são discutidos.

Palavras-chave: orientação para o resultado do tipo evitamento; competição insegura; vergonha; autocompaixão (ações); ansiedade aos testes; terapia focada na Compaixão

Introduction

Test Anxiety

Test Anxiety (TA) is defined as an excessive fear and apprehension regarding a poor performance in test situations, resulting in negative self-evaluations before, during and/or after those situations, happening especially in academic contexts (Brown et al., 2010). Test anxiety, exam stress or test stress are synonymous and differ from other forms of anxiety because of their focus on evaluative situations (von der Embse et al., 2018). Some studies have suggested that between 15% to 22% of students show high levels of test anxiety (e.g., Putwain & Daly, 2014; Thomas et al., 2017). Despite these high prevalence rates, TA is not classified as an anxiety disorder or as a separate diagnosis in the DSM-5 (American Psychiatric Association, 2013) or ICD-10 (World Health Organization, 1992). LeBeau and colleagues (2010) refer this is due to a lack of agreement between researchers regarding theoretical constructs. Also, despite this conditions' relevance, there is almost no research linking clinical data with theoretical constructs, probably because theoretical models of TA are mainly developed in the area of educational rather than clinical psychology (Herzer et al., 2014).

From a theoretical point of view, models of TA have been discussed and evolved over the last six decades. The most influential work on TA was published in the 1950's (e.g., Sarason & Mandler, 1952). Publications declined in the 1980s (Zeidner, 1998) having increased 31% between 2010 and 2017, compared to the 1980s (von der Embse et al., 2018).

New models of TA have proposed incorporating environmental influences. A biopsychological model of TA refers that the biological and psychological bases of TA interact with educational contexts (Lowe et al., 2008). This model has three different processes involved in the expression of test anxiety: behaviour, cognition and physiology. Behaviours, include both task relevant (e.g., focusing attention on task) and task-irrelevant behaviour (e.g., skimming through items). Regarding cognitions, worrying interferes with the task (e.g., thoughts about the consequences of failure), and in physiology, these authors point out emotional arousal like increased heart rate or muscle tightness.

Thus, TA is a further example of an alarm process involved in the anticipation or confrontation with a situation perceived as dangerous (Zeidner, 1998). Intrusive thoughts interfere with the attention processes required by the task, which consequently, interferes with performance (Sarason, 1984, 1988; Zeidner, 1998). In line with this, some studies have demonstrated the negative effect that excessive anxiety has in academic performance situations (Cruz, 1989; McDonald, 2001; Prins & Hanewalds, 1997; Seipp, 1991).

Goal Orientation

Midgley et al. (2000) define personal achievement goal orientation as a student purpose for engaging in academic behaviour, including cognitive, affective and behavioural components.

Frequently, educational psychologists distinguish different academic achievement goals: mastery oriented or performance oriented (Ames & Archer, 1988). When students are oriented towards mastery goals, their purpose is to develop their competence, seeking their mastery and understanding. Their learning is motivated by curiosity and desire to develop skills and understand new material. They tend to see mistakes as a part of a learning process, constituting an intrinsic motivation and an adaptive pattern of learning (Ames, 1992; Midgley et al., 2000). On the other hand, when students have a performance orientation, they tend to defend their sense of self-worth, i.e., to demonstrate competence. The focus of attention is on the self, they make attributions for success and failure and evaluate their ability through social comparisons with others. There are two types of performance orientation: performance-avoiding goals (as a way to avoid failure) and performance-approach goals (to achieve success) (Elliot & Church, 1997; Middleton & Midgley, 1997). The students' purpose when oriented to performance-avoiding goals is to avoid situations which could demonstrate incompetence (Midgley et al., 2000). In turn, students with performance-approach goals try to show competence, believing that it is possible to achieve success. Investigation shows that mastery goals are more adaptive than performance goals, linked to persistence and effort at tasks as well as willingness to call for help in the classroom (Dweck & Legget, 1998; Harackiewicz et al., 1998; Wolters et al., 1996) and that performance-avoidance goals are associated with lower levels of intrinsic motivation, feelings of helplessness and anxiety, disorganized study and unwillingness to seek help in the classroom (Elliot & Church, 1997; Elliot & Harackiewicz, 1996).

In line with this, performance goals have been associated with worry and fear of failure and test anxiety (Elliot & Church, 1997; McGregor & Elliot, 2002).

Evolutionary Model

Human survival depends on how humans relate to each other, establishing an enormous influence on their well-being (Gilbert & Irons, 2009). In this line, Gilbert (1989) proposed the Theory of Social Mentalities, in which social mentalities consist in innate motivation systems, conditioned patterns of relating to others and oneself that, when neurobiologically activated, organize psychological functions such as attention, emotion, cognition and behavior in pursuit of specific motives or goals. Gilbert (2005a) highlights one of the social mentalities called *social ranking* that most relates to self-criticism (a form of self-to-self relationship activated when people feel they have failed important tasks or when things go wrong in which a part of the self (dominant part) criticizes another part (subordinate part); Gilbert, 2000, 1989) and is marked by social competition. This mentality has been associated with psychopathology because it is associated with social power and threat (e.g. striving to be valued by others, social inclusion and seeking status). Also, it is often associated with feelings of inferiority, defeat and rejection (Gilbert, 2005b). Social mentalities are intimately related to emotion regulation systems. Based on Depue and Morrone-Stupinsky (2005), Gilbert (2005a) identified three affect regulation systems: the threat-defense system, the drive system and the soothing system.

The threat system: shame, self-criticism and test anxiety

The threat-defense system is characterized by a focus on detecting and reacting to threats. The body responds very quickly, activating a range of defensive emotions (e.g., anxiety, anger and disgust) and behaviors (e.g., fight, flight, submit or freeze). The threat system can be triggered either by external stimuli or by internal stimuli (e.g., own anger or anxiety and then, getting anxious about getting anxious) (Gilbert, 2014; Irons, 2013). This system follows "better safe than sorry" policy (Gilbert, 1998).

Shame is a self-conscious defensive emotion that belongs to the threat-defense system; it guides our behavior and influences who we are (Gilbert, 1998; Tangney, 2003). According to Gilbert (1998), there are two types of shame: external shame and internal shame. External shame occurs when people perceive themselves as existing negatively in the minds of others, experiencing the social world as dangerous (e.g., others will be harsh and rejecting; Gilbert, 1998; Gilbert & Andrews, 1998). Internal shame is defined as a

negative self-evaluation (e.g., inferior, rejectable) focused on personal mistakes and shortcomings. These negative automatic thoughts about the self may be revealed in the form of self-criticism (e.g., *I'm a bad person, worthless, no good*) and self-devaluation (Gilbert & Procter, 2006).

Shame and self-criticism are considered transdiagnostic processes associated to psychopathology (Castilho et al., 2014; Gilbert & Procter, 2006; Pinto-Gouveia et al., 2014). Self-criticism has been described as a safety strategy to deal with or avoid feelings of shame, including triggers of threat of social criticism, disconnection, exclusion, rejection and attack (Gilbert et al., 2010; Gilbert & Irons, 2005). It consists of a form of self-to-self relationship, based on psychobiological systems for social interaction, activated when people feel they have failed important tasks or when things go wrong in which a part of the self (dominant part) criticizes another part (subordinate part) (Gilbert, 2000, 1989). In this line of though, self-criticism, as a safety strategy to avoid social threats and shame, seems to fit in the threat-defense system.

