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ACHIEVEMENT MOTIVATION AND REGULATORY
EMOTIONAL SELF-EFFICACY IN UNIVERSITY STUDENTS

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Abstract

Several studies examined students' motivation in school context; however little research has focused on the link between achievement motivation and emotional self-efficacy in university students at risk for dropping out. Some research questions still persist about the differences between regular and non-regular students regarding their achievement motivation and their regulatory emotional self-efficacy. The research we are presenting aims to analyze the differences between regular and non-regular university students regarding their orientation to objective and their regulatory emotional self-efficacy. This study also aims to explore whether self-efficacy in regulating emotions is a significant predictor of achievement motivation. One-hundred university students completed the emotional self-efficacy scales and the achievement motivation scale. We used the analysis of variance to explore the differences between regular and non-regular students. Then we used the linear multiple regression analysis to verify whether self-efficacy competencies in regulating emotions are significant predictors of the achievement motivation. Results show that achievement motivation and self-efficacy in regulating negative emotions are significantly higher in regular students than non-regular. The regression analysis has shown that self-efficacy in negative-emotions regulation and academic self-efficacy can be predictive of achievement motivation. These findings suggest the importance of developing students' awareness of emotional self-efficacy and self-regulation, in order to improve their motivation to successful goals. This is important not only at school, but also at university, to implement interventions more focused on the motivational and emotional dimensions of learning to prevent drop-outs.

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Keywords: Achievement motivation, emotional self-efficacy, academic self-efficacy, university drop-out.



1. Introduction

Several studies examined students' motivation in school context (Ames & Archer, 1988; Ames, 1992; Dweck, 1999), however little research has focused on the link between achievement motivation and emotional self-efficacy in university students at risk for dropping out (Pedditi & Spigno, 2012; Ucar & Semra, 2017; Fritzsche, Schlingensiepen, & Kordts-Freudinger, 2018). Some of them, in educational psychology, examined students' motivation in school context, using the Goal Theory Approach to discuss research into motivation to learn (Elliot & Hulleman, 2017; Sommet & Elliot, 2017; Jamieson & Elliot, 2018). Students' engagement in academic activities is motivated by a complex set of achievement goals. Elliot and Dweck (1988) defined an achievement goal as a program of cognitive process that have cognitive, affective and behavioural consequences. Many authors in the research literature consider two types of achievement goals constructs: mastery goals and performance goals. On one side, students who are oriented to mastery goals usually try to develop new skills and show an inherent motivation to learning. On the other side, students who are oriented to performance goals usually focus on their own ability and a personal sense of self-worth and competitiveness. McClelland (1961) consider motivation to succeed as the need to do things at best for an intrinsic desire to achieve success, avoid the failure and become competent in certain activities. In his theory, McClelland defines the need for realization (achievement) as a need of the individual to do activities successfully. Performance at school is also affected by emotions (Muis, Ranellucci, Franco, & Crippen, 2013; Ksenija Lj, 2016). Moreover, several recent studies (Magnano, Craparo, & Paolillo, 2016) confirm the importance of emotions' regulating abilities and their role in motivational processes.

1.1. Emotional self-efficacy

Bandura's socio-cognitive theory (2013; 2018) defines self-efficacy as the subjective perception about one's own ability to achieve the expected results regarding some specific task and is intended both in reference to academic self-efficacy and self-efficacy in emotions' self-regulation process. Regarding emotional self-efficacy, this term refers to the ability to properly regulate positive and negative emotions (Caprara & Gerbino, 2001), and to the strategies and ways in which people are able to influence the emotions they experience, when they experience them and how they express them. Positive emotions are a first order factor, while negative emotions are a second-order one represented by two first order factors: self-efficacy in the management of despondency/distress and self-efficacy in the management of anger/irritation (Gunzenhauser, Heikamp, Gerbino, Alessandri, von Suchodoletz, Di Giunta, Caprara, & Trommsdorff, 2013). The most reported emotion in the educational context is anxiety (Pekrun and Stephens, 2010) and joy and boredom are frequently reported (Pekrun, Lichtenfeld, Marsh, Murayama, & Goetz, 2017). Regarding academic success, previous research has revealed that positive academic emotions (for example, pleasure) are positively related to future academic success, while negative ones (for example, boredom or anxiety) are negatively connected (Pekrun & Stephens, 2010; Putwain, Remedios, & Symes, 2015).

