Test anxiety and achievement goal orientations of students at a Romanian university

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Abstract

This study investigated the relations between students’ academic goals (mastery, performance-approach and performance-avoidance goals) and test anxiety (a set of physiological, emotional, cognitive and behavioral responses to an examination or to another evaluative context). One hundred and fifty-six students responded to surveys asking them about their academic achievement goals and about anxiety symptoms before, during, and after a test. Bivariate correlations suggested that mastery goals were negatively associated with test anxiety whereas performance-avoidance goals were positively associated with test anxiety.

1. Introduction

Students face throughout their academic experience with various evaluative situations. Success in examinations depends on various factors relating both to the student and the context of the examination. Knowing that successful completion of studies may increase the chance of obtaining a better job it is necessary to identify the factors involved and appropriate measures to enable students to achieve this objective. In this paper we aim to emphasize

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the relationship between two dimensions related to academic achievement widely studied in the literature: test anxiety and students' achievement goal orientations.

2. Theoretical background

2.1. Test anxiety

In modern society, when decisions are to be taken with regard to individuals in different contexts (education, work) the results obtained to tests are frequently taken into account. Sometimes determining factors in the life of individuals, assessments have become stimuli that cause anxiety reactions (Zeidner, 1998).

Test anxiety "refers to the set of cognitive, affective, and behavioral reactions that accompany concern over possible negative consequences contingent upon performance in a test or evaluative situation" (Zeidner, 1998, pp. 25-26). This involves "excessive fear, negative cognitions of one's own ability to deal with the evaluative situation, thoughts with regard to failure, and apprehension before, during and/or after the testing situation" (Robu, 2011, p. 32). Spielberger et al. (1978) define test anxiety as "a situation-specific anxiety trait" (as cited in Spielberger and Vagg, 1995, p. 7).

Liebert and Morris (1967) emphasize two factors of test anxiety: cognitive factors ("worry" or "lack of confidence") and factors related to the activation of the autonomic nervous system ("emotionality"). The first dimension refers to the negative cognitions about one's own performance on the test, and the second concerns physiological reactions in relation to the evaluative situation.

In the educational context, it has been shown that test anxiety negatively influences the results, correlating with poor cognitive performance and psychological distress (Gaudry and Spielberger, 1971; Hembree, 1988; Powers, 1986; Zeidner, 1990) (as cited in Zeidner, 1998), even if the student possesses the skills required for success. Researchers (Morris and Liebert, 1969; Wine, 1971, Sarason, 1972, Covington, 1984) observed that low performance on tests correlate primarily with Worry component, explaining these results by the fact that negative thoughts such as self-criticism affect the ability to focus the attention on the task (as cited in Spielberger and Vagg, 1995). Studies do not indicate a relationship between Emotionality component and performance (Spielberger and Vagg, 1995).

Students with high levels of test anxiety tend to perceive evaluative situations as personal threats (Zeidner, 1998). They are characterized by low self-efficacy, self-deprecatory negative cognitions, anticipatory cognitions related to failure and intense emotional reactions. Students with low levels of test anxiety perceive evaluative situations as challenges, positively interpret the emotions felt, have a high level of self-efficacy and channel their energy into solving tasks (Robu, 2011). I. G. Sarason (1975, 1984), comparing students with a high level of test anxiety with students with low levels of test anxiety, showed that the former manifested in a greater degree a self-critical attitude and concern irrelevant to the task than the latter (as cited in Spielberger and Vagg, 1995). Liebert and Morris (1967) identified a negative correlation between students' expectations about their own performance and Worry, while Emotionality did not correlate with expectations (as cited in Spielberger and Vagg, 1995). Students with high levels of test anxiety show low study and test-taking skills, such as organization of information, encoding and self-monitoring; they exhibit avoidance behavior in testing situations, such as procrastination (Zeidner, 1998).

Studies undertaken on Romanian population point out aspects also reported in the international literature.

Thus, in a study involving high school students, Robu (2008a) identifies a level of test anxiety higher in girls than boys, with a higher effect size for the Emotionality component. In other studies, at the same age category, there was a negative correlation between test anxiety, on the one hand, and self-esteem, conscientiousness and self-efficacy on the other hand (Robu, 2012; Robu and Morarasu, 2008).

A study in which test anxiety has been investigated in a group of Romanian students revealed that those in the final year of study show a lower level of test anxiety (although the difference was not statistically significant) compared with students in the first and second year. The author of the study offers a number of explanations for this trend: final year students have greater experience with exams, are more accustomed to the style of evaluation of teachers, and are less motivated to achieve high grades in exams (Robu, 2008b).
In this study we aim to extend research on test anxiety to Romanian students, linking this phenomenon with another very important dimension of academic achievement, namely academic motivation.

2.2. Goal orientation theory

In the achievement motivation literature, the goal orientation theory explains motivation in terms of underlying goals of individuals’ engagement in activity. In this framework, researchers have sought to identify the types of goals pursued in achievement situations, highlighting the outcomes of different motivational orientations and were investigated context-related features that promote different motivational orientations (Midgley, 2002; Meece et al., 2006, Pintrich and Schunk, 2002, as cited in Kaplan and Maehr, 2007).