Because tests are perceived as dangerous, test anxiety can also be considered as related to the threat system. Indeed, TA was found to be positively associated with shame in undergraduate students (e.g., Tang, 2019), and with self-criticism in adolescents (Cunha & Paiva, 2012; Pereira, 2015) and in adults (Ramos, 2015).

The drive system: Striving and Test Anxiety

The drive system is predominantly oriented to the activation of pleasure feelings which motivate to achieve important resources, conducting to prosperity and well-being. Also, it is linked to competitive motives, dominance, social status and to the dopaminergic system, activating vitality, excitement, enthusiasm and energy. These achievements have also the purpose of avoiding feelings of rejection, subordination or inferiority (Gilbert, 2014, 2009). Despite having adaptive evolutionary goals, some factors may complicate this functioning, demonstrating the complex relationships between the drive and the threat system (Gilbert, 2009).

Evolutionary psychology reports that it is human nature to seek biosocial goals (e.g., belonging to groups, gaining status; Buss, 2003; Gilbert, 1989). However, insecure attachment (characterized by relational experiences in childhood such as not having careful help and support when needed; Bowlby, 1969) may cause individuals to feel that their social place is not safe, and that they must put an effort into feeling accepted or liked

by others (Gilbert et al., 2009). In other words, insecurity in social relationships can lead people to feel under pressure to strive to avoid inferiority associated with the perceived rejection (Gilbert, 2005a), which induces competitive behavior.

However, it has been broadly reported that competitive behavior, with pressure to strive to impress others, might me linked to the increase of psychopathology in Western societies (Gilbert, 1989; James, 1998; Lasch, 1979). Thus, a competitive environment can activate a rank mentality focused on social comparisons (Gilbert, 1989, 2005b). In contrast, when people feel secure, they do not fear inferiority because they see others as helpful and accepting instead of feeling shamed or rejected (Gilbert; 1989, 2005a, b; Dykman, 1998). In line with this, Gilbert and colleagues (2007) proposed two dimensions of striving behaviors: insecure striving and secure non-striving. Insecure striving consists in beliefs about the need to compete to avoid mistakes and feelings of rejection from others. In secure non-striving, people feel accepted by others either they succeed or fail, without pressure to compete. Furthermore, Gilbert et al. (2007) suggested that insecure striving in students is associated with fears of rejection and inferiority and need for validation.

The soothing system: Self-compassion and Test Anxiety

The third emotion regulation system, the soothing system, is associated with a sense of calmness, peacefulness, well-being and quiescence, without a "state of seeking", that is, no need to protect from anything and no need to seek anything. Signals of care and compassion activate this affect regulation system, providing positive emotions. This positive affect system can regulate the threat and the drive systems (Depue & Morrone-Strupninsky, 2005; Gilbert, 2009).

Importantly, the concept of compassion belongs to soothing system, being proposed by the Dalai-Lama and adapted by Gilbert (2014) and is defined as "a sensitivity to suffering in self and others with a motivation and commitment to try to prevent and alleviate it" (pp. 19). Self-compassion consists of these competencies applied to the self. Recently, it was found that students with high levels of test anxiety had low self-compassion (Pereira, 2015; Ramos 2015; Tang, 2019). Neff and colleagues (2005) also found that self-compassion was positively associated with adaptive academic motivational patterns (mastery goals), and negatively associated with maladaptive academic motivational patters (performance-approach and performance-avoidance goals). The same study found

that self-compassion had positive correlations with perceived competence and negative correlations with fear of failure, a very common, if not essential, feature of students with test anxiety.

Aims

From the existent literature on test anxiety, only a few studies used samples of high school students. Also, some studies linked personal achievement goal orientations with test anxiety and self-compassion, and some linked test anxiety with shame and striving. However, from our knowledge, there are no studies investigating the relationship between test anxiety, goal orientations, shame, striving and self-compassion in adolescents, and there have been no longitudinal investigations using these variables.

Therefore, we aimed to conduct an exploratory longitudinal study, with measures in two points in time (T1 and T2), with a month and a half interval between them. The main aim of the study was to understand the relationships between goal orientations, shame, striving, self-compassion and test anxiety, particularly, we aimed to investigate the effect of performance goal orientation on test anxiety, through striving, shame and self-compassion. Given that literature does not support mastery goal orientation or secure non-striving as predictors of test anxiety, but that few studies have addressed these issues, we opted to only include these variables in the correlational hypothesis and study, and not include them in the mediation hypothesis and analyses.

In line with this, we expected that performance goals orientations (approach and avoidance) (T1), insecure striving (T1), shame (T2), and test anxiety (T2) were significantly and positively correlated, and that all these variables would be significantly and negatively correlated with self-compassion (H1). Furthermore, we expected that mastery goals orientation and secure non-striving (both at T1) would be significantly and positively associated, and that these two variables would have a significant positive association with self-compassion (T2) and a significant negative association with Shame and test anxiety (both at T2) (H2.). Finally, it was expected that performance goal orientations (approach and avoidance) (T1) would predict test anxiety (T2), and that this relationship would be mediated by insecure striving (T1), shame (T2) and self-compassion (T2) (H3).

Method

Participants

In order to achieve the objectives of the present study, we carried out a longitudinal study, using a sample of adolescents from the general population aged between 14 and 18. The sample was collected in three high schools (9^{th} to 12^{th} grade), in the Center region of Portugal. Exclusion criteria were: (1) age below 13 and over 18 years old; (2) incomplete filling of questionnaires; (3) evidence of randomness in the answers to the instruments.

The final sample consisted of 463 adolescents aged between 14 and 18 (M = 15.46; SD = 1.22) of which 186 were male (40.2%) and 277 were female (59.8%). The subjects were distributed between 9^{th} and 12^{th} grades (M = 10.19; SD = 1.17) and the 9^{th} grade was the most frequent year of schooling (40%). Gender had no influence on both the distribution of age ($t_{(461)} = -.38$, $p = .708$) and years of schooling ($t_{(461)} = .08$, $p = .939$). Most participants had a low socioeconomic level, where also no gender differences were found ($\chi 2\ (3) = 1.24$; $p = .74$). The majority of the sample did not report any medical psychological illness, with only 9.5% reporting to be receiving psychological counselling at the time of the filling.

Measures

First, a sociodemographic questionnaire was administered in order to obtain information about sex, age, year of schooling, socioeconomic status, grade average in the previous academic year and number of school retentions. It was also questioned if the participants suffered from any physical or psychological illness and if they were receiving psychological counselling at the moment of the filling.

Several self-report questionnaires were also used, assessing test anxiety, type of goal orientation, striving to avoid inferiority, shame and self-compassion. Variables were collected in two time points (cf. Procedure). Performance goal orientations (approach and avoidance) and insecure striving belonged to time 1 (T1) and shame, self-compassion and test anxiety belonged to time 2 (T2).

The **Reactions to Tests for Adolescents** (RT-A; Sarason, 1984; Portuguese version for Adolescents by Vicente, 2011) is a self-report questionnaire which pretends

to assess anxiety in test situations. It contains 40 items (34 items in the Portuguese version), rated on a 4-point Likert Scale which varies from 1 (*not at all typical of me*) to 4 (*very typical of me*). The scale consists of four factors: Tension, Worry, Test Irrelevant Thinking and Bodily Reactions. Higher scores indicate higher levels of anxiety. The original version (Sarason, 1984) revealed an adequate internal consistency for the total and factors (between .61 and .81) and good convergent validity. The version of the RT for adolescents (Vicente, 2011) was adapted from the Portuguese version for adults and presented good internal consistency ($\alpha = .93$ for the global scale and between $\alpha = .75$ and $\alpha = .90$ for the factors), and high test-retest reliability ($r = .83$). In this study, only the total score in time 2 (T2) was used, with a Cronbach's alpha of .96.

