

Test Anxiety and Psychological Resilience Among Moroccan Baccalaureate Students

Ghizlane Merzaq

Abdelilah Hilali

Sidi Mohamed Ben Abdellah University Moulay Ismail University

Karima Mrizik, Rachid El Ouardi, and

Benaissa Zarhbouch

Sidi Mohamed Ben Abdellah University

This study is aimed to reveal the nature of the relationship between psychological resilience and test anxiety among students of the qualifying secondary education phase (baccalaureate) in the Moroccan context, and to uncover the differences in terms of test anxiety according to gender and academic specialization variables. The sample consisted of 250 participants from first- and second-year baccalaureate students, with an average age of 17.8 years. Two measurement scales were used, namely Psychological Resilience Scale (Acceptance and Action Questionnaire; [Bond et al., 2011](#)) and Sarason's Test Anxiety Scale for children ([Al-Shoubaki, 1991](#)). The study showed that there was significant negative correlation between test anxiety and psychological resilience. The results have also revealed the presence of significant differences in the test anxiety across gender and its absence for the academic specialization variable.

Keywords: Psychological resilience, test anxiety, baccalaureate students

The baccalaureate degree is considered an important turning point factor in the life of students, given that it is a stepping-stone towards higher education, and a gateway to the labor market. Additionally, such an educational stage might be a haunting element

Ghizlane Merzaq, Karima Mrizik, Rachid El Ouardi, and Benaissa Zarhbouch, Sociology and Psychology Laboratory, Sidi Mohamed Ben Abdellah University, Fez, Morocco.

Abdelilah Hilali, Faculty of Letters and Human Sciences, Moulay Ismail University, Meknes, Morocco.

Correspondence concerning this article should be addressed to Ghizlane Merzaq, Sociology and Psychology Laboratory, Sidi Mohamed Ben Abdellah University, Fez, Morocco. Email: ghizlanemerzaq@gmail.com

for students, which might negatively affect their learning outcome. As a matter of fact, anxiety is one aspect among the most important disorders that may affect the mental as well as the physical health of the individual; it may also have a strong influence on various levels of one's life and stability. For many students, test anxiety can be a real problem (Idham, 2020), and the more they proceed up the various educational stages the more serious it gets. This is because anxiety keeps increasing as the student moves upwardly through the educational system levels; hence it affects them due to their feeling that they are to be evaluated, and that their performance is being supervised and tested (DordiNejad et al., 2011).

Psychological resilience is highly required in the academic context, for its important role in overcoming pressures and achieving the desired academic goals, for it is intended to show the positive adaptive behavior of the individual when facing difficulties, shocks, and life pressures (Hesen, 2021). Its importance lies in determining the learner's ability to face stressful events, to achieve the psychological adaptation, and to get to an appropriate state of mental health (Gaber & Ali, 2016); it is also behavioral patterns allowing to cope with difficulties in a suitable and adequate manner, with the ability of recovering from crises impact (Abbas, 2021).

Resilience in the academic context has been the subject study of many researchers, who approached the issue within its relationship to test anxiety, and as an anxiety predictive mediator variable, both for university students (Gaber & Ali, 2016; Hayat et al., 2021; Hye Sook & Ya Ki, 2014; Liu et al., 2020), and among secondary school students (Akbari et al., 2014; Jamshidi et al., 2018). In this regard, the study carried out by De La Fuente et al. (2017) considers that high levels of self-regulation create a high level of resilience among university students, as it is a potential mediating variable to face pressure and stress. Hence, Fathalla (2018) assumes that there is negative correlation between academic resilience and test anxiety, and that academic resilience and test anxiety are mediating variables of mindfulness to self-esteem among university students. In the same vein, Trigueros et al. (2020) revealed that resilience negatively predicts test anxiety and academic stress among university students. The research (Clipa et al., 2021) showed that there is a relationship between test anxiety and psychological resilience based on the subject's gender, Liu et al. (2020) found that gender and academic performance are significantly correlated with test anxiety, emotion regulation, and psychological resilience.

