CONNECTION OF THE ACADEMIC ACHIEVEMENT MOTIVATION WITH SELF-ESTEEM AND ANXIETY OF STUDENTS

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Abstract. The goal of the paper is to investigate connection of academic achievement motivation with aspects of self-esteem and anxiety. Hypothesis: Academic achievement motivation is connected with self-esteem and also with anxiety of students. Participants: 107 international students aged 19-55. Results: Academic achievement motivation was connected with global, state, performance, social and appearance SE. Academic achievement motivation was also connected with general, trait and state anxiety. Conclusion: Self-esteem and anxiety are significant elements in formation of academic achievement motivation.
Key words: academic achievement motivation, anxiety, self-esteem.

Introduction. For many people, higher education is a ticket to better health, more happiness, higher income and higher life satisfaction (Cheung & Chan, 2009; Stryzhak, 2020). Success in studies is known to be partially predicted by achievement motivation (Robbins et al., 2004; Akbas & Adnan, 2007; Hustinx et al., 2009). However, not all students attending higher education feel motivated towards their studies, risking all the benefits that the higher education could bring them and their community.

What makes some students strive for success, while others lose interest and feel unmotivated? What explains the individual differences in academic achievement motivation? This paper will take a look at this problem from the perspective of self-esteem and anxiety.

Self-esteem has been previously positively associated with academic achievement motivation (Nwankwo et al., 2013; Basco & Han, 2016; Bhatt & Bahadur, 2018) and anxiety has been negatively associated with academic achievement motivation (Mehrabian, 1994; Fathi-Ashtiani, 2007; Basco & Han, 2016). Outside the school context, the relationship of achievement motivation with self-esteem and anxiety has been studied in sport and performance psychology. The results have demonstrated similar positive connections between self-esteem and achievement motivation (Maleki et al., 2011; Ozrudi & Matmask, 2019; Abdelkader et al., 2022) and negative connection between anxiety and achievement motivation (Khan et al., 2011; Sabti et al., 2019; Wang, 2021).

Aim of the research: To investigate the connection of academic achievement motivation with self-esteem and also anxiety of students. Hypothesis: Academic achievement motivation is connected with self-esteem and also with anxiety of students.

Theoretical basis. Achievement motivation is defined as the desire to perform well and be successful. Individuals high in achievement motivation are ready to master difficult challenges, to set high standards for themselves and to work with perseverance to achieve these standards (American Psychological Association, 2022a).

Self-esteem is defined as the degree, to which the self-evaluation of one's characteristics are positive. It reflects the individual's image of their capabilities, accomplishments, values, mental and physical conditions as well as perceptions about how others respond to the individual (American Psychological Association, 2022c).

When individuals evaluate their characteristics, they are drawing on an information which is stored in their self-concept, and as such the self-esteem is considered to be part of self-concept (American Psychological Association, 2022b; Rosenberg, 1965). Conscious contents of self-concept can be

examined and appraised by the individual. This process, where people evaluate their specific characteristics, traits or abilities has been called self-evaluation or self-appraisal (Brown et al., 2001).

Self-esteem has been conceptualized in many ways. Some, like Rosenberg (1965) view self-esteem as unidimensional construct, but more currently self-esteem has started to be viewed as construct consisting of multiple dimensions. Example of these are trait and state self-esteem (Heatherton & Polivy, 1991). Trait self-esteem is considered to be relatively stable over time (Trzesniewski et al., 2003), while state self-esteem is sensitive to situational and contextual changes (Heatherton & Polivy, 1991).

I argue, that achievement motivation and self-esteem are theoretically related, as both of them contain same self-evaluative element.

Rosenberg (1965) defined self-esteem as a sense of self-worth and Branden (1969) as a relationship between individual's competence and worthiness. According to Branden, individual accumulates self-esteem by facing challenges and succeeding at it in a worthy manner. The common component is the presence of evaluative element, as the individual is the one who evaluates his or her successes and failures, assigning meanings to each of them. Same element is found in multiple conceptualizations of achievement motivation. For example, in Need achievement theory the achievement motivation is characterized as combination of affect and evaluated performance. Individual feels the desire to achieve something, which can be then evaluated by individual himself or by others (Atkinson, 1974; McClelland et al., 1953; McClelland, 1961).

The Need Achievement model can be interpreted as containing two elements: (1) the cognitive element in which individual engages in assessment of the situation and (2) the behavior element, in which individual acts to fulfill their motivations. The cognitive element is not only related to assessment of situation, but also the evaluation of one's own abilities and chances of success.

Same idea is reflected in Expectancy-value theory (Wigfield & Eccles, 2000). There the achievement motivation of an individual consists of their expectation of the success, beliefs about own abilities and task valuing. When individual believes in their abilities, believes in probability of success and values the task at hand, they are likely to have high achievement motivation. The belief in one's own abilities can be considered to be the self-evaluative element. Same is reflected in Self-efficacy theory (Bandura et al., 1999), which argues that belief in one's skills and capabilities to attain desired results may boost the will to engage in achievement behaviors.

Contemporary theories view achievement motivation as a multidimensional construct. Example is Martin's integrative theory of motivation and engagement (Liem & Martin, 2012), which breaks achievement motivation into positive factors such as self-belief, planning, task management and persistence and negative factors such as anxiety, self-sabotage, and disengagement. Together the positive and negative factors create construct of achievement motivation. Of these factors at least self-belief contains self-evaluative element.