The **Personal Achievement Goal Orientations Scale** (PAGOS; Midgley et. al, 2000; Portuguese version by Paixão & Borges, 2005) is a 14-item scale containing three factors that represent three different types of motivation behind academic behavior: (a) mastery goal orientation, representing the students' intrinsic motivation to learn and develop abilities; (b) performance-approach goal orientation, that represents the students' extrinsic motivation to show their abilities; and (c) performance-avoidance goal orientation, that represents the students' extrinsic motivation to avoid showing incompetence. Participants rate the extent to which each statement is true to them on a 5-point Likert scale ranging from 1 (*totally false*) to 5 (*very true*). In the original study, Cronbach's alphas ranged from .75 to .86 (Midgley et al., 2000). In the Portuguese version (Paixão & Borges, 2005), adequate to good internal consistencies were found (.75 to .87). In this study, internal consistencies were .85 for mastery goal orientation, .90 for performance-approach goal orientation, .83 for performance-avoidance goal orientation and .81 for total of performance goal orientations in time 1 (T1).

The **Striving to Avoid Inferiority Scale** (SAIS; Gilbert et al., 2007; Portuguese version by Ferreira, Duarte & Pinto-Gouveia, 2011) was developed to assess the strength of the pressure to compete to avoid inferiority, and is composed by three parts. The first part (with 32 items) comprises two dimensions: insecure striving – beliefs about the need to compete to avoid feeling rejection/criticism from others; and secure non-striving – feeling accepted by others whether or not one fails, without the pressure to compete. The second part (with 11 items) focuses on the reasons people feel pressure to compete and avoid inferiority. The third part comprises 9 items and evaluates attitudes towards competition. The participants rate on a 5-point Likert scale (0 = *never* to 4 = *always*) the

extent to which each item applies to their experience. In this study, only the first part of the scale was used. The original version (Gilbert et al., 2007) revealed good to excellent internal consistencies (between .87 and .94), with similar values being found in the Portuguese validation study (from .84 to .94) (Ferreira et at., 2011). In the present study only the first part of the scale was used and the Cronbach's alphas at time 1 (T1) revealed acceptable to excellent internal consistencies (.79 for secure non-striving and .91 for insecure striving).

The **External and Internal Shame Scale for Adolescents** (EISS-A; Ferreira et al., 2018; Portuguese version for adolescents by Cunha et al., 2018) evaluates the experience of external and internal shame. This scale has four dimensions that are present both in external shame and internal shame: Inferiority/Inadequacy, Feeling of Exclusion, Worthlessness/Emptiness and Criticism/Judgment. It contains 8 items rated on a 5-point Likert scale from 0 (*never*) to 4 (*always*). Higher scores reveal higher frequency of feelings of external and internal shame. The original version (Ferreira et al., 2018) showed good psychometric properties, including high internal consistency for the total scale (α = .89) and subscales ($\alpha_{\text{internal shame}}$ = .82; $\alpha_{\text{external shame}}$ = .80). In the adolescents' version., Cronbach's alphas were .82 for the total scale, .79 for internal shame and .75 for external shame, and test-retest correlation coefficient was .77 (Cunha et al., 2019). In this study, only the total score from time 2 (T2) was used, having shown a high internal consistency (α = 90).

The **Compassionate Engagement and Action Scales for Adolescents** (CEAS-A; Gilbert et. al, 2017; Portuguese version for adolescents by Cunha et. al, 2017) are a set of three scales designed to evaluate: (a) self-compassion; (b) the ability to be compassionate to the suffering of others; and (c) the ability to receive compassion from others. Each scale is composed of 13 items, divided into two sections, one assessing the motivation and ability to engage with suffering (Engagement) and the other assessing the way to deal with emotions, thoughts and painful situations (Action). Each item is rated in a 10-point Likert scale, according to the frequency with which it occurs to each participant (1 = *never* to 10 = a*lways*). Both the original version and the Portuguese version demonstrated adequate to good internal consistency, with values between .74 to .89 (Gilbert et al., 2017; Cunha et al., 2017). In this study, at time 2 (T2), only the Self-Compassion scale was used. Cronbach's alphas were .45 for the Engagement subscale,

.83 for the Actions subscale. Given the inadmissible consistency for the Engagement subscale, we opted to proceed with the analysis using only the Actions subscale.

Design and Procedure

The study was first approved by the Ethics Committee of the Faculty of Psychology and Educational Sciences of University of Coimbra. After that, several schools across the country were contacted in order to obtain their consent for the students' participation. The sample was collected in classrooms in schools of the Center of Portugal.

Since the sample was mainly composed by minors, an authorization was asked to the guardians of the students, which also included an explanation of the study as well as contacts of the responsible parties in this study, in case of any emerging doubts. The purposes of this research were explained, emphasizing data confidentiality, anonymity, voluntary participation and the possibility of withdrawal at any time. Additionally, participants were asked to memorize an easy personal code, given that it would be necessary for the second time of the filling questionnaires. After this explanation, adolescents signed an informed consent. The research protocol had an average filling time of 20 minutes. Two counterbalanced versions of the research protocols were used, in order to prevent effects of response contamination and fatigue. About a month and a half later, the students were asked to fill the same questionnaires again.

This study was included in a broader study (i.e., in a PhD Project) that aims to study test anxiety in adolescents.

Data analysis

Statistical analysis was carried out using the SPSS program (Statistical Package for the Social Sciences, version 22; Armonk, NY: IBM Corp.) and the PROCESS computation tool (version 3.3) for SPSS (Hayes, 2018).

Adherence to normality was assessed by the Kolmogorov-Smirnov test, and by the deviations of skewness and kurtosis of each variable, with values between -2 and 2 being considered reasonably normally distributed (George & Mallery, 2010). Outliers were analyzed through the graphical representation of the results (boxplots). To detect multicollinearity, the variance inflation factor (VIF < 5) and the correlation matrix of all variables were examined (Kline, 2005). Regarding the remaining assumptions needed for

regression analysis, homoscedasticity, normality of residuals and linearity were analyzed through the scatterplots and autocorrelation of the residuals through the Durbin Watson's test (where values around 2 indicated no autocorrelation) (Field, 2013).

For the characterization of low, medium and high socioeconomic levels, Simões' classification (1994) was used. Interpretation of internal consistency indices considered Cronbach's alpha values less than .60 as inadmissible, between .60 and .69 weak, between .70 and .79 acceptable, between .80 and .89 high and between .90 and 1 excellent (Pestana & Gageiro, 2008).

Gender differences in sociodemographic variables (age, year of schooling and socioeconomic status) were analyzed using t-tests for continuous variables and chi-square tests for categorical variables (Field, 2013). Gender differences in the variables under study were determined by univariate analysis variance (One Way ANOVA). Effect size measures were interpreted according to Cohen's classification (1988), which considers partial eta squared values between .01 and .06 as low, between .07 and .13 as average, and from .14 as high.