However, there is another study by Aouni (2019) that recorded a direct significant negative effect of hardiness (as one of the

dimensions of psychological resilience), and an indirect significant effect of psychological resilience with all its dimensions in test anxiety, through academic self-efficacy of university students. In the same vein, several researchers have approached resilience and test anxiety as mediating variables in relation to other variables. In this respect, [Jamshidi et al. \(2018\)](#) confirm that efficacy and resilience mediate the relationship between spiritual intelligence and test anxiety. Thus, spiritual intelligence reduces test anxiety, based on self-efficacy and resilience among secondary school students. In its turn, [Connors et al. \(2009\)](#) reports that poorer performance on Standardized Achievement Tests (SAT) are significantly associated with low level of resilience and high level of test anxiety, and the reverse is also true. The significant interactions have shown that the negative effect of worrisome thoughts on the overall SAT performance was moderated by resiliency mastery scores among six years primary school students and their teachers. [Aydin's \(2017\)](#) study recorded that cognitive negatively predicts cognitive test anxiety through the indirect effect of psychological resilience among university students. Such a conclusion has been shown by the results of the study carried out by [Hamideh-Moghadam et al. \(2021\)](#) which assert that female secondary students experiencing test anxiety obtain higher scores in cognitive failure and emotional processing, while they have low resilience levels, and vice versa.

Thus, it can be put forward that the effect of psychological resilience in the academic context, in general and its significance in specific Moroccan context on test anxiety, within a general problematic framework relative to learning difficulties, proves to be of paramount significance. One of the objectives of the present study was to reveal the effect of psychological resilience on test anxiety. More precisely, our focus was on the degree of the effect of psychological resilience on the level of test anxiety among baccalaureate students, and on the possibility of predicting it based on resilience levels. Also, our second concern was related to the differences in the level of test anxiety according to the gender and academic specialization variables.

Hypotheses

1. There will be a negative relationship between psychological resilience and test anxiety among the qualifying secondary school students.
2. Girl students are likely to display higher levels of test anxiety as compared to boys.

Method

Participants

The participants of the study consisted of 250 students from qualifying secondary school in Morocco (Standard 11th and 12th in basic education, in sequential order), with an average age of 17.8 years, equally distributed between boys and girls. They were selected based on their desire to participate in the research, from two specializations: Sciences ($n = 146$, 58.4%) and Letters ($n = 104$, 41.6%). The participants belong to two educational levels, that is the second and third years of qualifying secondary education (Baccalaureate), for the academic year 2020-2021.

Instruments

The following instruments were used to assess the study variables.

Psychological Resilience Scale (Acceptance and Action Questionnaire)

Measure of Psychological Resilience Scale (Acceptance and Action Questionnaire; [Bond et al., 2011](#)) is a self-report questionnaire composed of 10 items, from which three items are positively phrased while, seven items are negatively phrased. Responses are rated on a 7-point Likert scale ranging from 1 (*never applies to me*) to 7 (*always applies to me*), and the scoring is reversed for negative items. The highest score a respondent can get is 70 and the lowest is 10. It is a one-dimensional scale assessing the presence or absence of psychological resilience ([Bond et al., 2011](#)). This measure has shown to have high internal consistency ranging from .75 to .88, and the value of Cronbach's alpha of .95 is achieved for the current sample.

Sarason's Test Anxiety Scale-Children

To assess test anxiety among secondary school students, measure of Arabic-translated and modified version of Sarason's Test Anxiety Scale-Children (STAS-C; [Al-Shoubaki, 1991](#) originally developed by [Sarason et al., 1960](#)). The scale consisted of 38 short self-evaluation items to be rated on a 4-point Likert scale ranging from 1 = *completely disagree* to 4 = *completely agree*. This scale is three dimensional which includes the cognitive dimension (23 items), the behavioral dimension (4 items), and the physical dimension (11 items); and it takes approximately 10 min to complete. The scores from the three

STAS-C subscales can be added together to provide a total scale score. This measure has been shown to have internal consistency ranging from .43 to .81, and the value of Cronbach's alpha of .96 is acquired for the current sample; thereby affirming reliability.

Procedure

Ethical considerations were considered, official permission was obtained from the regional director for the Ministry of National Education and from the school administration to collect data. Participants were oriented about their free will to participate in the research, with the assurance that the data would only be used for research purpose, while maintaining the confidentiality of their personal identities. The required samples were selected based on the desire of the respondents who expressed their willingness to participate in this study, after being briefed on the research topic. It took each participant about 15 minutes to provide answers for the two scales.