1.2. Connection between emotional self-efficacy and motivational process

Several studies focus mainly on the relationship between academic self-efficacy, motivation to mastery and performance goals, on emotional intelligence and motivation to learn (Gharetepeh, Safari, Pashaei, Razaeei, & Kajbaf, 2015; Rowe, Fitness, & Wood, 2015; Umaru & Umma, 2015; Edossa, Schroeders, Weinert, & Artelt, 2018; Somayyeh, Manizheh, & Manouchehr, 2018). Few studies focus instead on emotional self-efficacy in the self-regulation of positive and negative emotions and achievement motivation in university students. A recent research by Ucar and Semra (2017) examines the relationships between classroom goal structure perception variables, engagement, self-efficacy, and science achievement in 744 seventh-grade students. The study has found that students who have high self-efficacy and who are behaviorally, emotionally, and cognitively engaged are more successful in science classes. One research by Vassiou, Mouratidis, Andreou and Eleni (2016) show that performance at school is affected not only by students' achievement goals but also by emotional exchange among classmates and their teacher. Results from multilevel analyses has indicated that students' mastery-approach and performance-approach goals were positively related to positive affect whereas performance-avoidance goals were negatively related to positive affect. At class-level, relationships between achievement goals and affect were moderated by students' emotion perception ability. These findings highlight the importance of emotion abilities and their role in motivational processes for class-level outcomes.

Another research by Fritzsche, Schlingensiepen, and Kordts-Freudinger (2018) focus specifically on University's students' drop out, showing that emotions, self-efficacy and subscales of motivation explain variance in student achievement, supporting the importance of these aspects. The school and university's dropping out is becoming an increasingly important topic; data suggest that approximately one third of university students leave university in the first year (Organization for Economic Cooperation and Development, 2012). There is evidence that negative academic emotions correlate with the voluntary withdrawal from the university course, unlike positive emotions (Ruthig, Jones, Vanderzanden, Gamblin, & Kehn, 2007; Robinson Ruthig, Jones, Vanderzanden, Gamblin, & Kehn, 2017). Again, negative emotions tend to be higher in students who abandon their studies than those who complete them.

1.3. The predictive effects of academic emotions on motivation to learn

The predictive effects of academic emotions on success appear to be mediated by motivation, learning strategies and self-regulation (Pekrun, Goetz, Frenzel, Barchfeld, & Perry, 2011; Davis, Solberg, De Baca, Gore 2014; Mega, Ronconi, & De Beni, 2014; Ruthig, Jones, Vanderzanden, Gamblin, & Kehn, 2017; Putwain, Aveyard, 2018). A research by Mega, Ronconi, and De Beni (2014) analyzed how students' emotions influence their motivation and self-regulated learning and these, in turn, affect academic success; it has focused on the key role of emotions in academic success and also on the key role emotions play in academic contexts. The results show that motivation and self-regulated learning mediate effects of emotions on academic success. Moreover, positive emotions favor academic success only when they are mediated by motivation and self-regulated learning. According to the control-value theory (Pekrun, 1998), the model postulates that students' emotions affect their motivation and self-regulated learning and these, in turn, affect academic success. Another research has revealed that emotions predict achievement goals (Pekrun et al., 2011; Flanagan, Putwain, Caltabiano, 2015). Furthermore, positive

emotions have a greater weight on motivation and self-regulated learning than negative emotions. These results highlight and demonstrate the relevance of positive emotions for self-regulation strategies and for motivation to learn. However, some studies on achievement goals have shown that their effects on academic success are mediated by emotions (Daniels, Stupnisky, Pekrun, Haynes, Perry, & Newall, 2009; Pekrun, Elliot, & Maier, 2009; Putwain, Symes, & Remedios, 2015). An interesting result is that the effect of motivation on academic success is even double than self-regulated learning. This result underscores the fact that different aspects of motivation help to promote and sustain academic success. Finally, the results show that the influence of emotions on academic success depends on the interaction between self-regulated learning and motivation. In particular, positive emotions influence positively academic success when they are mediated by self-regulated learning and motivation (Putwain & Pescod, 2018). Therefore, positive emotions are not sufficient to guarantee success alone: self-regulated learning and motivation are also necessary. This implies that the influence of emotions on the result is inevitably complex and require more research to provide a deeper understanding on how emotions model the academic commitment of students. In light of these considerations, we have decided to investigate these specific aspects further.