Correlations were conducted using Pearson's parametric test and the assessment of their magnitudes using the values suggested by Cohen (1988), that considers a correlation coefficient of .10 as a weak or small association, .30 as moderate and .50 or larger as a strong or large correlation.

A sequential mediation model with three mediators (Model 6 from Process; Hayes, 2018) was used (Fig. 1). Performance goals orientation (approach and avoidance) was used as independent variable; Insecure striving, shame and self-compassion (actions) as sequential mediators, and test anxiety as the dependent variable. The mediation effects were assessed using a bootstrapping procedure with 10.000 resamples, creating 95% bias-corrected and accelerated confidence intervals. The effects are considered significant $p < .05$ if zero was not contained within the lower and upper bounds of the confidence intervals.

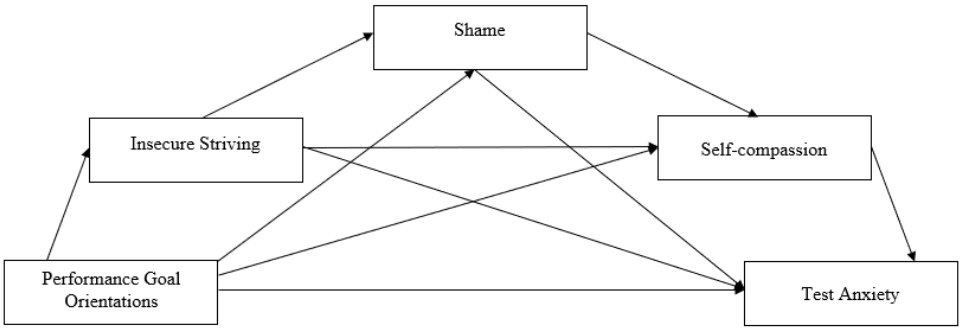

Fig 1. Conceptual diagram of the proposed model.

Results

Preliminary Data Analysis

No severe violations to normal distribution of the variables were verified, once normal values of kurtosis and skewness were found (-2 to 2). Scatterplots showed a normal distribution with homoscedasticity and linearity. Moreover, Durbin-Watson test show a good result (1.76). These results suggested the adequacy of the data for the regression analyzes. Also, no problems in multicollinearity among study variables were found when inspecting the variance inflation factor (VIF < 5). Despite the presence of outliers, we chose not to remove them from the sample to preserve ecological validity. Also, missing values for the variables were filled by simple factor or total mean substitution.

When gender differences were investigated, we found significant differences regarding most of our study variables (insecure striving (T1), shame (T2), self-compassion (T2) and test anxiety (T2)). Female participants scored significantly higher on shame and test anxiety whereas male participants scored significantly higher on insecure striving and self-compassion (Actions). All significant differences revealed low partial eta squared values, except for test anxiety, which had an average partial eta squared. For this reason, we decided to control for gender in our subsequent analyses, introducing it as a covariate (Fig 2). Table 1 presents a summary of gender differences.

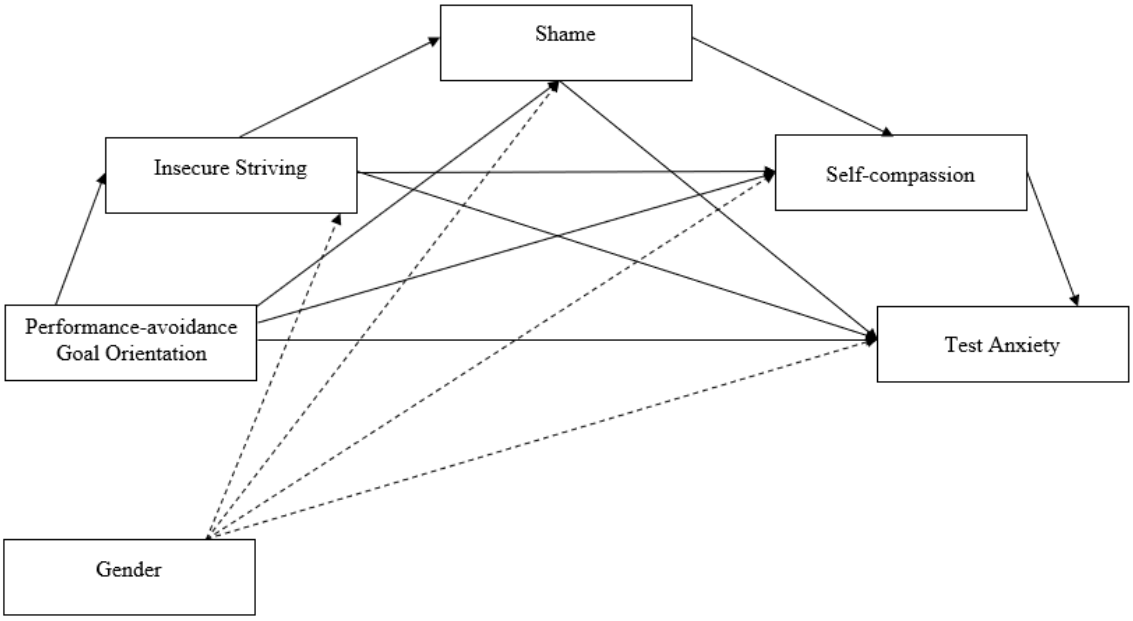

Fig 2. Conceptual diagram of proposal model with Gender covariate

Table 1. Gender differences in variables under study

	Female (*N* = 277)		**Male (*N* = 185)**			
	M	***SD***	***M***	***SD***	***F***	η^2
PAGOS_Avoid	11.35	3.99	11.18	3.58	.22	.00
SAIS_Ins	33.55	14.71	36.95	13.30	6.39*	.01
B_EISS_A	11.56	6.63	8.70	5.78	22.71**	.05
B_CEAS_A_Actions	24.06	7.70	27.50	6.80	24.28**	.05
B_RT_Total	82.29	20.90	67.87	18.48	37.83**	.11

Note: *p < .05; **p < .001

Correlations

Bivariate associations were explored among study variables, presented in Table 2. Given the very low correlations between performance-approach goal orientation and most variables, we opted to exclude this variable from subsequent analysis, establishing performance-avoidance goal orientation as our independent variable. Overall, the majority of the variables under study revealed significant low to moderate correlations. Performance-avoidance goal orientation (T1), insecure striving (T1), shame (T2) and test

anxiety (T2) were positively associated with each other, and all of them were negatively correlated with Self-compassion (actions). Mastery goals orientation (T1) revealed low positive correlations with secure non-striving (T1) and with the self-compassion (actions) (T2), low negative correlations with shame (T2) and was not correlated with neither insecure striving (T1) nor with our dependent variable, test anxiety (T2). Secure non-striving (T1) revealed low positive correlations with the performance-approach (T2) and mastery (T2) factors of goals orientation and a low negative correlation with the performance-avoidance factor (T2). Moreover, secure non-striving (T1) was negatively and moderately associated with both shame (T2) and test anxiety (T2) and positively and moderately associated with self-compassion (actions) (T2).

