Psychological preparation of INJEPS students for exams: Uses and meaning

Adolphe Ahonnon¹, Sourou Corneille Teba², Jules Marie Gandagbe³, Kolawolé Romuald Fachessi⁴, and Koffi Pierrot Edoh⁵

¹Doctor of Educational Sciences, Assistant Professor of CAMES Universities, University of Abomey-Calavi (Benin), National Institute of Youth, Physical Education and Sport, Social Psychology Research Unit and Animation (UR-PSA), Benin

²Doctor of English Didactics, Lecturer at CAMES Universities, University of Abomey-Calavi (Benin), National Institute for Youth, Physical Education and Sport, Psychology Research Unit Social and Animation (UR-PSA), Benin

³Doctor in Educational Sciences, University of Abomey-Calavi, Benin

⁴Doctoral student in Sciences and Techniques of Socio-Educational Activities, University of Abomey-Calavi (Benin), National Institute of Youth, Physical Education and Sport, Social Psychology and Animation Research Unit (UR-PSA), Benin

⁵Doctor of Educational Sciences, University of Abomey-Calavi (Benin), Full Professor of CAMES Universities, National Institute of Youth, Physical Education and Sport, Social Psychology Research Unit and Animation (UR-PSA), Benin

Copyright © 2023 ISSR Journals. This is an open access article distributed under the *Creative Commons Attribution License*, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT: In Africa, students use strategies to succeed in studies. Christians and Muslims take a few minutes to pray to their God in the face of trials or on the eve of exams they organize prayer sessions so that God gives them the intelligence to face trials. As for those of endogenous beliefs, they make libations or sacrifices so that the spirits of the ancestors accompany them during their examinations. They use these practices to reduce stress. This study aims to identify the reasons why students are stressed at exams and the practices used to overcome the stress. This quantitative study allowed us to randomly choose 138 first-year students who were subjected to a series of survey questionnaires in order to identify, on the one hand, the manifestations of stress and, on the other hand, the management methods adopted. Based on our theoretical model, the results obtained show that the stress developed by the students is due to the fear of failure, the fear of wasting the financial means invested by the parents. The management methods adopted by INJEPS students to cope with stress include: perfect knowledge of the courses, preparation several days before the exam; religious beliefs through prayers, offerings and grigris.

Keywords: religious beliefs, psychological preparation, stress, exams, students.

1 INTRODUCTION AND SUBJECT RATIONALE

The reforms of higher education impose on all universities in Benin internal examinations at the level of each school, institute and faculty. The INJEPS takes out a memorandum each year which notifies the progress of the examinations. For the 2017-2018 academic year, memorandum N⁰ 0470 2018/UAC/INJEPS/D/SGE/SA dated May 17, 2018 formalizes the partial and final exams at INJEPS. The partial exam especially the final one is organized towards the end of a semester, it can be called passing exam, because the marks obtained in this exam will be multiplied by two or not, this depends on the credit granted to this subject (regulation pedagogical of the INJEPS). Thus, in the face of exams, students experience certain difficulties due to stress, perhaps it is a question of the fear on the part of the student of not being up to the tests, the fear of failure seen the scope of this review. So, it is very important for the student to give the best of himself during this so-called final exam, which plunges the student into anxiety.

Indeed, on the approach, the eve or the day of the exams, a large number of students are looking for solutions to avoid an excessively stressful situation. Difficulties in adapting to stress are manifested in the form of fatigue, especially intellectual, with difficulty in memorizing, sleep disorders often linked to the abuse of stimulating substances, anxiety attacks, digestive disorders.

In Africa, stress management remains a fundamental concern for man since he is confronted with this stress every day, especially in the case of students taking exams or approaching continuous monitoring, because they attach great importance on note.

All actors (athletes, schoolchildren, etc.) know that controls and especially sports competitions often provoke passions which manifest themselves in athletes, through reactions which do not always favor their full expression, but which compromise them (Diatta, 1999). This is why it remains urgent for a person who engages in an activity to consider ways to deal with these types of reactions. In this perspective, everything that is likely to help prevent or overcome this phenomenon must be taken into account. Topics may appeal to cultural beliefs (Nahimana, 1997; Tanimomo 1999; Fontayne and Sarrazin, 2001). It is indeed to these practices that the Black African essentially refers to fight against factors that inhibit performance. This well-known strategy in African circles should not escape students during exams and school sports meetings. Indeed, students to channel or control stress use various practices. Also, many feel stressed by their family situation and the problems that may arise from it. (Thompson et al, 2011) highlighted the association between stressful event and suicidal ideation (production of ideas) in young people. The intensity of their fears about their professional future is a predictive variable of suicidal ideation. This type of concern may persist in a certain number, fears related to success in studies, fear of unemployment and financial dependence dominate among students (Réveillère et al, 2001).