When individuals evaluate their abilities and chances of success, they are tapping into self-concept. Self-concept is defined as a container, which contains the evaluations of oneself, including characteristics, skills and roles. Through its contents, the self-concept contributes to individual's sense of identity and behaviors (American Psychological Association, 2022b).

Anxiety is defined as an emotion characterized by somatic symptoms of tension, which is caused by anticipation of danger, catastrophe or misfortune and accompanied by apprehensive behaviors. Somatic symptoms are related to the mobilization of body against perceived threats. These symptoms include muscle tension, fast breathing and rapid heartbeat. Anxiety consists of at least two dimensions: trait anxiety and state anxiety. Trait anxiety is defined as proneness to experiencing anxiety. Individuals high on trait anxiety are prone to viewing the world as threatening place and they respond to perceived environmental threats with changes in state anxiety. State anxiety is defined as dynamic state, which fluctuates in intensity and is a response to threatening situations (APA Dictionary of Psychology, 2022d).

Anxiety is known to affect the behavioral choices and motivations through factors such as previous conditioning (Pavlov, 1927), coping-expectancy (Carver & Scheier, 1988), threat evaluations (Eysenck, 1957) as well as attentional biases and speed of processing of threatening information (Massar et al., 2011).

Analysis of past empirical studies on connection of Achievement motivation with Self-Esteem and Anxiety. This section presents some of the prior findings about relationship of academic achievement motivation with self-esteem and anxiety. However, there are two issues that must be addressed before delving into the results of prior studies: (1) the unclear use of constructs of self-esteem and self-concept in research literature and (2) the difference between academic achievement motivation and actual academic achievement.

(1) Many authors seem to use concepts of academic self-esteem and academic self-concept interchangeably (Watkins & Dhawan, 1989; Huitt, 2004) and it is often difficult to state exactly, which one of the concepts is actually measured. For this reason not only studies using self-esteem will be presented, but also those which use concept of academic self-concept. The relationship between academic self-esteem and self-concept will also be discussed.

To clarify: self-esteem is considered to be only a part of self-concept (Rosenberg, 1965; APA Dictionary of Psychology, 2022b) and as such they are not completely the same construct. Some authors even argue that the correlations between these constructs are weak at best (Hansford and Hattie, 1982).

(2) There is lacking number of studies which measure the relationship of academic achievement motivation with self-esteem or anxiety. Instead, many studies measure actual academic achievement and not the achievement motivation. However, is has been demonstrated, that achievement motivation is positively connected with actual achievement (Robbins et al., 2004; Akbas & Adnan, 2007; Hustinx et al., 2009; Brjornebeck et al., 2013), for which reason these studies will be presented as well.

The results of prior studies appear to demonstrate few different and even contradictory connection types. Some studies suggest, that academic achievement motivation, academic achievement, academic self-concept and self-esteem are reciprocally connected (Trautwein et al, 2006; Di Giunta et al., 2013; Lawrence & Vimala, 2013). Others suggest, that this reciprocal relationship exists only between academic self-concept and achievement, but not with self-esteem (Marsh & O'Mara, 2008; Marsh & Martin, 2011). On the other hand, some studies have failed to find a connection between actual achievement with either academic self-concept or self-esteem (Tus, 2020).

Causality of these relationships partly remains an open question. Few suggestions state that academic self-concept predicts actual achievement (Awad, 2007; Fathi-Ashtiani, 2007) and that actual achievement predicts academic self-concept more strongly than the other way around (Chapman et al., 1990).

Actual achievement appears also to predict self-esteem but self-esteem does not appear to predict actual achievement (Gage & Berliner, 1992). On the other hand, some studies have found the opposite to be true with self-esteem predicting actual achievement (Fathi-Ashtiani, 2007) and achievement motivation (Di Giunta et al., 2013).

Academic achievement motivation has been shown to be positively connected with actual study achievement (Robbins et al., 2004; Akbas & Adnan, 2007; Hustinx et al., 2009; Brjornebeck et al., 2013). Academic achievement motivation also appears to have positive relationship with self-esteem (Fathi-Ashtiani, 2007; Nwankwo et al., 2013; Basco & Han, 2016; Topçu & Leana-Taşcılar, 2018; Olaoye, 2018).

For anxiety the relationships appear more clear. Anxiety seems to be negatively connected with both academic achievement motivation (Alpert & Haber, 1960; Mehrabian, 1994; Fathi-Ashtiani, 2007; Basco & Han, 2016) and actual academic achievement (Grooms & Endler, 1960; El-Anzi, 2005; Fathi-Ashtiani, 2007). However, there are suggestions that the level of students mediates this relationship, with weaker students showing negative connection between achievement and

anxiety, while in strongest students higher anxiety actual predicted better academic achievement (Spielberger, 1962).

All in all, this mishmash of results especially for academic achievement, self-esteem and academic self-concept suggests that relationships between these constructs are not simple and that situational and personality variables may affect the outcomes.

Method. Participants. Convenience sampling was used with 107 international students, 77 females and 30 males aged 19-55 (Mdn=25, M=28, SD=7,00) attending higher education facilities.

Measures. Rosenberg Self-Esteem Scale measures global self-esteem. Global Self-Esteem indicates the degree, to which the contents of individuals self-concept are positive. More positive contents lead to higher self-esteem.

State Self-Esteem Scale measures state self-esteem and it's 3 subscales of Performance, Social and Appearance self-esteem. State Self-Esteem indicates self-esteem which fluctuates over time and is sensitive to change of situation. Performance self-esteem indicates individual's feelings of one's own competency, belief in successful outcome of own actions and belief in one's ability to function in adequate manner. Social self-esteem indicates individual's feelings of one's own competency in social situations. Appearance self-esteem indicates individual's feelings and attitudes towards own physical body and appearance.

