ARTICLES

Scenic Anxiety in Professional Music Education Studies Learners'

Ansiedad Escénica en Estudiantes de Enseñanzas Profesionales de Música

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Abstract

Music Performance Anxiety (MPA) is a subjective construct of a maladaptive type created by the musician himself. This problem triggers a series of physical, cognitive, and behavioural symptoms that lead to a decreased interpretive effectiveness in public and a risk to the overall health of the sufferer. Therefore, this is a problem that affects musicians, both students and professionals, and constitutes a real obstacle to their careers. In this work, the level of MPA has been measured in learners of Professional Music Education Studies in Murcia (Southeast of Spain). For this purpose, the Spanish version of the K-MPAI (Kenny-Music Performance Anxiety Inventory) questionnaire was given to a sample of 403 students. The results indicate that the factors of MPA that reach higher levels are anxious apprehension, proximal somatic anxiety, and worry/dread. It is concluded that women, wind instrumentalists, students whose parents are musicians, as well as those who have studied music for more years present higher levels of AEM compared to their comparison group counterparts.

Key words: musicians; education; stress; conservatory; MPA.

Resumen

La Ansiedad Escénica Musical (AEM) es un constructo subjetivo de carácter desadaptativo creado por el propio músico. Este trastorno desencadena una serie de síntomas físicos, cognitivos y conductuales que suponen la disminución de la eficacia interpretativa en público y un riesgo para la salud integral de quien lo padece. Por tanto, se trata de un problema que afecta a músicos, tanto a estudiantes como a profesionales, y constituye un verdadero obstáculo para su carrera. En este trabajo se mide el nivel de AEM en estudiantes de la titulación de Enseñanzas Profesionales de Música de la Región de Murcia y se diseña una propuesta de intervención a través del Yoga para disminuir aquellos síntomas que resulten más significativos. Para ello, a una muestra de 403 alumnos se le administró la versión traducida al castellano del cuestionario K-MPAI (*Kenny-Music Performance Anxiety Inventory*) diseñado y validado por Kenny (2009). Los resultados indican que los factores de la AEM que alcanzan un nivel más alto son la aprehensión ansiosa, la ansiedad somática proximal y la preocupación/miedo. Se concluye que las mujeres, los instrumentistas de viento, los estudiantes que tienen padres músicos, así como quienes han cursado estudios musicales durante más años presentan niveles superiores de AEM frente a sus homólogos grupos de comparación.

Palabras clave: músicos; educación; estrés; conservatorio; AEM.

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1. Introduction

According to the American Psychiatric Association, performance anxiety (PA) is a specific subtype of social anxiety, referred to the fear that may appear in specific situations in which the person has to perform in front of others (Ballester-Martínez, 2015). This problem is associated with several psychophysical and behavioural reactions and can be triggered before, during, or even after the performance. This problem can be found in different professionals or students who must face an audience for the carrying out of their work, such as actors, dancers, speakers, athletes and musicians (Rowland & Van Lankveld, 2019). Among the studies on specific PA not related to the musical field, the research by Toral-Madariaga *et al.* (2008) stands out. They suggest that PA is the main obstacle in the speech of students and confirm that self-confidence, positive reinforcement, and a friendly environment lower their PA rates. Regarding the university context, González (2013) studied the effects of Neuro-Linguistic Programming (NLP) on students with PA. The technique empowers participants to be more aware of the physical, cognitive and emotional aspect. The development of these skills, by practicing them in everyday contexts, was able to decrease PA symptoms. Similarly, Rosa-Marín (2017) identified PA as a barrier to effective communication in university students and demonstrated that good preparation, the acquisition of communication skills and the improvement of self-confidence can contribute to the reduction of this problem.

It should be noted that Music Performance Anxiety (MPA) is a particularization of PA, which is defined as a subjective construct created unconsciously by the musician and that causes a disproportionate reaction to the stimulus presented, in this case, the stage, in any of its forms (Zarza-Alzugaray, 2016). This disproportionate reaction will be considered disadaptive, since it makes it impossible for musicians to perform in front of an audience, also causing harms at physical, cognitive, and behavioural levels, having a direct impact on the overall health (Burin & Osório, 2017). Kenny (2010) offered other definition of MPA where it is understood as "the experience of marked and persistent anxious apprehension related to musical performance". According to Williamson *et al.* (2013) and Shaw *et al.* (2020), for musicians, being able to perform high-quality concerts under situations of pressure is crucial to achieve career's success and to avoid giving up playing music. MPA usually occurs in performance settings in which there is high ego involvement, an evaluative threat from an audience, and a fear of failure (Kenny, 2011).