Results

To test the validity of the first hypothesis, the Pearson Product Moment Correlation was calculated to find out the significance of the correlation between test anxiety and psychological resilience. Similarly, to find out the effect of psychological resilience, as an independent variable, on test anxiety (with its three dimensions), as a dependent variable, it was resorted to the linear regression analysis, with reference to the statistical tests associated with it; this is shown in [Table 1](#) below:

Table 1

Correlation Between Test Anxiety and Psychological Resilience (N = 250)

Variables	Psychological Resilience
Test Anxiety (Total)	-.84**
Cognitive Dimension	-.83**
Behavioral Dimension	-.77**
Physical Dimension	-.81**

** $p < .01$.

The results presented in Tables 1 and 2 confirm the validity of the first hypothesis. As shown in Table 1, the correlation coefficients demonstrate a significantly negative correlation between psychological resilience and the overall test anxiety score; all the

dimensions of test anxiety are highly significantly negative correlated with test anxiety.

According to the results of Linear Regression analysis, psychological resilience is a negative predictor for test anxiety ($\beta = -.37$, $t = -24.61$, $p < .01$) and psychological resilience explains 71% of test anxiety variance ($R^2 = .71$, $F = 605.73$, $p < .01$); hence the result supports the first hypothesis.

With the aim of testing the second hypotheses, recourse was made to independent sample t -test which is applied to two independent samples; the application of such a test is meant to help find out the significance of the differences in the test anxiety variable, according to the gender variable. Results show significant gender differences $t(248) = -5.31$, $p < .01$. Test anxiety is found to be higher among girls ($M = 4.88$, $SD = .67$) compared to boys ($M = 2.37$, $SD = .83$) with Cohen's $d = .36$. This confirms the validity of the second hypothesis.

In addition, independent sample t -test is computed on two independent samples to find out the differences in the test anxiety in relation to academic specialization namely Sciences and Letters. Results reveal that is nonsignificant differences in the level of test anxiety $t(248) = -.94$, $p > .05$) due to the academic specialization that is Sciences ($M = 2.58$, $SD = .78$) and Letters ($M = 2.68$, $SD = .80$).

Discussion

With the aim of highlighting the correlation nature existing between psychological resilience and test anxiety among qualifying secondary school students in the Moroccan context and bringing out the differences in the test anxiety's level in terms of gender and academic specialization variables, we hypothesized that there is a kind of correlation between psychological resilience and test anxiety. This hypothesis is evident in the fact that there is a clear effect of psychological resilience on test anxiety's level. Also, we hypothesized that there are differences in the level of test anxiety variable owing to the role of the gender while these differences are absent when it comes to the academic specialization variable.

Regarding the first hypothesis, the results of this study have shown that there is a significant negative correlation between psychological resilience in the academic context and test anxiety, and there is an effect of psychological resilience on the level of test anxiety, with the possibility of predicting test anxiety via psychological resilience. This has been confirmed in previous studies

with secondary school students (Akbari et al., 2014; Jamshidi et al., 2018). In the same vein, Liu et al. (2020) confirmed that psychological resilience and emotion regulation can predict emerging test anxiety. In contrast to these studies, Sakka et al. (2020) denied the correlation between test anxiety and resilience among secondary school students. As a corollary, the possible explanation, according to Liu et al. (2020), of the close relationship between psychological resilience and test anxiety, and resilience effect on test anxiety level lies in the fact that psychological resilience can prevent the crisis, given that it is a positive psychological quality which may be an important regulating variable in the face of stress. This is what has been maintained in the study by Akbari et al. (2014), where it was asserted that psychologically resilient individuals experience less stress in test situations.