Beck Anxiety Inventory measures the amount of experienced anxiety symptoms during the last month. Anxiety refers to the symptoms associated with anxiety, such as lightheadedness, inability to relax, nervousness and similar symptoms.

State-Trait Anxiety Inventory contains two sub-inventories, one of which measures state anxiety and another which measures trait anxiety. State anxiety indicates anxiety, intensity of which fluctuates over time and is sensitive to situational change. Trait anxiety indicates proneness to experiencing anxiety. Individuals with high trait anxiety experience more fluctuations in state anxiety.

Motivation and Engagement scale is an integrative inventory, which measures factors, which are central to academic achievement motivation.

Positive motivation indicates energy and drive to learn, work effectively and achieve one's potential. It consists of three subscales: Self-belief, Valuing and Learning focus. Self-Belief indicates student's belief in one's own competency, skills and knowledge. Individuals with high self-belief trust in their ability to accomplish their work in sufficient manner. Valuing indicates how much the student values his or her education and how much he or she believes, that the skills and knowledge acquired during studies will be useful in other areas of life. Learning Focus indicates student's focus on learning achievements, like getting good grades. Individual with high learning focus is inclined to study hard.

Positive engagement indicates the behaviors, which follow from the positive motivation. Higher scores indicate higher positive engagement. It consists of three subscales: Planning, Task management and Persistence. Planning indicates student's ability and readiness to plan and organize his or her work. Individuals with high score in planning are skillful at coordinating their time and energy in advance. Task Management indicates student's ability to manage their time and energy while studying, choosing environments which enable their best potential or which let him or her stay as concentrated as possible. Persistence indicates student's ability to keep working at tasks even when they are difficult. Individuals who score high on persistence are inclined to keep working until the task has been completed.

Negative motivation indicates lack of energy and drive to learn, work effectively or achieve one's potential. It consists of three subscales: Anxiety, Failure avoidance and Uncertain control. Anxiety indicates student's inclination to feel anxiety when confronted with difficult tasks or possibility of failure. Failure Avoidance indicates student's inclination to avoid failures in different study context. Uncertain Control indicates student's feelings of uncertainty towards their ability to complete work in adequate manner.

Negative engagement indicates behaviors, which follow from negative motivation. It consists of two subscales: Self-sabotage and Disengagement. Self-Sabotage indicates behaviors, in which student causes his or her own failure, such as avoiding participating in schoolwork or not preparing for exams. Disengagement indicates student's lack of interest towards learning tasks or his or her studies in general.

Results. Effect sizes were defined as.10 small,.30 medium,.50 large (Ellis, 2010). Data was processed with SPSS 26 program and statistically significant results were found. Significant positive connection was found between Achievement motivation and aspects of State self-esteem. Global state self-esteem (rS = 0.71, p <.001), Performance state self-esteem (rS = 0.74, p <.001), Social state self-esteem (rS = 0.70, p <.001) and Appearance state self-esteem (rS = 0.41, p <.001) were all positively connected with achievement motivation.

Significant positive connection was found between Achievement motivation and aspects of State self-esteem. Global state self-esteem ($rS = 0.71$, $p <.001$), Performance state self-esteem ($rS = 0.74$, $p <.001$), Social state self-esteem ($rS = 0.70$, $p <.001$) and Appearance state self-esteem ($rS = 0.41$, $p <.001$) were all positively connected with achievement motivation.

Significant negative connection was found between Achievement motivation and aspects of Anxiety. General anxiety ($rS = -0.41$, $p <.001$), Trait anxiety ($r = -0.67$, $p <.001$) and State anxiety ($rS = -0.59$, $p <.001$) were all negatively connected with achievement motivation. Significant relationships were found between Global self-esteem and aspects of achievement motivation. Global self-esteem was positively connected with Self-belief, Valuing, Learning focus, Planning, Task management, Persistence and negatively connected to Anxiety, Failure avoidance, Uncertain control, Self-sabotage and Disengagement.
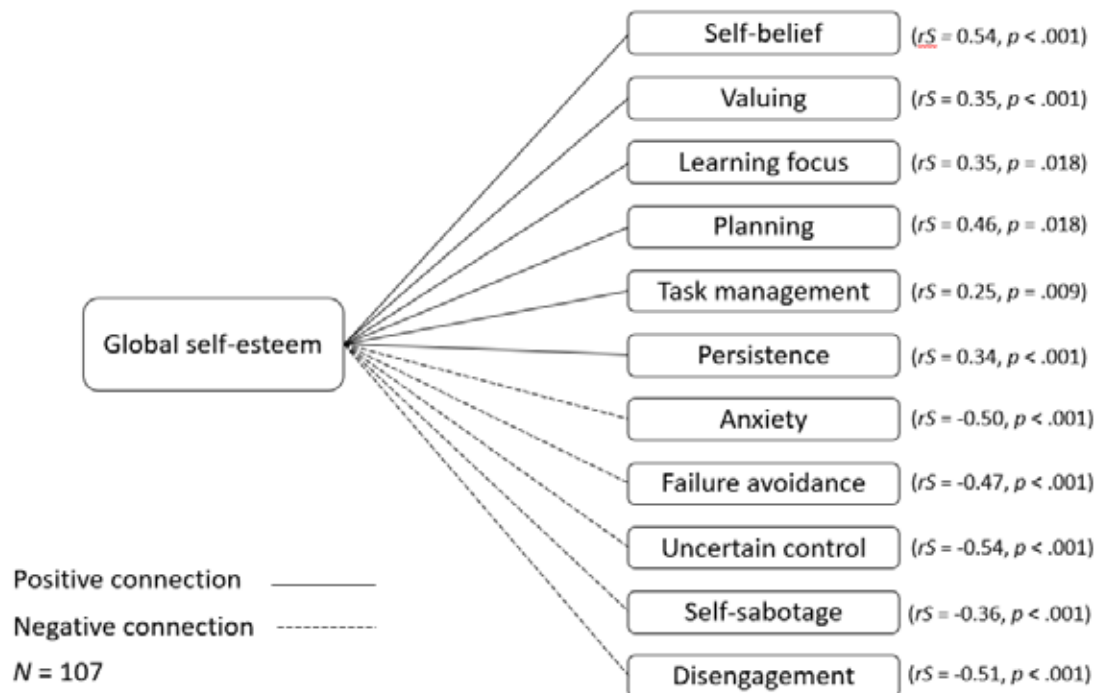