In an international context, much research has been developed so as to determine the prevalence of MPA. In this sense, Butkovic *et al.* (2021) recently reported that among their sample (152 music students and 87 orchestral musicians, both from Croatia and whose ages ranged between 16 and 64 years) a total of 28 % had a clinically significant MPA level. Another different study analysed a sample of 214 brazilian musicians (53,3% classical / 46,7% popular musicians) and found a 40 % of musicians who suffered MPA (Burin *et al.*, 2019). Regarding MPA prevalence, two systematic reviews reported that MPA values were between 15 and 25 % in professional orchestral musicians (Steptoe, 2001) and, more recently, between 16,5 and 60 % among students at music schools, universities and conservatories as well as professional musicians and music teachers (Fernholz *et al.*, 2019). Sabino *et al.* (2018) affirmed, based on these wide ranges, that the real prevalence of MPA is still uncertain. With regard to gender, several research agreed in concluding that MPA levels are higher among women compared to men (Aisha & Shipley, 2022; Papageorgi, 2022). Thus, according to them, sex is a significant variable when analysing MPA.

According to Zarza-Alzugaray *et al.* (2016a) and Viejo-Llaneza and Laucirica-Larrinaga (2016), MPA is a real and current problem in the music conservatories in Spain. In their work, the authors seek to understand the causes and factors involved, as well as the possible solutions. They point out that a reform of the current music studies curriculum should be done to incorporate content aimed at providing scenic coping strategies that prevent and decrease MPA rates, ensuring complete musical training and, therefore, more competent students. Examples of the techniques and strategies to cope with MPA are: exposition gradual increasing (start playing in front of a very few people and in a little stage and, progressively, increase the amount of public and the size of the stage), practice in imagination (when relax, imagine yourself performing with as much details as possible) and Alexander's relaxing techniques.

Ballester-Martínez (2015) affirmed that higher music education students suffer from high MPA. In his work, the author exposes the causes: 1) the high technical demand necessary to be able to compete in an ever-widening world of music and 2) the high degree of perfectionism required in frequent exams, admission tests, and regular concerts. These factors make musician vulnerable to suffer from any problem or imbalance such as MPA. For their part, Jarillo and Sebastià-Andreu (2012) remark that there is an interest on the part of teachers in solving this problem. However, it is no addressed due to shortage of time as well as the lack knowledge concerning appropriate strategies and techniques designed to control and overcome MPA.

According to Barlow (2000), MPA results from the combination of three factors of vulnerability: generalised biological vulnerability (genetic inheritance), generalised psychological vulnerability, and specific psychological vulnerability. Depending on the degree of vulnerability of each of these factors, the musician may suffer from a greater or lesser MPA problem and different intensity levels. Therefore, it is difficult to define a specific and unique cause for each musician, since it is a problem that can appear for varied and heterogeneous reasons that affect, in turn, each subject differently (Flores *et al.*, 2019). Regarding the main symptoms manifested in MPA, Dalia-Cirujeda (2004) establishes a threefold classification: physiological (e.g. tachycardia, urge to urinate, hyperventilation…), cognitive (e.g. irrational thoughts, fear of failure, let down emotions…) and behavioral (e.g. fidgeting or reviewing scores compulsively before performance). All of them are connected and often influence one another, causing a state of general discomfort in the individual (Burin & Osório, 2017).

Considering the implications mentioned above, the main objective of this work is to analyse the levels of MPA in learners of Professional Music Education Studies in the Region of Murcia (Spain), as well as to examine any differences according to sex, the instrumental family, the presence of musicians among parents, and the years of experience in musical practice. Additionally, this study attempts to provide sufficient information to serve as the basis for possible intervention proposals for the control of MPA symptoms.