In Benin, the same situation prevails when referring to Africa in general and, in the sense that students taking exams (partial and final) feel in fear of failure, anxiety, form of fear that animates them, and to control this stress they use various practices to protect themselves against this phenomenon. New students (first-year students) being new to the university system will have difficulty coping with the demands of the environment. Indeed in his daily practice, the Beninese is free of his beliefs. The constitution of December 11, 1990 in its article 23 provides "everyone has the right to freedom of thought, conscience, religion, worship, opinion and expression in respect for the public order established by law and regulations. The exercise of worship and the expression of beliefs are carried out with respect for the secularism of the State..." As a result, it guarantees freedom of worship to all citizens.

The main thing is that manifestations related to a person's beliefs do not interfere with the tranquility of other citizens and the administrative rules that govern civil life. Student malaise is the difficulty in coping with very stressful situations. However, poor stress management can affect their psychosocial adaptation, their academic career (Dumont et al, 2003) and their suicide risk (Zhang et al, 2012). It is therefore important to know and understand the conditions and mechanisms by which they experience difficulties, or not, during stressful confrontations. Stress management is of paramount importance in the life of an exam student, but it is clear that students find it difficult to manage their stress in the face of exams. This work focuses on the study of religious beliefs and psychological preparation of students for exams.

What are the manifestations of stress among INJEPS students and what are the practices used by students to overcome stress? These are all questions that will allow us to formulate the following objectives and hypotheses. This study aims to identify the manifestations of stress among INJEPS students and the practices used to overcome stress. Always in order to answer the main research question, we postulate on the one hand that the stress felt by INJEPS students during exams is due to the fear of failure and the waste of money invested by parents and on the other hand that the practices used by the students to overcome stress are rational and irrational.

2 METHODOLOGICAL APPROACH

All scientific research follows a given approach called methodology or methodological approach which allows the researcher to be able to collect quantitative data on his research subject. Thus, the methodology is the set of approaches or modes of access to knowledge. In other words, it is the combination of techniques and tools to carry out research and achieve the objectives previously set (René, 2016). Moreover, Quivy and Campenhoudt (1995) state that "It is above all important that the researcher be able to design and implement a device for the elucidation of reality, that is to say in its broader sense, a working method.

2.1 NATURE OF THE RESEARCH

This research aims to identify the manifestations of stress among INJEPS students and the practices used to overcome stress.

It first proposes to seek, using a survey questionnaire, the manifestations of stress among students in exams and their mode of management. With this in mind, the use of a single method would be the most appropriate for achieving our different objectives. This is why this research is purely quantitative.

2.2 SURVEY POPULATION

The population can be defined as the set of all the elements about which one wishes to make inferences (Tito, 2012). Explicitly, the population is made up of all the subjects, units or objects that are potentially concerned by the survey (René, 2016). Thus, the survey

population is all the actors concerned by a study (René, 2016). Not being able, within the framework of this research, to take into account the entire base population, the sample used is of the non-probability type and more precisely a reasoned or judged choice. This is the type of sample that might be warranted for a study such as this. It is therefore a question of choosing sampling units according to their number in each discipline. Logically, the selection within each of these units is done in a reasoned way. The first step is to assign the two Departments (STAPS and STASE) of INJEPS a weight in relation to the number of students there.

• Sample size:

It is on the formula of the margin of error for infinite population that we base ourselves to determine the size of the sample necessary to obtain the desired precision (margin of error), at the determined confidence threshold, for a maximum proportion (or occasionally for a known specific proportion). Thus, the determination of the size of our sample is made using the Schwartz formula:

N = Z α 2 xPQ/d2. Number of students in the first years selected = 320 Number of students in the first years STAPS and STASE = 320 These figures give according to the Schwartz formula N = Z α 2 xPQ/d2: Z α^2 = 1.96 Q = 1-P P = 320/320 P=1 P = 100% d² = (0.05) 2 On this basis we obtain: N = 1.962 x 0.10 (1-0.10): 0.052 N=138

N = 138 students (minimum sample size)

In summary, using the Schwartz formula for our sampling, the overall number of first-year STAPS and STASE students in our investigations is 138 subjects.