**Figure 1. Relationships between Global self-esteem and aspects
of Academic achievement motivation**

Significant relationships were found between aspects of State self-esteem and aspects of achievement motivation. State self-esteem was positively connected to Self-belief, Valuing, Planning, Task management and Persistence and negatively connected to Anxiety, Failure avoidance, Uncertain control, Self-sabotage and Disengagement.
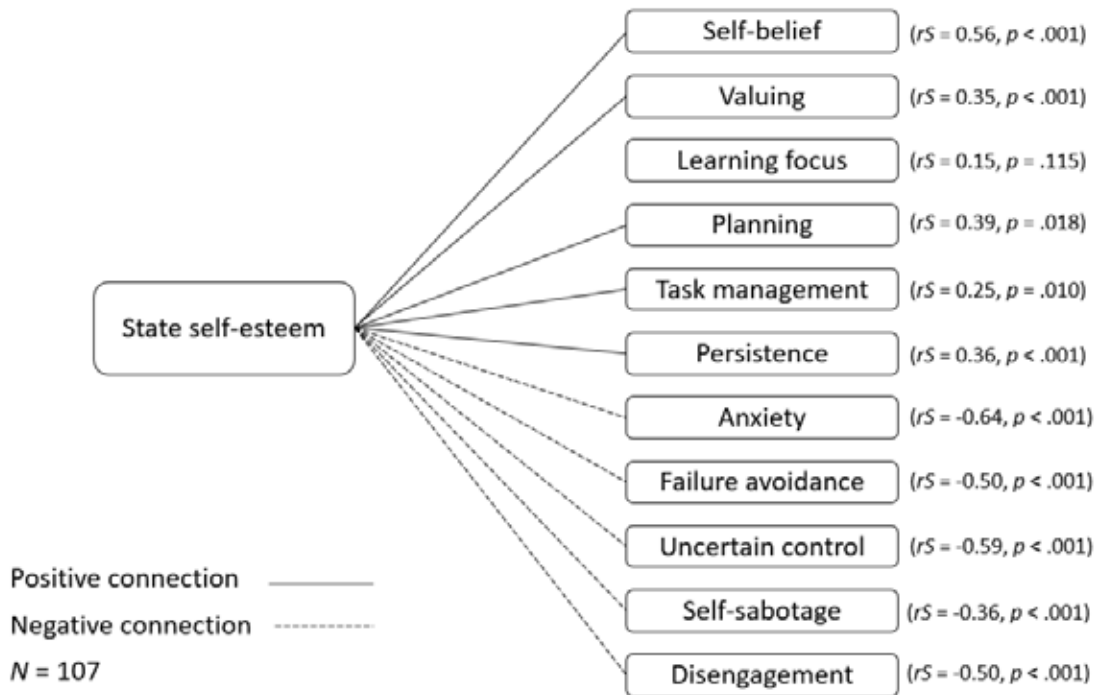
**Figure 2. Relationships between State self-esteem and aspects
of Academic achievement motivation**

Performance state self-esteem was positively connected to Self-belief, Valuing, Learning focus, Planning, Task management and Persistence and negatively connected to Anxiety, Failure avoidance, Uncertain control, Self-sabotage and Disengagement.