2. Problem Statement

Error! Bookmark not defined.The present research focuses on the issue of self-efficacy and achievement motivation in university students and focuses, in particular, on the relationship between emotional self-efficacy and achievement goals. The choice of this topic is linked to current developments in the literature on self-efficacy in the self-regulation of emotions, which are a topic on border between the socio-cognitive theory and the most up-to-date perspectives on the subject of emotional competence and self-regulation of learning at school, in particular with reference to the problems of academic failure and dropping-out. Data on university dropping-out (Organization for Economic Cooperation and Development, 2012) suggest that this phenomenon is widespread in Italy and in the world and that the psychological variables, in particular the motivational ones, are decisive in guiding students to success or failure (Respondek, Seufert, Stupnisky, & Nett, 2017). We decided to contribute to the research on the relationship between self-efficacy in the emotions' self-regulation and achievement goals of university students, with a research carried out at the University of Cagliari. Research has been focused in particular on differences, regarding these variables, between regular students and non-regular students.

3. Research Questions

Some research questions still persist about the differences between regular and non-regular students regarding their achievement motivation (McClelland, 1985; Borgogni, Pettita, & Barbaranelli, 2004) and their regulatory emotional self-efficacy (Bandura, 2013). Starting from the findings about a connection between emotional self-efficacy and achievement motivation, specifically regarding performance goals construct, in university students, the present study aims to explore the following specific questions:

- Are there significant differences between regular and non-regular university students regarding their orientation to objective?
- Is self-efficacy in regulating emotions a significant predictor of achievement motivation?

4. Purpose of the Study

This study aims to contribute to understanding the relationship between emotional self-efficacy and achievement motivation in university students, specifically the differences between regular and non-regular students, regarding their orientation to objective (Borgogni et al., 2004; Paciello, Ghezzi, Tramontano, Barbaranelli, & Fida, 2016; Barbaranelli, Paciello, Biagioli, Fida, & Tramontano, 2018) and their regulatory emotional self-efficacy (Bandura, 2013). This research also aims to explore whether self-efficacy in regulating emotions is a significant predictor of achievement motivation. The presentation of the study conducted and respective results of variance analysis and linear multiple regression analysis will follow.

5. Research Methods

The present research is a descriptive study and it uses the inquire method. It is based on a survey carried out using some questionnaires on emotional self-efficacy and achievement motivation, with university students attending the 3rd year in the Degree Course of Science and Psychological Techniques, Faculty of Humanistic Studies, University of Cagliari, during 2016/2017 academic year.

5.1. Participants Error! Bookmark not defined.

One-hundred university students (20% males and 80% females), attending the 3rd year of the Degree Course of Science and Psychological Techniques, Faculty of Humanistic Studies (University of Cagliari, during 2016/2017 academic year) completed the emotional self-efficacy scales and the achievement motivation scale. To the question: "Have you ever thought about retreat?" 40% of students answered "yes" and 60% said "no". 40% of the students are regular with their examinations, 60% no.

5.2. Instruments

We used the Achievement Motivation Scale (Borgogni, Pettita and Barbaranelli, 2004) to assess achievement motivation. Borgogni et al. (2004) refer in particular to the theories of McClelland (1961), who consider motivation to succeed as the need to do things at best for an intrinsic desire to achieve success, avoid the failure and become competent in certain activities. We used the Orientation to Objective Scale (Borgogni et al. 2004) that shows how much a person usually gives the best of himself /herself and how much he/she is able to measure himself /herself with tasks with increasing difficulties. It is made by 11 items such as, for example: "I usually look for all the opportunities to put me to the test" and "I like difficult activities and challenges". The 11 items are evaluated on a 7-point Likert scale (from 1 = Very disagree to 7 = Very much agree). The goal orientation scale has an internal consistency of .95.