2.3 MEANS OF INVESTIGATION

To obtain the data necessary for this study, we developed a survey questionnaire that was sent to the students. This questionnaire consists of two main parts. The first part relates to the collection of the manifestations of student stress during exams. The second part concerns the management of stress through the practices used to overcome stress. Both parts recount a number of statements used to describe firstly the state of the students in the exams and secondly, their mode of management.

We have as study population the students of the INJEPS, particularly those of the first year registered during the academic year 2017-2018 to whom we administered the questionnaires.

The questionnaire has a three-point scale ranging from "Disagree" to "Agree" given the level of the students.

To complete the questionnaire, the subject ticks a single box that he considers appropriate at the level of each proposed answer opposite each question.

2.4 CRITERIA

2.4.1 INCLUSION CRITERIA

To be part of our target population during our field research, you must:

- be voluntary;
- be a student in STASE or STAPS at INJEPS;
- be an undergraduate student (1st year)

2.4.2 CRITERIA FOR NON-INCLUSION

Cannot be part of our study:

- students from the 2nd to the 5th year;
- students who have not fully answered the items making up the questionnaire

2.4.3 EXCLUSION CRITERIA

- be a student from another university;
- be a student in the second cycle of INJEPS;
- be a PhD student

2.5 LOCATION AND CONDUCT OF THE SURVEY

The student survey took place on the second INJEPS site in Djavi in the district of Mèdédjonou Commune of Adjarra from August 8 to 17, 2018. The information is collected on a paper medium on which the questions are written of the survey questionnaire that we distributed to the subjects.

2.6 PROCESS FOR USING THE QUESTIONNAIRE

The answers to the questions were exploited, taking into account the percentage of the number of subjects who answered all the items which contain the two main parts of the questionnaire, these are:

- The manifestations of the stress of INJEPS students during exams;
- The stress management of INJEPS students through rational and irrational practices

2.7 METHOD OF DATA COLLECTION

The first step is the documentary exploitation which consists in analyzing the various documents namely: dissertation, thesis, review of EPS, articles, consultation on the web, to which is added the survey by the questionnaire. To collect this data from the students, we approached the subjects directly in Djavi with the questionnaire.

2.8 DATA PROCESSING

After data collection, the information collected was subject to computer processing. This phase includes the analysis of the questionnaires to constitute a database, the entry and the analysis of the results. The data collected through the questionnaires were codified and entered with the collection software on Android called KoBoCollect v1.14.0a; these data were translated into tables and figures to facilitate their analyzes using SPSS 21 software and Microsoft Office Excel 2013.

3 PRESENTATION AND INTERPRETATION OF RESULTS

This point addresses two main points. On the one hand, it is a question of presenting and on the other hand of interpreting the various results from the surveys. These include first-year students from the two INJEPS streams, STAPS and STASE.

To better understand how INJEPS students feel about exams, questionnaires with items have been proposed. The most representative figures and tables have been selected and presented below according to degrees of agreement ranging from one to three, percentages and numbers.

3.1 RESULTS RELATING TO THE MANIFESTATIONS OF STRESS IN INJEPS STUDENTS DURING EXAMS

		Numbers	Percentage	Valid percentage
I'm comfortable	Disagree	15	10,87	10,87
	Few disagree	66	47,83	10,87
	OK !	49	41,3	10,87
	Total	138	100,0	100,0

Table 1. Do you feel comfortable?

Table 1 shows that 10.87% of the subjects do not agree, 47.83% disagree slightly and 41.3% of the students agree for the item "I am comfortable".

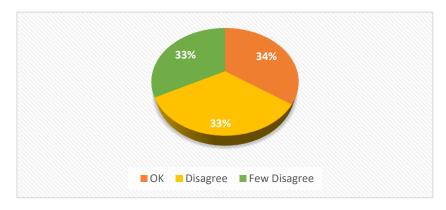


Fig. 1. Are you afraid of not being up to the test?