**Figure 3. Relationships between Performance state self-esteem and aspects
of Academic achievement motivation**

Social state self-esteem was positively connected to Self-belief, Valuing, Planning, Task management and Persistence and negatively connected to Anxiety, Failure avoidance, Uncertain control, Self-sabotage and Disengagement.
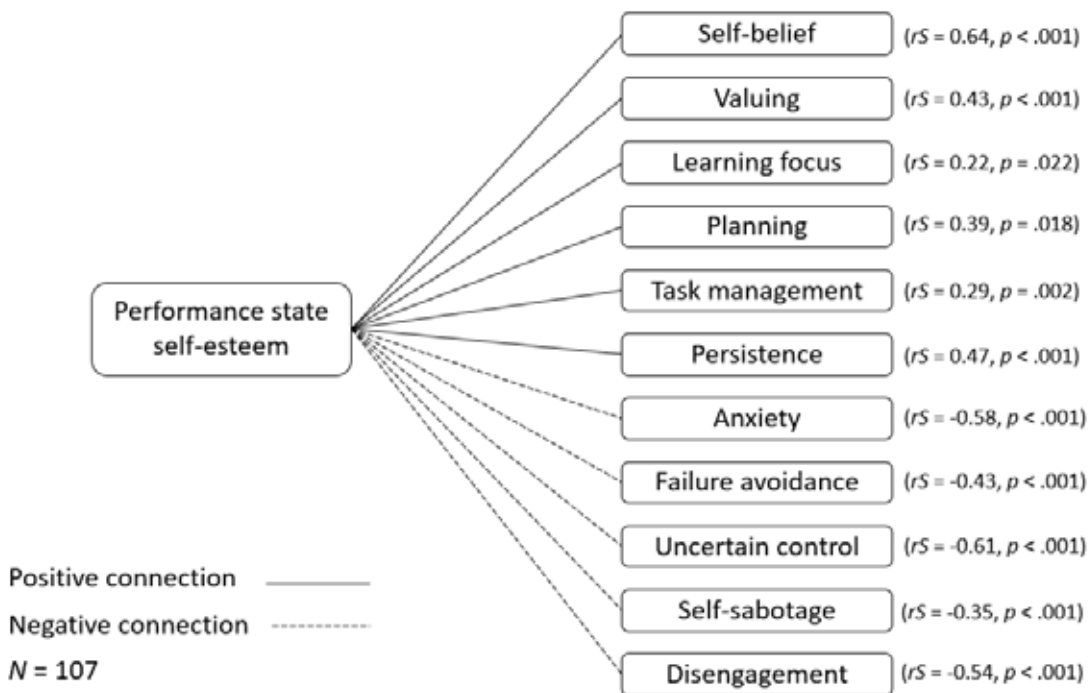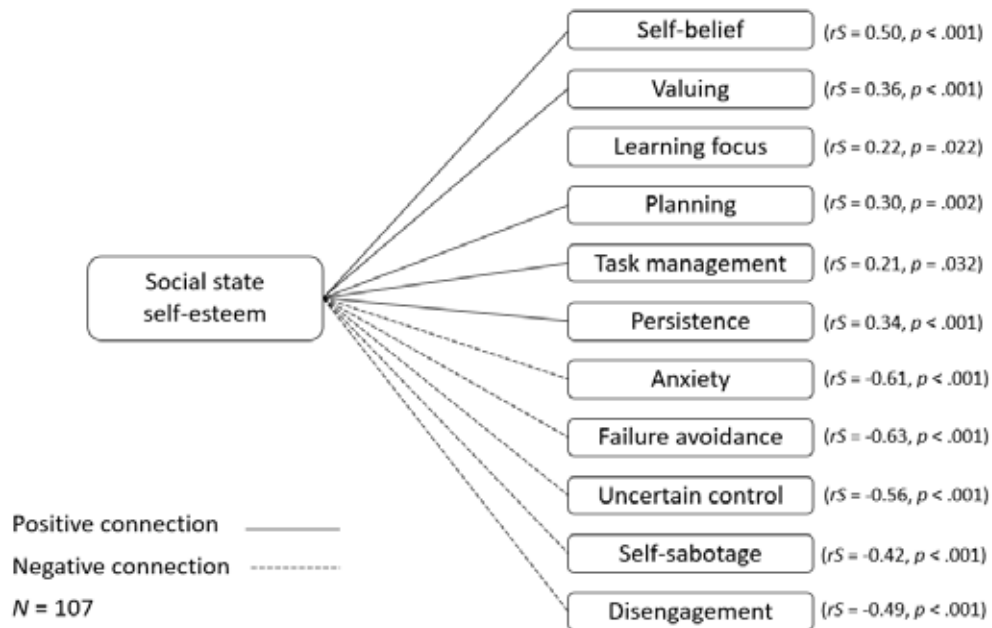

Self-belief	$(rS = 0.50, p < .001)$
Valuing	$(rS = 0.36, p < .001)$
Learning focus	$(rS = 0.22, p = .022)$
Planning	$(rS = 0.30, p = .002)$
Task management	$(rS = 0.21, p = .032)$
Persistence	$(rS = 0.34, p < .001)$
Anxiety	$(rS = -0.61, p < .001)$
Failure avoidance	$(rS = -0.63, p < .001)$
Uncertain control	$(rS = -0.56, p < .001)$
Self-sabotage	$(rS = -0.42, p < .001)$
Disengagement	$(rS = -0.49, p < .001)$