Goals were defined as "cognitive representations of the different purposes students may adopt in different achievement situations" (Dweck and Elliott, 1983; Dweck and Leggett, 1988, Ford, 1992, as cited in Pintrich, 2003, p. 109).

Research data showed that "adopting different orientations is associated with different quality of engagement in schoolwork as well as with different emotional experiences in school" (Ames, 1992; Dweck and Leggett, 1988, as cited in Kaplan and Maehr, 2007, p. 142).

Two main orientations are mentioned frequently in the literature, called mastery (learning) goals and performance goals.

Mastery goals orientation refers to the fact that the individual wishes to develop skills, to become competent. Students with this type of motivational orientation are interested in learning, understanding, and skills development. The authors state that learning goals orientation is consistently associated with self-efficacy, persistence, preference for challenge, self-regulation of learning and positive emotions (Ames, 1992; Dweck and Leggett, 1988; Elliot, 1999; Kaplan, Middleton, Urdan and Midgley, 2002b; Midgley, 2002; Pintrich, 2000; Urdan, 1997, as cited in Kaplan and Maehr, 2007). The conclusions, however, are not clear regarding the relationship between learning goals orientation and school performance (Elliot et al., 2005).

Performance goals orientation refers to the fact that the individual wishes to demonstrate competence (Ames, 1992; Dweck, 1986, as cited in Kaplan and Maehr, 2007). Performance-oriented students are concerned about how their abilities are perceived by others. As to the consequences of adopting performance goals in achievement situations the literature is not conclusive enough. Often were identified correlations between performance goals and maladaptive thoughts, emotions and behaviors (Ames, 1992; Dweck and Leggett, 1988). In contrast, other studies report weak or moderate correlations between performance goals and self-efficacy, the use of effective learning strategies, grades, attitudes and positive emotions (Elliot, 1999; Urdan, 1997) (as cited in Kaplan and Maehr, 2007).

Gradually, in goal orientation framework some conceptual reconsideration was made, adding the distinction between “approach” and “avoidance” orientations within the two sets of goals. The performance-approach dimension refers to the desire to succeed and to outdo others and performance-avoidance refers to the desire to avoid failure. Studies have shown that performance-avoidance goals are associated with low self-efficacy, anxiety, avoiding asking for help, low grades and self-handicapping strategies (Urdan, Ryan, Anderman and Hell, 2002). On the other hand, studies show that performance-approach goals positively correlated with task persistence, positive emotions and grades (Elliot, 1999; Harackiewicz et al., 2002b); however, some studies suggest that performance-approach goals are also related to negative behaviors and emotions such as anxiety, disruptive behavior and poor retention of knowledge (Midgley, Kaplan and Middleton, 2001) (as cited in Kaplan and Maehr, 2007).

Students endorsing mastery-approach goals focus on learning, optimizing their abilities and acquiring new skills, they will want to understand and learn as much as possible. Students endorsing mastery-avoidance goals are
concerned not to lose the skills acquired and will focus on avoiding misunderstanding and forgetting what they have learned (Finney, Pieper and Barron, 2004).

While mastery-approach goals associated in greater degree with adaptive outcomes, studies have shown a negative correlation of mastery-avoidance goals with intrinsic motivation (Cury et al., 2006) and positive correlations with negative emotions such as test anxiety and worry (Elliot and McGregor, 2001) (as cited in Kaplan and Maehr, 2007).

3. Objective and Hypotheses of the study

The aim of this study was to investigate the relationship between exams anxiety and achievement motivation in students. We aimed to assess test anxiety level in students, targeting the two components mentioned in the literature: worry and emotionality. Achievement motivation was assessed in this study from the perspective of goal orientation theory, the trichotomous framework: mastery goals, performance-approach goals and performance-avoidance goals.

Based on the research findings reported in the literature we have issued two hypotheses:

Students pursuing in achievement situations mainly performance-avoidance goals will report a high level of test anxiety (ie worry and emotionality).

Students oriented towards mastery goals will report a low level of test anxiety (ie worry and emotionality).

4. Method

4.1. Participants

Participants in this study were 156 students at a university in Romania belonging to different areas of specialisation: Computer Science (23.1%), Psychology (28.2%), History (20.5%), Communication Sciences (19.2%), and Law (9%). The age range of students was from 19 to 48 years, with a mean age of 23.18 years (s = 5.74 years). Most of the students (75.6%) fall in the age group 19-22 years. 57 (36.5%) were male and 99 (63.5%) females. The distribution of students by year of study: first year - 50 (32.1%), second year - 45 (28.8%), third year - 61 (39.1%).

Participants completed two questionnaires designed to evaluate test anxiety and goal orientations.

4.2. Instruments

Questionnaire for assessment of motivational orientations in students

This instrument was originally built based on existing theoretical models and questionnaires in the literature in order to investigate the goals adopted by adolescents in achievement situations (Stan, 2012) and focused on three dimensions:

Mastery Goals: individuals are striving to develop skills in the field they are studying, to learn and understand new things, to excel in the work they carry out.