Figure 1 shows that 37.7% of students state that they disagree, 22.3% disagree and 40% state that they agree with the item "I have fear of not being up to the test".

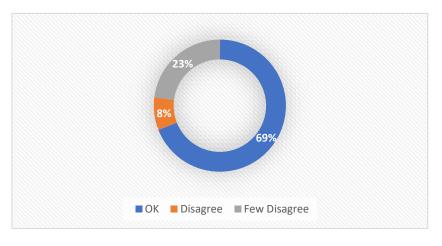


Fig. 2. Are you afraid of taking over a whole year ?

Figure 2 shows that 23% of students disagree, 8% disagree and 69% certify that they agree with the item "I'm afraid to take a whole year".

FEW DISAGREE	17.70%
DISAGREE	.209
ОК	76.20%

Fig. 3. Are you afraid of wasting the money invested by parents ?

Figure 3 shows that 17.7% of students indicate that they disagree, 6.1% disagree and 76.2% agree with the item "I'm afraid of wasting the money invested by the parents".

		Numbers	Percentage	Valid Percentage
I have difficulty concentrating	Disagree	51	36,96	36,96
	Disagree	64	46,38	46,38
	OK !	23	16,66	16,66
	Total	138	100,0	100,0

Table 2. Do you have difficulty concentrating ?

Table 2 shows that 39.2% of subjects do not agree, 43.1% disagree slightly and 17.7% of students agree with the item "I have difficulty thinking concentrate".

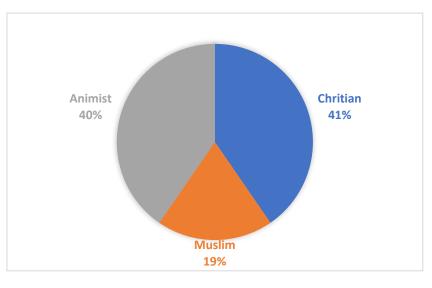


Fig. 4. Religion of INJEPS students

Figure 4 shows that 28% of INJEPS students are Muslims, 13% are animists and 59% are Christians. So at INJEPS, there are more Christians than Muslims and animists.



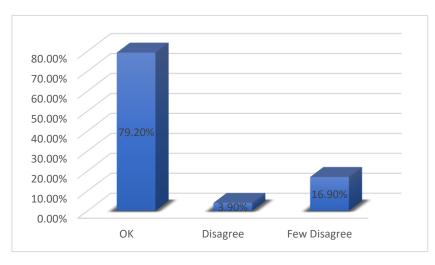


Fig. 5. Does praying for exams increase your determination to pass ?

Figure 5 shows that 16.9% of subjects few disagree, 3.9% disagree and 79.2% of students agree with the item "I pray for the exams because the prayer increases my determination to succeed".

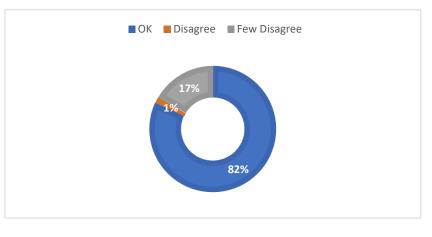


Fig. 6. Do you prepare several days before the exam ?

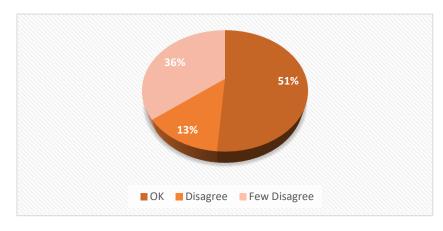


Figure 6 shows that 1% of students do not agree, 82% agree and 17% disagree with the item "I start my preparation several days before the exam ".

Fig. 7. Do you prepare several days before the exam ?

Figure 7 shows that 35.4% of subjects disagree, 13.1% disagree and 51.5% of students agree with the item "I don't study late eve of the exam.

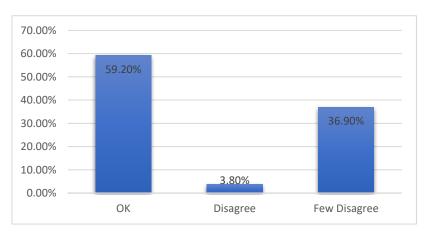


Fig. 8. Do you have perfect knowledge of the courses ?