Table 2. *Means, standard deviation and matrix of inter-correlations among study variables*

Variables		1	2	3	4	5	6	7	*8*	*9*	*M (SD)*
1	PAGOS_Appro	-									12.69(4.64)
2	PAGOS_Avoid	.69**(.69**)	-								11.28(3.83)
3	PAGOS_Perf_Total	.93**(.93**)	.90**(.90**)	-							23.97(3.14)
4	PAGOS_M	.11*(.12*)	.13**(.13**)	.13**(.14**)	-						20.20(3.14)
5	SAIS_Ins	.50**(.50**)	.48**(.49**)	.54**(.54**)	.06(.07)	-					34.87(14.24)
6	SAIS_nSec	-.14**(-.14**)	-.19**(-.19**)	-.18**(-.18**)	.18**(.18**)	-.27**(-.29**)	-				30.96(7.07)
7	B_EISS_A	.15**(.16**)	.25**(.25**)	.21**(.22**)	-.19**(-.21**)	.37**(.41**)	-.46**(-.46**)	-			10.41(6.46)
8	B_CEAS_A_Actions	-.11*(-.13**)	-.15**(-.16**)	-.14**(-.15**)	.24**(.27**)	-.14**(-.18**)	.37**(.37**)	-.43**(-.41**)	-		25.40(7.51)
9	B_RT_Total	.13**(.16**)	.24**(.24**)	.19**(.21**)	-.04(-.06)	.28**(.35**)	-.29**(-.29**)	.55**(.53**)	-.35**(.30**)	-	76.52(21.19)

Note. Variables which had "B" correspond to the time 2 of filling the questionnaires. Values outside parenthesis represent Pearson's correlations without controlling for gender. Values inside parenthesis represent partial correlations after controlling for gender; PAGOS_Appro = Performance-approach Goal Orientation subscale of the Performance Achievement Goal Orientation Scale; PAGOS_Avoid = Performance-avoidance Goal Orientation subscale of Performance Achievement Goal Orientation Scale; PAGOS_Perf_Total = Total of Performance Goals Orientation (approach and avoidance) of the Performance Achievement Goal Orientation Scale; PAGOS_M = Mastery Goal Orientation subscale of the Performance Achievement Goal Orientation Scale; SAIS_Ins = Insecure Striving subscale of the Striving to Avoid Inferiority Scale; SAIS_nSec = Secure non-Striving subscale of the Striving to Avoid Inferiority Scale; B_ EISS_A = Total score of External and Internal Shame Scale for Adolescents; B_CEAS_A_Actions = Actions subscale of Compassionate Engagement and Action Scales for Adolescents; RT = Reactions to Tests; M = Mean after controlling for gender; SD = Standard deviation after controlling for gender;* $p < .05$; **$p < .01$.

The Mediating Role of Insecure Striving, Shame and Self-Compassion in the Relationship between Performance-avoidance Goal Orientation and Test Anxiety

A model with three sequential mediators (Process model 6) was estimated to examine whether performance-avoidance goal orientation was associated to test anxiety through insecure striving, shame and self-compassion (actions), using gender as a covariate.

As presented in Fig. 2, performance-avoidance goal orientation (β = .48, p < .001), and gender (β = .13, p < .01) had a significant positive effect on insecure striving explaining 24.85 % of its variance. Additionally, performance-avoidance goal orientation did not significantly predict shame (β = .06, p = .18), unlike insecure striving (β = .37, p < .001) and gender (β = -.26, p < .001) which revealed a positive and significant direct effect on shame, all explaining 21.18% of its variance. Moreover, performance-avoidance goal orientation (β = -.06, p = .20) and insecure striving (β = .03, p = .62) were not significant predictors of Self-compassion (Actions subscale), unlike Shame (β = -.39, p < .001) and Gender (β = .13, p < .01) which revealed a significant direct effect on self-compassion (subscale actions), all explaining 20.55% of its variance. Furthermore, performance-avoidance goal orientation was not a significant predictor of test anxiety (β = .06, p = .18). On the other hand, insecure striving (β = .12, p < .01), shame (β = .40, p < .001), self-compassion (β = -.10, p < .05) and gender (β = -.24, p < .001) had significant direct effects on Test Anxiety. All these variables explained 38.42 % of test anxiety's variance.

The total effect of performance-avoidance goals orientation (β = .23, p < .001) and Gender (β = -.32, p < .001) on test anxiety was significant, explaining 16.38 % of test anxiety's variance. Additionally, three significant indirect effects were found, out of the seven indirect effects presented by the mediation model.

The effects of performance-avoidance goals orientation on test anxiety through insecure striving (point estimate = *.06*, *SE* = .02, *95 % CI* = .01/ .11), through both insecure striving and shame (point estimate = .07, *SE* = .01, *95 % CI* = .05/.10) and through insecure striving, shame and self-compassion (actions), simultaneously (point estimate = .01, *SE* = .004, *95 % CI* = .001/ .01) were the only significant indirect effects. Given that performance-avoidance goal orientation lost its significant direct effect on test anxiety, the abovementioned significant indirect effects totally mediated its effect on test anxiety. A summary of the direct, indirect and total effects is presented in table 3.

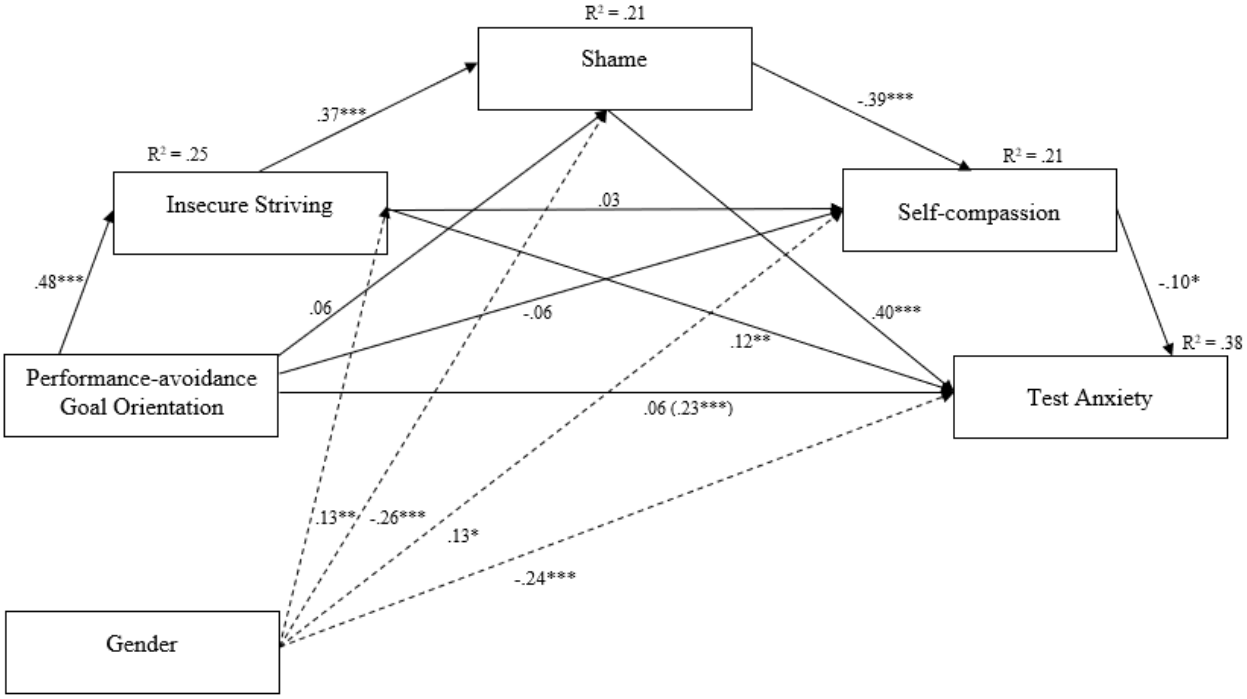

Fig 2. *Statistical diagram of the mediation model*

Note. Path values represent standardized regression coefficients. Values inside parenthesis represent the total effects of X on Y; p < .05; ** p < .01*; ***p < .001