Regarding the emotional self-efficacy, we used both Perceived Self-efficacy in the Management of Negative Emotions Scale and Perceived Self-efficacy in the Expression of the Positive Emotions Scale (Caprara & Gerbino, 2001). The version for teenagers and adults is made by 8 items such as, for example: "How much are you able to overcome frustration if others do not appreciate you as you would like?" and "How much are you able to keep calm in stressful situations?". For each item, a Likert scale includes 5 points (from 1 = Not at all capable to 5 = Completely capable). The scale showed a high reliability, equal to .82.

The second scale measures the beliefs about their own ability to be able to express positive emotions. The version for teenagers and adults is made by 7 items like, for example: "How much are you able to express your happiness when something beautiful happens to you?" and "How much are you happy to feel joy for your achievement?". For each item, a Likert scale includes 5 points: from 1 = Not at all capable to 5 = Completely capable. The scale showed a high reliability, equal to .82.

The Perceived Scholastic Self-efficacy Scale (Pastorelli e Picconi, 2001) measures the beliefs that students have about their ability to regulate their own motivation and academic activities, to find support to personal learning and finding effective ways of studying. The scale consists of 12 items, such as: "How much are you able to finish your study activities on time at home?" and "How much are you able to engage in study activities when you have other interesting things to do?" Each item is evaluated on a 5-point scale (from 1 = Not at all capable to 5 = Completely capable). The scale's reliability was equal to .86. The beliefs of school self-efficacy play a crucial role with respect to academic success; and the reinforcement of perceived academic self-efficacy is important to promote academic performance.

5.3. Statistical Methodology

We verified the internal coherence of all scales (Cronbach Alpha= .86 for the Achievement Motivation Scale; .84 for the Self-efficacy in negative emotions; .82 for the Self-efficacy in positive emotions; and .85 in the Academic Self-efficacy scale). We subsequently carried out a one-way analysis of variance according to the Achievement Motivation so as to detect significant differences between regular and non-regular students. A further one-way analysis of variance was carried out to verify the existence of significant differences between regular and non-regular students regarding the self-efficacy.

Finally, we carried out a linear regression analytical procedure. We used a single confidence level specified on a priori basis (95% of confidence level). We used a multiple regression model to try to predict "achievement motivation" combining as predictors "Self-efficacy in regulating negative emotions", "Self-efficacy in the expression of positive emotions" and "Academic Self-efficacy".

6. Findings

6.1. Differences between students with regular examinations and not

Error! Bookmark not defined. The analysis of variance, applied to the independent variable "students with regular examinations showed the following results.

Table 1. Differences between regular students and non-regular students

Scales	Regular examinations	N	Means	S.D.	Gdl	F	Sig
Achievement motivation	yes	40	5,86	,683	1	5,40	,020
	no	60	5,55	,657			
Self-efficacy in regulating negative emotions	yes	40	3,36	,668	1	5,20	,022
	no	60	2,92	,669			
Self-efficacy in the expression of positive emotions	yes	40	4,15	,637	1	,41	,44 n.s.
	no	60	4,22	,552			

One-Way Anova (N = 100; sig. < .05)

There are statistical differences between regular and non-regular students regarding achievement motivation (F = 5.40; sig. = .020) and self-efficacy in regulating negative emotions (F = 5.20; sig. = .022). Regular students are more motivated to succeed than non-regular ones. Furthermore, self-efficacy in the control of negative emotions is higher in regular students. Regarding the self-efficacy in the expression of positive emotions, no significant differences were found between the regular students (N = 40) and non-regular ones (N = 60).

6.1. Predictors of achievement motivation

Error! Bookmark not defined. In order to identify which dimensions of academic self-efficacy and self-efficacy in the management of positive and negative emotions are more closely associated with the achievement motivation, we used a multiple linear regression analysis (enter method).