2. Materials and methods

2.1 Participants

Professional Music Education Studies are structured in six courses with different instrumental specialties (e.g. accordion, harp, electric bass…) and vocals (e.g. singing, flamenco…). These studies aim to provide students with quality artistic training, as well as guarantee the qualification of future music professionals (Comunidad Autónoma de la Región de Murcia, p.14347). To start Professional Music Education Studies an admission test must be

passed, so there is no minimum or maximum age to study them. The participating sample was composed by 436 music learners of Professional Music Education Studies, although 33 subjects were excluded after applying the outlier case elimination test and the Mahalanobis distance calculation, as well as the deletion of those subjects who left any items unfilled. Thus, the analysed sample consisted of a total of 403 students of music (165 men and 238 women) whose ages vary from 12 to 48 years old (16.49 ± 2.93) enrolled in an institute with the program of integrated musical studies and/or in two music conservatories in the Region of Murcia (Spain). Their experience playing music instruments varied from one to eleven years (8.31 ± 2.44). Access to the sample was made through random non-probabilistic sampling, "which is based on the selection of subjects to which the researcher has access" (Latorre *et al.* 2003, p.82).

2.2 Instruments

To assess musical anxiety, authors used the K-MPAI (Kenny-Music Performance Anxiety Inventory) questionnaire, designed and validated by Kenny (2009), in the version translated into Spanish in the doctoral thesis of Ballester-Martínez (2015). This questionnaire consists of 40 items, which are grouped into 8 factors with the following internal consistency values: 1) generational transmission of anxiety, consisting of 3 items (e.g. "My father, my mother or both were too anxious; $\omega = .624$"), 2) parental empathy, consisting of 4 items (e.g. "My parents are generally sensitive to my needs; $\omega = .602$"), 3) depression and/or hopelessness, consisting of 8 items (e.g. "I often feel that there is nothing to make me excited; $\omega = .773$"), 4) anxious apprehension, consisting of 3 items (e.g. "Due to anxiety, I let slip worthwhile opportunities to perform; $\omega = .647$"), 5) biological vulnerability, consisting of 1 item (e.g. "From the beginning of my music studies, I remember being anxious when performing"), 6) proximal somatic anxiety, consisting of 11 items (e.g. "My concern and nervousness about my performance interfere with my attention and concentration; $\omega = .883$"), 7) worry/fear, consisting of 8 items (e.g. "I am concerned about feeling evaluated by others; $\omega = .820$") and 8) memory reliability, consisting of 2 items (e.g. "I trust my memory; $\omega = .470$").

Ballester-Martínez (2015) grouped these factors into three categories: 1) the context of early relationships (formed by the generational transmission of anxiety and parental empathy), 2) psychological vulnerability (formed by depression and/or hopelessness, anxious apprehension and biological vulnerability) and 3) concerns of action (formed by proximal somatic anxiety, worry/fear, and memory reliability). According to the statistical recommendations of Hair *et al.* (1998), the internal consistency of some factors with values under .70, when composed of a small number of items, as in the K-MPAI questionnaire, may be considered acceptable. The response format corresponds to a 7-option Likert scale, ranging from (0) Totally Disagree to (6) Totally Agree.

2.3 Procedure

This study is an ex-post facto, quantitative, descriptive and cross-section research (Thomas & Nelson, 2007). For the development of the research, first, the ethical considerations of the study were guaranteed. For this purpose, approval was obtained from the Ethics Committee of the University of Murcia (ID: 2684/2020). Secondly, permission to participate was requested from the directors of the participating centres; with their approval, coordination was carried out with the teachers of each group of students to carry out the administration of the questionnaires

during school hours and without temporary constrains in January and February 2020. The presence of the principal researcher allowed reminding students that participation in the study was voluntary, and that the processing of the data would be anonymous, without any impact on the qualification of any subject. Besides, the researcher interacted with students to solve any doubts that could arise, thus increasing the academic rigor in administering the questionnaires. The time required for the filling out of the questionnaires did not exceed 15 minutes.