Performance-approach goals: the individual is striving to demonstrate his abilities to others, to create the impression of high skills, focusing on the possibility to achieve success.

Performance-avoidance goals: the individual is concerned not to create the impression of incompetence; he strives to avoid failure, focusing on the possibility of failure.

The instrument consists of 21 items, 7 items for each dimension. The response scale for all the items in the survey was a 5 point Likert Scale.

The questionnaire was slightly modified to fit students. Analysis of internal consistency generated the following values in the student population: mastery goals - 0.77, performance-approach goals - 0.87, performance-avoidance goals - 0.69. The relatively low Cronbach Alpha coefficient for performance-avoidance goals dimension compared
to the other dimensions of the questionnaire was recorded in previous studies in the American population (Finney, Pieper, Barron, 2004).

We must draw attention to some limitations of the questionnaire, which could affect the study results. In its development process we aimed to ensure content validity and internal consistency; is necessary however to continue the validation of the instrument.

**Test Anxiety Inventory (TAI)**

The inventory was designed to assess individual differences in test anxiety (Spielberger, 1980, as cited in Robu, 2011). It consists of two scales assessing Worry (cognitive concerns related to failure) and Emotionality (dysfunctional emotional reactions with respect to the test situation).

The questionnaire has been used in research to measure test anxiety to both high school students and college students.

It consists of 20 items referring to symptoms of anxiety before, during, and after a test situation, the respondent having available four possible answers (A - almost never, B - sometimes C - often and D - almost always).

The inventory was adapted and validated on Romanian population by V. Robu (2011). The psychometric qualities of the instrument were checked on both pupils and students. The author evaluated the reliability of the Romanian version of the inventory using the internal consistency method, split-half method and test-retest method, obtaining high values of the corresponding coefficients. Analysis of construct validity was achieved by correlating scores from the Romanian version of the inventory with scores of other measures of cognitive and emotional functioning, the author reporting values which demonstrate this property of the instrument.

5. Results

Descriptive statistics and bivariate correlations are shown in Table 1. We found statistically significant correlations between test anxiety (total score, worry and emotionality) and performance-avoidance goals and between test anxiety and mastery goals. Regarding the first hypothesis, the values of the correlations between test anxiety (total score, worry and emotionality) and avoidance goals were positive and moderate. The results also support the second hypothesis, namely there is a negative correlation between mastery goals and test anxiety (low value), emotionality (low value) and worry (moderate value).

**Table 1. Descriptive statistics and bivariate correlations**

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<td>.162*</td>
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<td>5. Performance-approach goals</td>
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<td>6. Performance-avoidance goals</td>
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**. Correlation is significant at the 0.05 level (2-tailed).**

**. Correlation is significant at the 0.01 level (2-tailed).**
6. Discussion

Results of this study indicate that students pursuing performance-avoidance goals in achievement situations, namely focus on the possibility to fail and strive to avoid creating the impression of incompetence, show a higher level of test anxiety (worry and emotionality). Also, students who seek to acquire new knowledge and to develop their skills, manifested low levels of test anxiety (worry and emotionality). These conclusions are confirmed by the literature: the performance-avoidance goals are steadily associated with negative outcomes and mastery goals with positive outcomes.

Individuals low on emotional stability are anxious and do not trust their own ideas and behaviors (Digman, 1990, as cited in Wang and Erdheim, 2007). They are characterized by restlessness, they are constantly worrying and find it difficult to control emotions in stressful situations; they are defensive and cautious, have a negative image of themselves, are concerned about what others think about them and attribute negative events to internal, stable and global causes (Clark and Watson, 1991, as cited in Zweig and Webster, 2004). Students who exhibit such tendencies may consider that engaging in an activity can end in failure and create a negative impression on their skills, so they prefer to avoid such a situation.

Zweig and Webster (2004) state that individuals who adopt mastery goals exhibit behaviors similar to those of highly emotionally stable persons. Emotional stability refers to the state of being able to experience adaptive emotions in difficult situations. Mastery goals are associated with optimism in the face of challenges (Lawson, 1999, as cited in Zweig and Webster, 2004). In case of failure, persons oriented towards abilities development (mastery goals) exhibit adaptive emotional patterns and continue to strive to complete tasks. Mistakes are considered learning opportunities.

The results of this study and those reported in the literature point to the importance of promoting in school a type of motivation focused on developing skills and acquiring new knowledge. Emphasis on mastery goals in educational practice can have a positive impact on students' attitudes towards tests/exams. Students who strive to master the material and focus on self-improvement treat tests/exams as opportunities for feedback and less as threatening situations. They will give due importance to exams, but they will rationally perceive these situations and will exhibit positive cognitions, emotions, and behaviors.

Aiming to identify sources of different goal orientations, various authors have examined goal orientations in relation to variables such as personality factors, family environment, goals promoted by parents and schools, classroom climate etc.

It is equally necessary to emphasize that students adopt combinations of goals in different achievement situations. Cognitive and emotional effects of adopting different combinations of goals, already studied in the literature (Daniels et al., 2007), should be a subject of research in our country.

References