Table 2. Criteria: achievement motivation

Scales	Beta	t	Sig.
Academic Self-efficacy	,482	5,746	,000
Self-efficacy in regulating negative emotions	,315	3,859	,000
Self-efficacy in expressing positive emotions	,059	,779	,440 n.s.
Model's fit	R=,666	R ² = ,444	R ² adjusted= ,428
	N=100	F=26,740	Sig= ,000

Regression Analysis **Error! Bookmark not defined.** (N = 100; sig. < .05)

Both academic and emotional self-efficacy are predictors of achievement motivation and are able to explain as many as 44% of the variance of the model (R²adjusted= .428; F=26,740; Sig.= ,000). The factors that most inform about the variations of the investigated criterion are academic self-efficacy (β =.482; t=5,746; Sig.= .000) and self-efficacy in negative emotions regulation (β =.315; t=3,859; Sig.= .000).

6.2. Discussion

The results of this research show that there are significant differences between regular and non-regular students, regarding achievement motivation and self-efficacy in controlling negative emotions. In fact, it has emerged that regular students have a stronger achievement motivation compared to non-regular ones and that they can handle their negative emotions better than non-regular students.

Specifically, it emerges that knowing how to control negative emotions is one predictor of achievement motivation. There is evidence that negative academic emotions correlate with the voluntary withdrawal from the university course, unlike positive emotions (Ruthigh et al., 2007, 2008; Robinson et al., 2017). This is confirmed by the fact that the Scale of Perceived Self-efficacy in the expression of positive emotions consists mostly of items such as: "How much do you feel capable to express your happiness when something beautiful happens to you?"; while the Perceived Self-efficacy in the Management of Negative Emotions Scale consists of items like: "How much do you feel able to avoid discouraging yourself facing adversities?" and "How much do you feel capable to keep calm in stressful situations?" Again, negative emotions tend to be higher in students who abandon their studies than those who complete them. Moreover, previous research has revealed that positive academic emotions are positively related to future academic success, while negative ones are negatively connected (Pekrun & Stephens, 2010; Putwain, Remedios, & Symes, 2015).

7. Conclusion

In conclusion, with this research we wanted to explore more deeply the topic of emotional self-efficacy and achievement goals in the university context. A review of previous research was useful in order to understand which are the most recent developments in this field. As we have seen, research in educational psychology has shown that learning is influenced by motivational and emotional factors. Indeed, empirical research on classroom learning shows that students usually experience a very wide range of positive and negative emotions (Pekrun, 1998). Emotions have an influence on perceived academic self-efficacy, on learning motivation, flexibility and the constitutive processes of thought. They are strongly linked to the interest, to effort focused on the task and, which seems to be most important, to a daily teaching orienting to success. Students' emotions, like teachers' ones, are therefore important for learning. As a consequence, it is fundamental for educators as well as for researchers to discover the ways in which emotions can influence teaching and learning in the classroom. In particular, our research, conducted with university students of the course of degree in Psychological Sciences and Techniques of the University of Cagliari, shows that self-efficacy in the self-regulation of negative emotions and academic self-efficacy are able to affect the motivation to the students' achievement goals. The analysis of regression also highlights that not only academic self-efficacy, but also self-efficacy in the control of negative emotions is a significant predictor of motivation to succeed. Therefore, in university contexts, and not only in the scholastic ones, it is important to help students in the control of stress (Pedditzi, Nonnis, Massidda, 2016). It does indicate how important is to learn the way to control and manage specifically negative emotions. Future research and teaching methodologies should therefore take more into account emotions in education to foster and improve learning processes, specifically to prevent and reduce university drop-outs. Above all, because negative emotions are strongly linked to the risk of drop-

out in the first years of university studies, as indicated in the recent literature on this topic. Further research is needed to explore more deeply the relationship between positive and negative emotions, the ability to manage and express them, the ability to self-regulate their own learning through the use of effective study strategies and the orientation to achievement goals. Considering the findings from this research in University of Cagliari, it would be important to start thinking about university interventions that help students become aware of their negative emotions and teach students how to manage them.

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