Table 3. *Summary of the direct and indirect effects of mediation*

Direct Effects	***β***	***SE***	***t***	***p***	***95 % CIs***
Performance-avoidance goal orientation → Insecure striving	.48	.15	11.97	< .001	4.51/14.19
Gender → Insecure striving	.13	1.18	3.15	<.01	1.40/6.02
Performance-avoidance goal orientation → Shame	.06	.08	1.34	.182	-.05/.26
Insecure striving → Shame	.37	.55	7.81	< .001	.13/.21
Gender → Shame	-.26	.55	-6.18	< .001	-4.49/-2.33
Performance-avoidance goal orientation → Self-compassion	-.06	.09	-1.30	.206	-.31/.06
Insecure Striving → Self-compassion	.03	.03	.49	.624	-.04/.07
Shame → Self-compassion	-.39	.05	-8.40	< .001	-57/-.35
Gender → Self-compassion	.13	.67	3.05	<.01	.73/3.38
Performance-avoidance goal Orientation →Test anxiety	.06	.23	1.35	.178	-.14/.78
Insecure Striving → Test Anxiety	.12	.07	2.68	<.01	.05/.31
Shame → Test Anxiety	.40	.15	9.04	< .001	1.03/1.61
Self-compassion → Test Anxiety	-.10	.12	-2.35	<.05	-.50/-.05
Gender → Test Anxiety	-.24	1.69	-6.10	<.001	-13.59/-6.96
Indirect Effects	***β***	***SE***	***t***	***p***	***95 % CIs***
Performance-avoidance goal Orientation →Insecure striving → Test anxiety	.06	.02	-	-	.01/.11
Performance-avoidance goal Orientation →Insecure striving → Shame →Test Anxiety	.07	.01	-	-	.05/.10
Performance-avoidance goal Orientation →Insecure striving → Shame →Self-compassion→ Test anxiety	.01	.004	-	-	.001/.01
Total Effects	***β***	***SE***	***t***	***p***	***95 % CIs***
Performance-avoidance goal orientation →Insecure striving → Shame→ Self-compassion → Test anxiety	1.26	.24	5.35	<.001	.80/1.73

Note. β = standardized regression coefficient; SE = standard error; *p* = statistical significance; *CI* = confidence interval

Discussion

Several studies have demonstrated that test anxiety plays an important role in students' performance and represents a common problem in adolescents, negatively affecting their academic lives and personal well-being (Cunha & Paiva, 2012; DordiNejad et al., 2011; Sari, 2018; Steinmayr, 2016; Türk & Katmer, 2019). Consequently, some studies demonstrated that higher levels of test anxiety are linked to poor academic performance and psychological distress (Hembree, 1988; Tang, 2019; Zeidner, 1990). Gilbert and collaborators (2007, 2009) suggested that insecure striving was linked with anxiety and positively associated with fears of rejection and inferiority in students. Furthermore, in a study with undergraduate students (Tang, 2019), shame was found to be correlated with test anxiety, while self-compassion was found to be negatively related with this specific type of anxiety.

Hence, given the scarce number of studies about test anxiety, essentially for middle and high school students and, especially, considering clinical variables, we saw pertinent to investigate what factors, or lack thereof, could contribute to the development of test anxiety in this population. So, this study's aim was to explore the impact of performance goal orientations in test anxiety through insecure striving, shame and self-compassion.

When analyzing the instruments internal consistencies, one of the variables - the engagement subscale of self-compassion scale – was excluded from the study due to its inadmissible internal consistency. We, therefore proceeded with the actions subscale of the self-compassion scale as a measure of self-compassion.

Regarding the correlation study, our first hypothesis (H1) - that performance goal orientations (approach and avoidance) (T1), insecure striving (T1), shame (T2) and test anxiety (T2) were significantly and positively associated, and that all these variables would be significantly and negatively correlated with self-compassion –was confirmed, although some of the correlations obtained were lower than anticipated. At this point, we opted to exclude the performance-approach goal orientation variable due to its very low correlation with test anxiety. One hypothesis to this low result, consistent with literature (Elliot, 1999) is that those with performance-approach goal orientation tend to have high perceptions of competence whereas those who have performance-avoidance goal orientation tend to have low perceptions of competence, consequently

worrying more about the possibility of failure and having higher test anxiety. Similarly, (Neff et al., 2005) found that performance-avoidance goal orientation was more correlated with anxiety than performance-approach goal orientation.

Performance-avoidance goal orientation had a positive but low correlation with test anxiety, one result that was not anticipated. This result contrasts with some studies (Elliot & McGregor, 1999; Stan & Oprea, 2015) reporting that performance-avoidance goal orientation is related to test anxiety. Putwain et al. (2010) also found a lower correlations between these variables, suggesting that is necessary future research because these constructs seem to be conceptually related. One possible explanation could be that our sample was collected on countryside schools' areas which may suggest differences in educational "cultures" when comparing with schools located in urban areas. Moreover, the moderate, positive and significant correlations between shame and test anxiety are in line with Tang's (2019) results. In fact, test-anxious students may perceive themselves or perceive that others see them as inferior or incompetent. This could happen due to expectations from parents or teachers, which was proved to be related to perceived incompetence and higher levels of test anxiety (Organisation for Economic Co-operation and Development, 2019).

Moreover, a moderate and negative significantly correlations between self-compassion and test anxiety was found. This result is plausible and in line with Neff and col. (2005) results that self-compassionate individuals have higher levels of perceived competence, less anxiety and less fear of failure. Previous research (Cunha & Paiva, 2012; Pereira, 2015, Ramos, 2015; Tang, 2019) also suggested that students with high levels of test anxiety may more probably present a self-critical attitude towards their anxiety and performance. In addition, self-criticism has been considered a key-factor of development and maintenance of test anxiety, and adolescents believe that this process would push them to do better or correcting their mistakes (Cunha & Paiva, 2012; Melo, 2006; Sarason, 1984).

The relationship between insecure striving and test anxiety was moderate, positive and significant. Although there are no other studies that relate Insecure Striving with test anxiety, their relationship goes with Gilbert et al. (2007) research, suggesting that insecure striving is a defensive strategy probably developed in a familiar context in which patterns of perfectionism and criticism were reinforced and the individuals had to prove their worth to be accepted. Consequently, this need to compete to avoid

feelings of inferiority and rejection fighting to guarantee their social place may lead to higher levels of anxiety, because the sense of threat is constantly activated. In this line of thought, performance goal orientation and insecure striving were moderate, positive and significantly correlated. These findings extend previous work (Conroy et al., 2003) on relating performance-approach goal with the need to strive because the individuals want to do better than others, having a belief that they able to do so, whereas the performance-avoidance goal is deeply related with striving once individuals try to avoid doing worse than others. In this way, individuals with performance-approach goal may strive to demonstrate high competencies as a compensatory strategy of failure beliefs and performance-avoidance goal strive to cover up the perceived lack competencies.