Figure 8 shows that 59.2% of students agree, 3.9% disagree and 36.9% disagree with the item "I have perfect knowledge of the courses".

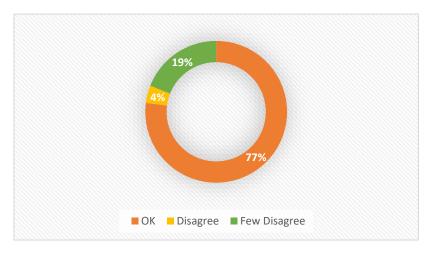


Fig. 9. Does learning the lessons and praying give you firm confidence in passing the exam?

Figure 9 shows that 77% of students agree, 4% disagree and 19% disagree with the item "when I learn my lessons well and I pray, I have a firm assurance for the success of the examination".

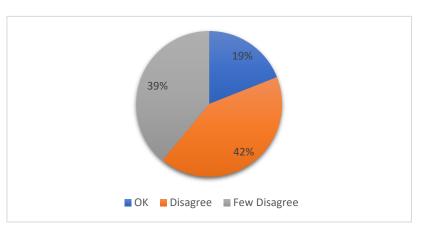


Fig. 10. Does not wearing gri-gri on you during exams, cause a heartbeat as soon as the teacher brings the tests?

Figure 10 shows that 39% of students disagree, 19% agree and 42% disagree with the item "When I don't have my lucky charm on me during exams, my heart beats as soon as the teacher brings the tests.

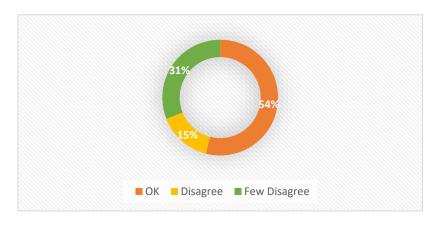


Fig. 11. Does wearing the rosary on you during compositions provide protection ?

Figure 11 shows that 54% of students agree, 15% disagree and 31% disagree with the item "When I have my beads on me during compositions, I feel protected".

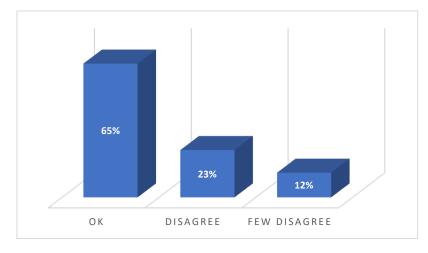
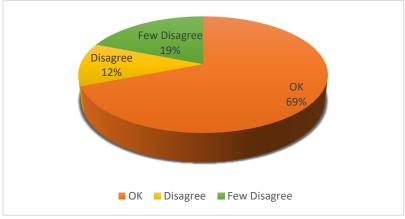


Fig. 12. Does making offerings for an exam ensure success ?

Figure 12 shows that 12% of students few disagree, 23% disagree, and 65% agree with the item "When I make offerings for an exam I am more determined for success.".



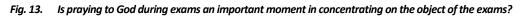


Figure 13 shows that 69% of students agree, 12% disagree and 19% disagree slightly with the item "I pray to God during exams because prayers are a important moment of concentration on the object of examinations"

		I'm afraid to take over a whole year			Tatal	
		Ok	Disagree	Few agree	Total	
What is your	STAPS	73	4	12	89	
speciality?	STASE	24	7	18	49	
Total		89	11	38	138	

Table 3. Distribution of subjects by sector

Table 3 shows us that the subjects in STAPS are higher than those in STASE, i.e. 89 against 49.

Table 4. Stress rate of students in STAPS and STASE

-		I'm afraid to take a whole year			Tatal
		D'accord	Pas d'accord	Peu d'accord	Total
What is your speciality ?	STAPS	82,02%	4,49%	13,49%	100%
	STASE	48,98%	14,29%	36,73%	100%

Table 4 shows that in STAPS, 82.02% of students agree, 4.49% disagree and 13.49% disagree, while in STASE 48.98% of students agree, 14.29% disagree and 36.7% disagree with the item "I'm afraid to take a whole year" in order to know the stress rate of students in each course.