On the other hand, the results concerning the second hypothesis confirm the existence of differences in the level of test anxiety due to the gender for females; thus, these results are in the same line with some previous studies (Idham, 2020; Mousavi et al., 2008; Núñez-Peña et al., 2016; Saadeh et al., 2004), these studies were in Arab, Iranian, and European cultures. Nevertheless, the explanation of this is two-faceted: On the one hand, some attribute the differences to the fact that females are being subjected to greater pressure, for their fear of failure, in addition to the fact that males do not tend to recognize or uncover their anxiety compared to females (Núñez-Peña et al., 2016). On the other hand, others consider that females' academic achievement receives no impact, despite their higher level in test anxiety compared to males, which suggests that they might have the ability to develop effective strategies enabling them to deal positively with anxiety in test situations, unlike males (Núñez-Peña et al., 2016). There are, however, some previous studies whose findings seem not to agree with the results of the present study, where the differences were confirmed for males (Alotaibi, 2018; Bhat & Farooq, 2017), these studies were in Arab and Indian cultures. While others stood at a different position, denying these differences (Abdalbar, 2019; Bhat, 2017; Sakka et al., 2020), these studies were in the Arab, Indian, and Greek cultures. This inconsistency of results is attributed, according to Bhat (2017), to the fact that anxiety is a dynamic process, whose manifestation may vary from one context to another, and is conditioned by the nature of the study sample.

Findings also reveal nonsignificant differences in relation to academic specializations that is Sciences and Letters. The first one reflects a kind of concordance with studies that denied the differences in the level of test anxiety due to the academic specialization

(Almjammi, 2019; Alotaibi, 2018) asserting that putting forward that for both Sciences and Letters options there is lack of specialized syllabi, in addition to the fact that the examination method depends highly on the ability of the student to recall information through what has been memorized, regardless of the academic specialization or the nature of learning topics (kind of rote learning). The other attitude, contrariwise, recognizes the differences in the level of test anxiety due to the scientific specialization among secondary school students (Saadeh et al., 2004); researchers attribute this to the difficulty of scientific syllabi, and the scientific specialization students' need for a longer time for study, preparation, and revision. However, if the previous two interpretations are acceptable, we also consider that the variance or the contrast is related to the nature of the sample itself (university students/secondary school students). Furthermore, we consider that the problem is related not only to the peculiarities of the core scientific or literary specialization, or to the method of the test, but we would say, it may also be explained by the effect of psychological resilience variable on the level of test anxiety, a result asserted in this study. Such a result shows that the problem is an adaptive-skills behavior, related to the personality traits of the learner, their resilience, ability to manage emotions, and adaptation to stressful situations.

Limitations, Recommendations and Implications

Among the limitations of this study, firstly, generalizability is limited to secondary school students; in future cohort studies can be carried out to have comparative analysis across different educational levels. This is cross-sectional research, while resilience develops with time. Therefore, longitudinal studies can be planned to study how resilience is influenced across academic years. We can underline novelty of the current study in relation to Moroccan psychology, since, to the best of our knowledge, it has not been addressed in this context. In addition, we can notice another one which lies in the lack of previous studies in other cultural contexts that directly dealt with the variables we considered. To overcome this issue, we approached these variables from the point of view of a set of studies including ones that considered them indirectly and others that viewed them as intermediate variables. We recommend taking full advantage of our findings to improve the educational context. On the one hand, this can be done by designing training programs that enable alleviating test anxiety through developing psychological resilience. On the other hand, this can be achieved by empowering psycho-pedagogical

guidance methods to help learners choose their academic specialization according to their own tendencies, abilities, and competences.

Conclusion

Indeed, the importance of psychological resilience has been highlighted by results of previous studies, in some other similar contexts, that have been referred to in the present study, and confirmed by our findings indicating the clear effect of psychological resilience on the level of test anxiety among learners in the Moroccan context. Additionally, it has been shown that resilience may make it possible to predict test anxiety. Furthermore, gender has been found to have an effect on the level of test anxiety, as female participants exhibit a higher degree of test anxiety than males, which indicates that they need more attention, in this regard. Not surprisingly, it turned out that academic specialization does not affect the level of test anxiety, which indicates that it may affect all of them to the same extent, regardless of their academic specialization. This has led to two main remarks, that is, in the specific Moroccan context, some peculiarities and properties are to be taken into consideration in any study of the issue; in a general context, it has been asserted that the characteristics of psychological resilience play a major role in the promotion of mental health, given that they contribute to achieving emotional balance, and ensure the psychological stability required in evaluation situations. This is what the learner needs in facing difficulties and obstacles in the learning context.

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