The correlation between performance-avoidance goal orientation and shame was relatively low, despite being significant. Although there are no studies specifying the relationship between performance-avoidance goal orientation and shame, it is important albeit not reaching the moderate threshold. In fact, some studies have shown that shame is related to students' motivation, and that extrinsic motivation (in which performance avoidance is included) is associated with a decrease of mental health levels (Kasser & Ryan, 2001; Sheldon & Kasser, 1998). However, insecure striving and shame were moderately, positively and significantly correlated, going in line with previous literature (Gilbert et al., 2007; Gilbert et al., 2009). Indeed, striving to achieve high grades may be a defensive strategy to deal with feelings of inferiority and fears that other will also consider them inferior.

Another result was the significant, negative but low correlation between performance-avoidance goal orientation and self-compassion, which does not corroborate the results of previous studies. Neff and col. (2005) suggested that individuals who have low self-compassion try to enhance their self-image through the desire of avoiding attitudes in which they may be perceived as incompetent, defending themselves against failure. Nonetheless, this low result reflects that a student who wishes to avoid the demonstration of incompetence could have some levels of self-compassion. One possible explanation for this could be that CEAS is not a specific scale for the school context. Also, as we only used the actions subscale of the CEAS, we could not clearly assess if students were genuinely being compassionate or only using compassionate-like actions to avoid suffering.

The correlation between shame and self-compassion (actions) revealed moderate, negative and significant. This relationship is conceptually understandable given that shame is a self-conscious defensive emotion characterized by negative self-evaluation, social isolation, self-criticism and worthlessness (Kim et al., 2011; Tangney, 2003) whereas self-compassion appears as the opposite, reflecting connection with others (or sef), kindness and safeness (Neff, 2003). These results go in line with the studies relating shame with self-compassion (e.g., Barnard & Curry, 2012; Ferreira et al., 2013;Woods & Proeve, 2014), also highlighting the common humanity aspects of self-compassion contrasts with negative self-focus of shame and generalization of failure experiences.

Finally, the correlation between insecure striving and self-compassion was significant, negative but low. Regarding the evolutionary model (Gilbert et., 2007), although it is known that striving belongs to the drive system, since it is linked achieving, the fact that some people seek status in order to avoid feelings of inferiority and rejection, characteristic of the threat system, demonstrates the complex relationships between the threat and the drive systems (Gilbert, 2009). On the other hand, self-compassion as belonging to the soothing system is associated with well-being a state of no-seeking and no need to adapt defensive strategies. Indeed, when people feel safe, there is no need to strive to achieve anything, which could explain why self-compassion and insecure striving correlated negatively. This explanation goes in line with empirical evidence that demonstrated that feeling socially accepted and connected with others is negatively associated with insecure striving (Gilbert et al., 2009). Nonetheless, our results demonstrated low than expected correlation. One possible explanation for this may have to do with the fact that students from our sample derived from schools located in the countryside area, with the majority belonging to a low socioeconomic level, in a less competing and friendlier environment. Had the sample included students with medium-high socioeconomic level from an urban area and different results might have been found. Such a study is already ongoing.

In our second hypothesis (H2), we expected that mastery goal orientation and secure non-striving (both at T1) would be significantly and positively associated, and that these two variables would have a significant positive association with Self-compassion (T2) and a significant negative association with insecure striving, shame and test anxiety (both at T2). This hypothesis was partially confirmed. Firstly, our

results revealed positive, significant but very low correlation between mastery goal orientation and secure non-striving and no significant correlation with insecure striving. Nonetheless, other studies reported that mastery goals were linked with positive learning outcomes and higher self-efficacy (Dull et al., 2015). In its turn Bandura (1989) affirmed that an individual with higher levels of self-efficacy recognize a situation as a challenge rather that a threat, which have a positive impact on learning process. Thus, as situations (e.g., tests) are perceived as not dangerous, we could suggest that the students would feel accepted either they succeeded or failed, without pressure to compete (i.e., secure non-striving). However, another point of view to explain the low correlations obtained is that students that are mastery oriented, i.e., focused on accomplishing the task, developing their own skills and intrinsically motivated may or may not have pressure to compete to get accepted by others.

Secure non-striving and insecure striving showed a negative, significant and low correlation, which can suggest that it is not so evident that students with high levels of secure non-striving will not also struggle with some pressure to compete to avoid inferiority. Probably related to different pressures and different subjects it may be that students can experience both secure non-striving and insecure striving.

Contrary to previous research, that states a negative and significant between mastery goals and test anxiety (Stan & Oprea, 2015), our results did not confirm that finding. Although this result might be specific to our sample, not reflecting the reality of the population, we hypothesize that it may be also point that being intrinsically motivated to learn does not relate to feeling or not feeling anxious in test situations, as it may differ from student to student. Notably, we encountered moderate and negative significant correlations between secure non-striving and test anxiety, going in line with previous research that affirmed that feeling accepted by others without pressure to compete was negatively linked with anxiety, stress and psychopathology (Ferreira et al., 2011; Gilbert et al., 2007). Indeed, feeling that one is accepted either in face of success of failure seems to be associated with less test anxiety.

Moreover, positive but low values of correlations between mastery goal orientation and self-compassion are similar with Neff's (2005) correlation values. Although the value is low, it is close to the threshold of moderate correlation, so it seems that we can affirm that self-compassion is associated with academic motivational patterns in an adaptive way, going in line with mastery goals contexts in which these

students focus on seeing failure as a learning opportunity and put greater effort and persistence on tasks (Neff et al., 2005).

The negative correlation between mastery goal orientation with shame was unexpectedly low. Although there are no studies linking these variables, we know that when students are mastery oriented, they are focused on developing their competence and understanding mistakes as a part of the learning process. We expected that this would be expressed in a negative robust correlation with shame, once this intrinsic motivation would not be led by inferiority feelings about the self. However, the low, albeit significant correlation obtained made us think otherwise. Based in this result ne may infer that these two constructs are not so much related, meaning that they may or may not co-occur. It is possible that some students that are strongly motivated to learn may also hold negative self-evaluations, and a sense of existing in a negative way in the others mind's, i.e., shame.

Finally, and interestingly, secure non-striving showed a significant, negative and moderate correlation with shame and a significant, positive and moderate correlation with self-compassion. These relationships are plausible given that in secure non-strving the perception of inferiority is not activated. This could mean that rank positions in social hierarchies are not activated and there is no perception of threat, contrary to what happens with insecure striving and shame (Gilbert et al., 2007). Furthermore, to our knowledge, there are no studies relating secure non-striving and self-compassion; however, this relationship may seem obvious once those who have secure non-striving mentality could associate that other people are able to be kindness and understandable even when they fail. Furthermore, secure non-striving seems to belong to the soothing system as well as self-compassion. In line with this, when people perceive others as kind and warmth

Our third hypothesis (H3), in which we expected that performance-avoidance goal orientation (T1) would predict test anxiety (T2), mediated by insecure striving (T1), shame (T2) and self-compassion (T2), was confirmed. Firstly, we encountered an indirect mediation effect between performance-avoidance goal orientation and test anxiety through insecure striving which may mean that competing to avoid mistakes and rejection (insecure striving) underlies part of the impact that focusing in avoiding failure (performance avoidance goal orientation) has in increasing test anxiety, once in this mind set tests are seen as dangerous – if the test result will be lower than others

results it will therefore led to rejection. Our results go in line with previous research that affirms that student's perceptions of achievement, being in a competitive classroom and social comparisons predicts test anxiety (Harter et al., 1987; Zeidner, 1998)

Secondly, we found that performance-avoidance goal orientation could predict test anxiety through insecure striving and shame by a significant indirect mediation effect. This finding adds to the previous one (Gilbert et al., 2007; Gilbert et al., 2009) just discussed suggesting that trying to achieve to avoid others criticisms may be a strategy to regulate shame and that these two mechanisms may explain why being motivated to avoid showing incompetence may increase test anxiety. Hence, individuals that perceive themselves in the mind of the others as being inferior or defective (external shame) and that see themselves in the same way (internal shame) (Gilbert 2002, 2007) may feel the need to strive to avoid feelings of inferiority, negative social comparison and rejection. This will be reflected in performance motivation to avoid failure and defend self-worth that will increase the probability of experiencing test anxiety. This is congruent with studies which linked performance-avoidance goals with insecure striving (Conroy et al., 2003), insecure striving with shame (Gilbert et al., 2007; Gilbert et al., 2009) and shame with test anxiety (Tang, 2019).