4 DISCUSSION

The objective of this study is to identify the reasons why students are stressed during exams and the practices used to overcome this stress. To do this, we confronted 130 first-year subjects (STASE and STAPS) with a survey questionnaire that we developed to collect their feelings about exams and how they go about managing it.

The results obtained after a survey show that most students say that during exams, new feelings are awakened in them. These feelings can be called manifestations of stress. Practically, it appears from the results that the majority of students who have to write the exam are afraid of not achieving their goal and are driven by a feeling of lack of control which results in a constant preoccupation with the mark (students attach great importance to the note). We can, in fact, draw the conclusion that feelings of stress manifest themselves in students. These results reinforce those of Slaviero (2014) who says that "globally, the main sources of stress are for students, exams".

Indeed, 40% of the subjects attest that they are afraid of not being up to the tests (figure 3); 69% certify that they are afraid to resume a whole year (figure 4); 76.2% admit to being afraid of wasting the money invested by the parents (figure 5). From these results, we can affirm that in the face of exams, the stress factor most often found in students is above all the fear of failure. The fear of not being up to the tests, of wasting the money invested by the parents. These results are in harmony with the work of Réveillère, Nandrino, Sailly, Mercier and Moreel (2001) according to which the stress factors often found in students are linked to "hassles" or "minor stressors" which are specific to the student world, such as the fear of not succeeding in studies, the lack of material and financial independence or even the fear of unemployment. Campos et al (1984) also point out that fear is like an emotional disturbance, a pseudo-emotion, a feeling of strong worry, alarm, in the presence or at the thought of misfortune, danger, threatens.

Regarding stress management through rational and irrational practices, 81.5% of students report that they begin to prepare several days before the final exam (Figure 8); 51.5% acknowledge that they do not study late on the eve of the exam (Figure 9). The analysis of these results shows that preparing by repeating several times and avoiding studying late on the eve of the exam is an effective technique for managing exam stress. 59.2% of students agree that they have perfect knowledge of the courses (Figure 10). From this result, we can deduce that having more knowledge of the courses is also an effective technique to control exam stress. This therefore corroborates the work of Bourne (1970). According to this author, giving individuals as much knowledge and understanding as possible about future situations is an effective technique for coping with stress; This gives them an impression of mastery.

In addition, the irrational practices used by students depend on their religious affiliation, Figure 6 shows us that there are more Christians than Muslims and animists at INJEPS. Indeed, 79.2% of students confirm that they pray for exams because prayer increases their determination to pass (Figure 7); 77% attest that when they learn correctly and pray, they have a firm confidence for success (figure 11); 19% of students agree that when they do not have their charms on them during exams their heart beats as soon as the teacher

brings the tests (figure 12), this result shows us that the use of charms in exams at the INJEPS is low unlike the prayers that remain and remain high. 54% of the subjects affirm that when they have their rosary during the composition they are protected (figure 13); 65% of subjects say that when they make offerings for an exam they are more determined for success (Figure 14); 69% of students attest that they pray to God during exams, because prayer is an important moment in concentrating on the subject of the exam (figure 15). From this analysis, it appears that most students facing exams engage in a process of religious coping for a better result. These results corroborate with the work of (Ajib, 2018) who attests that "the practice of a religion and the attachment to it makes it possible to considerably reduce stress, or even to make it disappear". Prayers, charms and offerings can be requested for motivation, to prevent stress or for both reasons (Edoh, 2004). Their uses can also justify previous results and provide a glimpse of future ones (Diatta, 1999). Prayer remains a permanent recourse for Beninese and can be used to motivate oneself as well as to prevent stress. Thus, (Bruchon-Schweitzer et al, 2002) have shown that problem-focused coping reduces the tension experienced by the individual by reducing or eliminating the stressor.