Positive connection ⎯⎯⎯
Negative connection ⋯⋯⋯
N = 107

**Figure 4. Relationships between Social state self-esteem and aspects
of Academic achievement motivation**

Appearance state self-esteem was positively connected to Self-belief and Planning and negatively connected to Anxiety, Failure avoidance, Uncertain control and Disengagement.
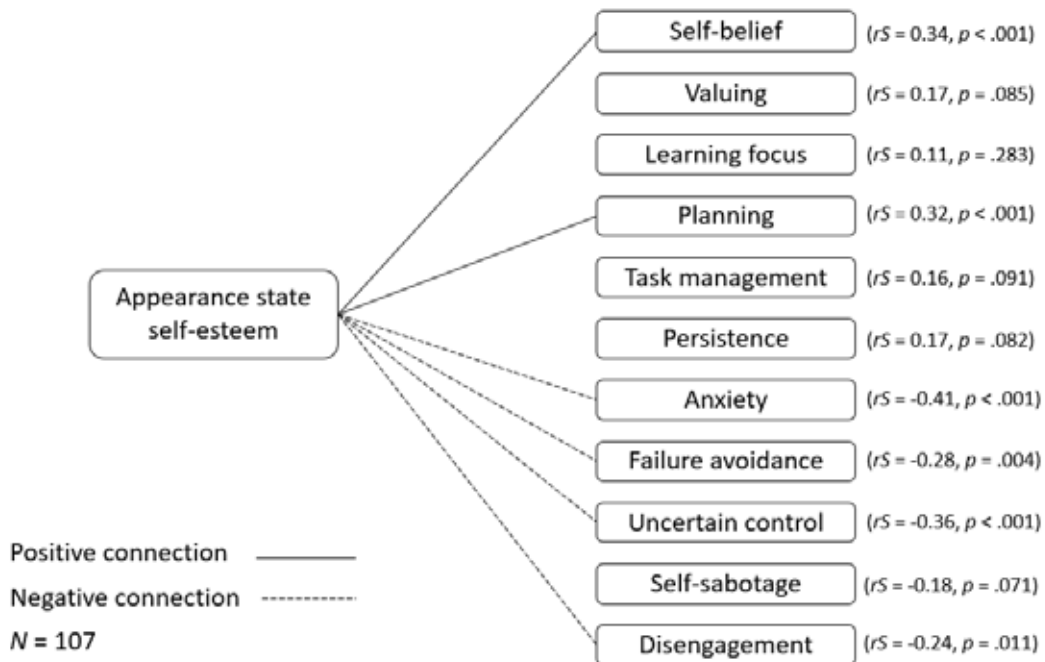

Self-belief	$(rS = 0.34, p < .001)$
Valuing	$(rS = 0.17, p = .085)$
Learning focus	$(rS = 0.11, p = .283)$
Planning	$(rS = 0.32, p < .001)$
Task management	$(rS = 0.16, p = .091)$
Persistence	$(rS = 0.17, p = .082)$
Anxiety	$(rS = -0.41, p < .001)$
Failure avoidance	$(rS = -0.28, p = .004)$
Uncertain control	$(rS = -0.36, p < .001)$
Self-sabotage	$(rS = -0.18, p = .071)$
Disengagement	$(rS = -0.24, p = .011)$

Positive connection ⎯⎯⎯
Negative connection ⋯⋯⋯
N = 107

**Figure 5. Relationships between Appearance state self-esteem and aspects
of Academic achievement motivation**

Significant relationships were found between aspects of Anxiety and aspects of achievement motivation. General anxiety was negatively connected to Self-belief, and positively connected to Anxiety, Failure avoidance, Uncertain control, Self-sabotage and Disengagement.
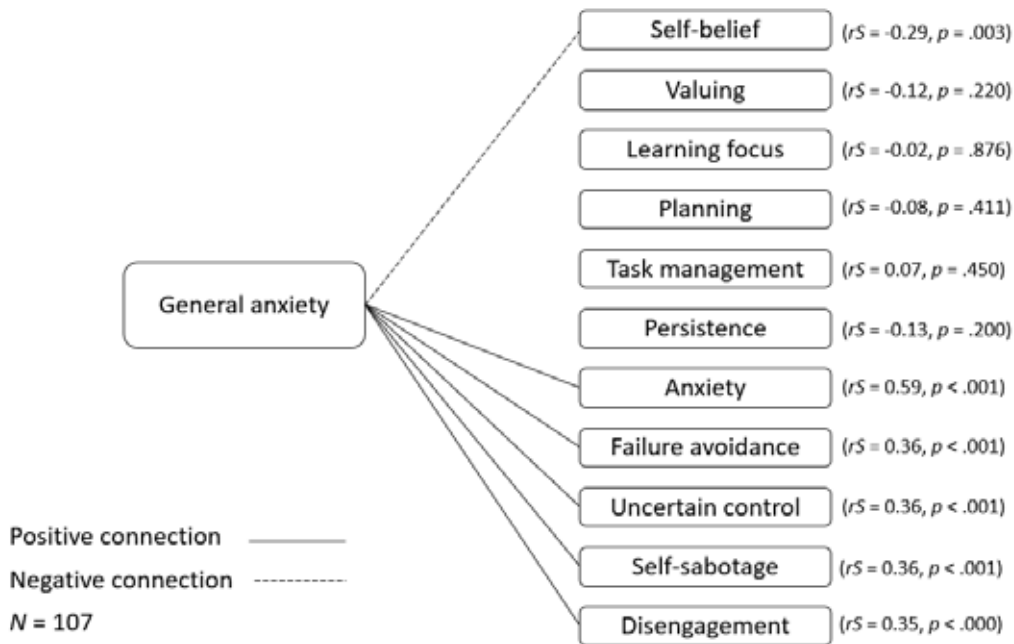

**Figure 6. Relationships between General anxiety and aspects
of Academic achievement motivation**

Trait anxiety was negatively connected to Self-belief, Valuing, Planning and Persistence and positively connected to Anxiety, Failure avoidance, Uncertain control, Self-sabotage and Disengagement.