Lastly, our results revealed a total mediation insecure striving, shame and lack of self-compassion of the relationship between performance-avoidance goal orientation and test anxiety. This last result adds the previous discussed ones, presenting the lack of self-compassion and another important mediator. As mentioned above, there are a complexity in the relationship between threat and drive systems. Striving belongs to the drive system, given that this system guides individuals to seek things and to important life goals (Depue & Morrone-Strupinsky, 2005), but when one strives to avoid inferiority and for not doing worse than others, one may have a perception of threat therefore presenting striving as a strategy at the service of the threat system. Shame, as a negative self-conscious emotion, belongs to threat system as well. Thus, the "ping-pong activation" of these two systems, with the underactivation of the soothing system (lack of self-compassion) may further increase test anxiety. Several studies have demonstrated that self-compassion is an essential predictor of mental health and well-being and the lack of it has an impact in the etiopathogenesis of mental disorders (Barnard & Curry, 2012; MacBeth & Gumley, 2012; Neff, 2011; Trompetter, 2016; Van Dam et al., 2011; Zessin, et al., 2015). These include anxiety, depressive

symptoms (Neff, 2003; Raes, 2010) and test anxiety specifically (Tang, 2019). This is in line with our results that showed that the lack of self-compassion could also predict test anxiety.

Also, as a result of assessing the contribution of our independent variables on test anxiety, the data points to shame being the best predictor of test anxiety. This conclusion derived from the comparison of the standardized regression values in the mediation model, in which shame had the higher value compared to the other variables. This result is consistent with the literature that reports the association between shame and mental health problems and being considered as a transdiagnostic emotion linked with psychopathology (Kim et al. 2011; Harman & Lee, 2010; Pinto-Gouveia & Matos, 2011).

As previous mentioned, our gender covariate had a significant effect on all variables. It had a positive effect on insecure striving and self-compassion (actions), showing that male students presented higher levels on these variables what goes in line with previous research reporting that males have higher levels of self-compassion (Yarnell et al., 2015). However, the correlations demonstrated as negatively but low, meaning that males can be self-compassionate but have some levels of insecure striving. This could be related to the related to the stereotype that men should be tough and that there is an increase of competition in western societies. On the contrary, gender had a negative effect on shame and test anxiety, which points to female students presenting higher levels on these variables what goes in line with previous research (Cunha & Paiva, 2012; Efthim et al., 2001; Sari et al., 2018; von der Embse, 2018).

Clinical Implications

The present study points to the importance if insecure striving, shame and lack of self-compassion as important variables for understanding the impact of striving for not doing worse that others on test anxiety. This way, the relationship between insecure striving and shame evidence the complex relationship between threat and drive system, relating with the motivation of not doing worse than others. Also, as the lack self-compassion is also a mediator, it suggests the sub activation of soothing system regulate the other systems. Given this information, it might be pertinent changing this relationship with the self in these maladaptive processes that usually leads to test

anxiety and poor performance. For that reason, compassion-focused therapy presents an effective response.

Compassion-focused Therapy (CFT; Gilbert, 2009) is considered one of the third wave of Cognitive Behavioral Therapy and is broadly used as a psychotherapeutic approach with a crucial influence of the theory of social mentalities (Gilbert, 1989). Importantly, there is increasing evidence that developing feelings of compassion have a deeply impact on mental health and well-being (Gilbert, 2005; Gilbert & Procter, 2006). Initially, CFT was developed to help individuals who experiencing higher levels of shame and self-criticism and partly to help people who are identified and/or using with competitive and social rank orientations and strategies in their life. In this way, the main focus of its intervention is to develop compassion and self-reassurance (Gilbert, 2009, 2019). In addition, CFT pretends to balance the three affect regulation systems to achieve emotional regulation. Additionally, as shame is our best predictor of test anxiety and as individuals with higher levels of shame have an accentuated difficulty in feeling self-warmth or being self-compassionate, it seems very pertinent an intervention focused on compassion. Shame and test anxiety belong to the threat system and performance goal orientation and insecure striving belong to the drive system, and both may be hyperactivated. The soothing system could then down regulate the activation of threat and drive systems promoting positive affect, feelings of happiness, peacefulness and safeness (Depue & Morrone-Strupinsky, 2005).

Concluding, CFT may be helpful in contributing to recognizing evolved defensive strategies and overcoming them with self-compassion. Also, this approach would also help tackle insecure striving and shame to decrease test anxiety.

Limitations, contributions and future studies

The present study has some limitations. The sample consisted only of adolescents of the central region of the country, therefore compromising generalization of the data obtained. Another limitation is the fact that the sample was a community sample, thus possibly precluding generalization to clinical samples and of finding more robust results. Thus, future studies should replicate our study with clinical samples and broader community samples in order to overcome these limitations. Yet one other limitation may refer to the instruments used. On one hand, the scale Striving to Avoid

Inferiority Scale (SAIS) was not context specific, i.e., specific of the school evaluation context. In fact, striving to avoid inferiority may express itself in some contexts and not in others; therefore, having a general scale to assess this aspect in relation to test anxiety may have hindered the possibility of finding more discriminative associations and results. On the other hand, the engagement subscale of the Compassionate Engagement and Action Scales for Adolescents (CEAS-A) had an inadmissible internal consistency, which led us to only use the actions subscale. We believe that items from this subscale might be less concrete for adolescents than items from the Actions subscale. Given that we opted to use the action subscale, it constitutes another limitation of this study, since this subscale reflects an action pattern involving competencies to alleviate and prevent suffering. Consequently, this proactive behavior is not enough to behave in accordance with what it is genuine compassion or self-compassion. It is necessary to be sensitive to suffering and motivated to alleviate it, i.e., a combination between engagement and actions. Given this, future studies could use the two subscales of the CEAS as a form to obtain better results.

Conclusion

The aim of the present study was to explore the impact of performance-avoidance goal orientation, insecure striving, shame and self-compassion on test anxiety. According to our results, it seems that students who have performance-avoidance goal orientation may develop test anxiety through striving to avoid inferiority, shame (e.g., me as inferior and me as inferior in the mind of others) and the lack of self-compassionate actions. The state of being constantly in the drive system (performance goal orientation and insecure striving) and in the threat systems (shame), with the concomitant underuse of the soothing system (self-compassion), seems to be related and predict test anxiety. Since this was the first study to approach such issues, more research is needed to further explore these data.

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