Referring to the item "I'm afraid to take a whole year", 80.2% of STAPS students agree and 49% of STASE students agree (Table IV). From this result, we can say that students in STAPS are more stressed than those in STASE. So, it emerges from this analysis that we have two types of student profile at INJEPS: more stressed students and less stressed students. For the more stressed students, they are those who adopt an inappropriate coping strategy in the face of the situation or the danger, which increases the degree of anxiety of the student. This result corroborates with those of Bolger (1990) who presents the relationship between neuroticism, coping and anxiety, he notes that the use of the problem-focused coping strategy in the face of an academic exam seems to have the effect of increasing the student anxiety. As for the less stressed students, they mobilize personal resources such as self-esteem, which can be defined as the more or less favorable feeling that each one experiences with regard to what he is, or more exactly what he thinks he is (Bariaud & Bourcet, 1994). Self-esteem therefore guides the subject in his reactions as well as in his projects (Safont, 1992). It constitutes a resource that influences the cognitive analysis of situations, the perception of threats or the way of dealing with difficulties (Brown & Smart, 1989, quoted by Campbell, 1990). From all this, the individual is able to manage himself stressful situations which can cause him dangers and it is in this wake that this study proposes the use of the two types of practices (rational and irrational) which are important. in achieving objectives in the face of an exam.

5 CONCLUSION

By taking the exams as a stressful event for the students of the INJEPS, this study sought to know the manifestations of stress among the students and their mode of management. We sent a research questionnaire to 130 first-year subjects (STAPS and STASE).

The results obtained at the end of the administration of the questionnaire show that the stress felt by the students in the exams is due to the fear of not being up to the tests, of resuming a whole year, of wasting the money invested by the parents. All this plunges the student into great stress. Thus, these students, to manage their stress, begin the preparation several days before the exam. They have a perfect knowledge of the courses and do not study late (rational practices). These students, despite their option for competence, are not satisfied exclusively with these essential factors. They also use one and/or another form of practice (prayers, charms and offerings) that Africans south of the Sahara readily consider as customs that are part of their cultural characteristic to support their various commitments. They know that, faced with a situation like exams, you have to go through all the means to deal with it in order to help prevent and overcome the phenomenon. INJEPS students do not neglect practices (offerings and grigris). To the detriment of all this, our initial hypotheses are verified.

Thus, students need the necessary help to allow them to be relaxed in the face of exams. It is in this wake that this study offers new solutions that can enable students to control their stress in order to deal with a healthy mind in a healthy body.

What holds our attention in this study is the level of stress felt by the students at the level of the two streams. STAPS students are more stressed than STASE students. From this study emerges a new problem which is to know the reasons underlying the high level of stress of STAPS students.

REFERENCES

- [1] Bariaud, F., & Bourcet, C. (1994). The feeling of self-worth. Educational and Vocational Guidance, 3, p.271-290.
- [2] Benin (1991). The Constitution of the Republic of Benin. Onepi.
- [3] Bolger, N. (1990). Coping as a personality process: a prospective study. *Journal of Personality and Social Psychology*, 59, 3, p.525-537.
- [4] Bruchon-Schweitzer, M. (2002). Health Psychology. Models, concepts and methods. Dunod.
- [5] Campbell, J.D. (1990). Self-esteem and clarity of the self-concept. *Journal of personality and social psychology*, 59 (3), p.538-549.
- [6] Diatta, S. (1999) Magico-religious practices, anxiety and psychological preparation in Senegalese athletes: Doctoral thesis in STAPS: University of Burgundy.
- [7] Edoh, K.P. (2004) *Traditional beliefs and motivations among students in the Republic of Benin*, Doctoral thesis in STAPS: University of Caen Basse Normande.
- $\label{eq:second} [8] \qquad \mbox{Memorandum N^0 0470 2018/UAC/INJEPS/D/SGE/SA$ dated May 17, 2018.}$
- [9] Nahimana, S., (1997). *Technique of the body and development: the practice and social representations of sport in Burundi*. Thesis for the doctorate in ethnology and social and cultural anthropology: Bordeaux 2, p.309
- [10] Rene H. (1982). Stress and fear in sport, (Ed), Nationales Komité for Elite Sport.
- [11] Safont, C. (1992). Self-orientation in adolescence: these relationships with self-esteem and social competence. 3rd cycle doctoral thesis, Toulouse Le Mirail University.
- [12] Slaviero, A. (2014). *Stress and coping strategies in first and sixth year medical students*. Thesis for the diploma of State Doctor in Medicine, University of Paris Diderot.
- [13] Tanimomo, L. (1986). Contribution to the transcultural study of rites in the psychological preparation of Beninese and French footballers: practical consequences. 3rd cycle doctoral thesis in STAPS, University of Clermont-Ferrand II, U.F.R. in STAPS.