**Figure 7. Relationships between Trait anxiety and aspects
of Academic achievement motivation**

State anxiety was negatively connected to Self-belief, Valuing, Planning and Persistence and positively connected to Anxiety, Failure avoidance, Uncertain control, Self-sabotage and Disengagement.
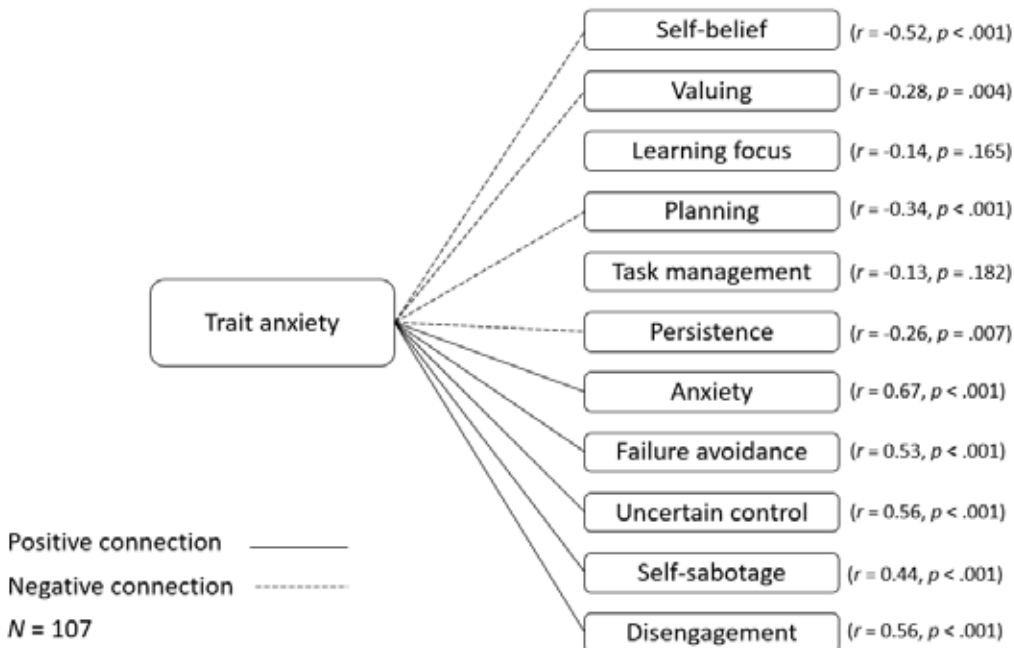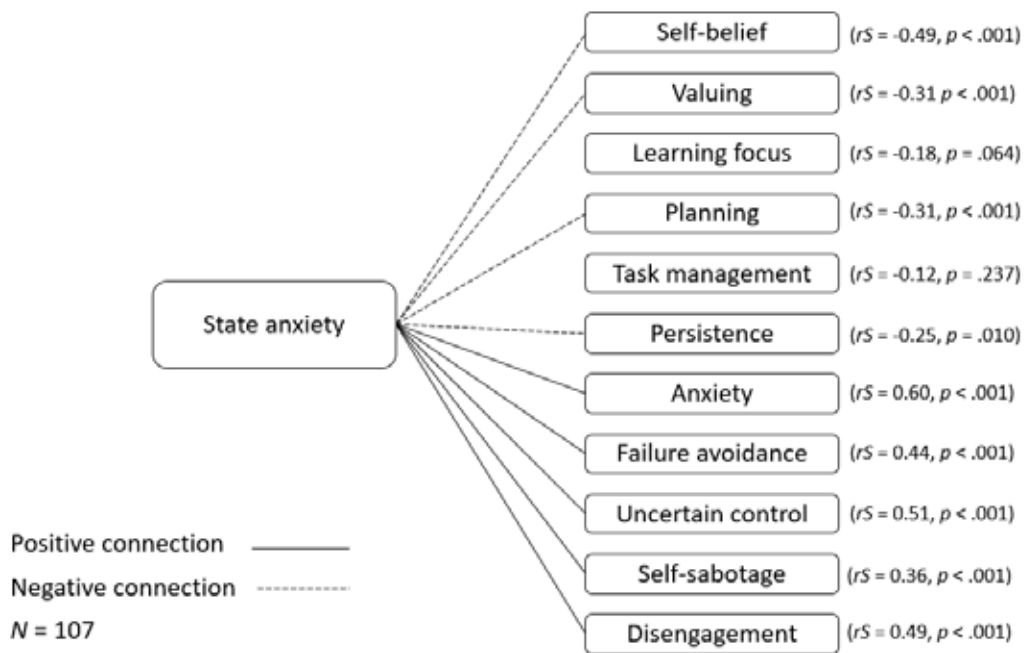

Self-belief	(rS = -0.49, p < .001)
Valuing	(rS = -0.31 p < .001)
Learning focus	(rS = -0.18, p = .064)
Planning	(rS = -0.31, p < .001)
Task management	(rS = -0.12, p = .237)
Persistence	(rS = -0.25, p = .010)
Anxiety	(rS = 0.60, p < .001)
Failure avoidance	(rS = 0.44, p < .001)
Uncertain control	(rS = 0.51, p < .001)
Self-sabotage	(rS = 0.36, p < .001)
Disengagement	(rS = 0.49, p < .001)

Positive connection ——————
Negative connection ------------
N = 107

**Figure 8. Relationships between State anxiety and aspects
of Academic achievement motivation**

Discussion. The results demonstrated that both Global and State aspects of self-esteem was connected with academic achievement motivation (AAM) in a positive manner. This coincides with results from previous research (Fathi-Ashtiani, 2007; Nwankwo et al., 2013; Basco & Han, 2016; Bhatt & Bahadur, 2018; Olaoye, 2018).

Global, state and performance self-esteem were positively connected with every positive aspect of AAM (self-belief, valuing, learning focus, planning, task management and persistence) and negatively connected with every negative dimension (anxiety, failure avoidance, uncertain control, self-sabotage and disengagement). This means, that when self-esteem increases, the positive aspects of academic achievement motivation increase and vice versa.

Few possible explanations for these connections follow. Positive self-evaluation is known to be a predictor for self-esteem (Brown et al., 2001). This would explain the positive relation with Self-belief aspect of AAM. Positive evaluations about one's abilities may also explain the connection with Learning focus, Planning, Task management and Persistence through expectancy-value theory (Wigfield & Eccles, 2000), as the individual, who believes in his or her ability to achieve desired outcomes may be more likely to engage in tasks, which lead to the desired outcome (McClelland, 1961). Inversely, the same may explain the negative connection with Failure avoidance, Uncertain control and Disengagement aspects of AAM, as the individual who does not believe in one's abilities and thus views failure as likely outcome may be prone to avoiding study-related tasks or to feeling disinterested towards them.

The connection between self-esteem and self-sabotage may be explained by attribution theory (Weiner, 1974). When the individual knows, that the failure at task is result of their own self-sabotaging behaviors, it may affect their self-evaluations less negatively than in a situation, in which individual fails despite their best efforts. In other words, it is easier to accept self-caused failure than attribute the failure to lack of skills or other negative characteristics, as the latter may lead to higher self-threat.

In this way, self-sabotaging behaviors may be viewed as an attempt to create opportunity structures mentioned by Cast & Burke (2002), which are created to protect the individual's self-esteem.

Connection between self-esteem and Valuing may be explained from the perspective of sociocultural theories of self-esteem. In a culture, which values education and academic success, the individual may be prone to valuing these highly, because the surrounding culture does so as well (Harmon-Jones et al., 1997). Additionally, as valuing of education boosts motivation to complete one's studies in successful manner (Liem & Martin, 2012), then putting in effort may be seen as an attempt to create an opportunity structure (Cast & Burke, 2002), which would boost individual's self-esteem in the long run. Thus, the connection with Valuing may result from a strategy to keep one's self-evaluations positive, as failure would possibly result in individual's self-evaluations turning negative, leading to increased self-threat (Cast & Burke, 2002).

As for the connection between self-esteem and Anxiety aspect of AAM, the explanation seems straightforward. Self-esteem is known to be negatively connected to anxiety in students (Fathi-Ashtiani, 2007; Basco & Han, 2016) and the same effect is observed here as well.

It was found, that every investigated aspect of anxiety was negatively connected with AAM. This means, that when anxiety increases, AAM decreases and vice versa. This coincides with the previous research on the same topic (Mehrabian, 1994; Fathi-Ashtiani, 2007; Basco & Han, 2016). General anxiety was negatively connected with Self-belief aspect of academic achievement motivation and positively connected with all aspects of negative motivation and engagement. Negative connection with self-belief and positive connection with Uncertain control may be explained by cognitive-evaluative element in anxiety (Eyesenck, 2000). Individuals, who have low belief in their abilities are more prone to evaluate situations as too difficult or too threatening, elevating their anxiety levels. The same may explain the connection with Failure avoidance, as individuals with low belief in their abilities may be more prone to avoiding situations, which may result in failure, as the failure seems more likely when individuals perceive their abilities as lacking (McClelland, 1961; Wigfield & Eccles, 2000).

Connection with failure avoidance may also be partly explained by individual anxiety sensitivity (Eysenck, 1957), as persons who are more sensitive to experiencing anxiety may more likely choose to avoid situations, which may result in failure as to avoid experiencing the resulting anxiety. Another similar explanation may be found in attentional bias (Eysenck, 1957), as individuals high on attentional bias may be more effective in identifying threatening situations and then choosing to avoid them.

Connection of anxiety with Self-sabotage may be explained by the attribution theory (Weiner, 1974) and the need to protect one's self-worth (Want & Kleitman, 2006). When an individual attributes their failure to self-sabotaging behaviors, their self-worth is better protected than when the failure ensues despite the individual trying hard to achieve success.

Connection of anxiety with Disengagement may be explained through the factor of enjoyment. When individuals enjoy what they are doing, they are more likely to keep engaging with that task. Because anxiety reduces enjoyment, it also increases disengagement (Martin et al., 2012). Same may apply inversely to the negative connection between anxiety and Persistence, as the individuals who do not enjoy their task are less likely to persist in doing them.

The limitations of the study include its purely correlational nature. Full sample was also processed without dividing it into groups such as by gender, age or student level (high versus low achievers). Future research should address this, as different groups may exhibit different connections.

Conclusions. It was found that global and state self-esteem were positively connected with academic achievement motivation. This means, that when self-esteem increases, academic achievement motivation increases and vice versa. It was also found, that general, trait and state anxiety were negatively connected with academic achievement motivation. This means, that when anxiety increases,

academic achievement motivation decreases and vice versa. For subscales of academic achievement motivation, it was found that both global and state self-esteem were positively connected to every positive subscale of academic achievement motivation and negatively connected to its every negative subscale. This suggests that students with higher self-esteem have higher self-belief, value their studies more, are more focused on learning, engage in more planning behaviours, are better at task management and are more persistent. They are also less anxious, failure avoidant and experience less uncertain control. They engage in less self-sabotaging behaviours and are more engaged than students with low self-esteem.

It was also found that both trait and state anxiety were negatively connected to every positive subscale of academic achievement motivation and positively connected to every negative subscale of academic achievement motivation. This suggests that students with higher anxiety have less self-belief, value their studies less, engage in less planning behaviours and are less persistent. They are more anxious, failure avoidant and experience more uncertain control. They engage in more self-sabotaging behaviors and are less engaged than students with low anxiety.

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