2.4 Data analysis

Statistical processing of data was carried out using SPSS v. 24.0 and JASP 0.14. Atypical case elimination tests and Mahalanobis distance calculation were used for database debugging. Factors' internal consistency was determined with McDonald's omega values. Even though Cronbach's alpha is most commonly used when analysing internal consistency, Gu *et al.* (2013) demonstrated that alpha may overestimate reliability with differentials as high as .38, so its accuracy is questioned. On the contrary, McDonald's omega is able to reduce it (Viladrich *et al.*, 2017). The Kolmogorov-Smirnov tests of 1 sample and χ^2 were used to know the normality of the data, resulting, in both cases, in non-parametric distributions. For differences between categorical variables, U of Mann Whitney, H of Kruskal Wallis, and multinomial logistic regression tests were applied. This last test has been considered a multivariate extension of classic binary logistic regression (Pando & San Martín, 2004) that can group participants. Finally, the correlation analysis was calculated with Pearson's r.

3. Results

The values of the descriptive statistics for the total sample, as well as the differences by sex, are listed in Table 1:

Table 1. Musical stage anxiety for total sample and differences by sex (These values are Mean ± Standard deviation)

Variable	Total	Sex		p
		Man	Woman	
Generational transmission of anxiety	2.15 ± 1.42	1.94 ± 1.26	2.30 ± 1.51	.024
Parental empathy	4.75 ± 1.00	4.63 ±.98	4.83 ± 1.01	.017
Depression	2.32 ± 1.03	2.10 ± .98	2.47 ± 1.04	.000
Anxious apprehension	3.15 ± 1.44	2.62 ± 1.34	3.51 ± 1.39	.000
Biological vulnerability	2.68 ± 2.10	2.62 ± 2.01	2.72 ± 2.16	.706
Proximal somatic anxiety	2.99 ± 1.33	2.47 ± 1.22	3.35 ± 1.28	.000
Worry/fear	3.33 ± 1.28	2.82 ± 1.14	3.69 ± 1.26	.000
Memory reliability	2.99 ± 1.56	3.14 ± 1.47	2.89 ± 1.62	.108
Context of early relationships	1.70 ± 1.00	1.65 ± 0.95	1.74 ± 1.04	.384
Psychological vulnerability	2.71 ± 1.06	2.44 ± 1.00	2.90 ± 1.06	.000
Concern for acting	3.11 ± 1.02	2.72 ± .93	3.38 ± 1.00	.000

As noted in the table above, the most significant values for the total sample are positive in the high values of parental empathy and low generational transmission of anxiety. However, high levels of anxious apprehension, proximal somatic anxiety, worry/fear, and, at the category level, concern for performance are also seen in the negative sense.

As far as sex is concerned, significant differences are observed in almost all factors, with higher values for women in the perception of generational transmission of anxiety, parental empathy, depression, anxious apprehension, proximal somatic anxiety, worry/fear, psychological

vulnerability, and concern for performance. These differences are ratified in the reported results of multinomial logistic regression (Table 2).

Table 2. Differences according to sex in levels of psychological vulnerability, concern for performance and musical stage anxiety

Anxiety Level	Sex[4]
	Woman
Psychological vulnerability[1]	
Very high psychological vulnerability (3.44 - 5.17)	3.55 (1.97 - 6.41)***
High psychological vulnerability (2.69 - 3.43)	1.99 (1.14 - 3.50)*
Low psychological vulnerability (1.93 - 2.68)	1.90 (1.08 - 3.32)*
Concern for performance[2]	
Very high concern (3.89 – 5.78)	6.66 (3.52 - 12.61)**
High concern (3.12 - 3.88)	3.44 (1.93 - 6.16)**
Low concern (2.32 - 3.11)	1.27 (.73 - 2.23)
Musical scenic anxiety[3]	
Very high musical scenic anxiety (3.11 - 4.65)	3.65 (2.02 - 6.59)**
High musical scenic anxiety (2.51 - 3.10)	2.78 (1.57 - 4.93)**
Low musical scenic anxiety (1.93 - 2.50)	1.58 (.91 - 2.76)

[1]Reference group: Very low psychological vulnerability (.35 - 1.92). [2]Reference group: Very low concern (.76 - 2.31). [3]Reference group: Very low musical scenic anxiety (.44 - 1.92). [4]Reference group: Man. *p<.05 **p<.01. Values inside brackets represent intervals. Values outside brackets represent means

As noted in the table above, women tend to cluster into sets of very high, high, and low psychological vulnerability (leaving the group of very low psychological vulnerability for men) as well as those sets of very high and high concern for performance. Regarding musical stage anxiety (considered as a global factor), it is appreciated that women are more likely to be part of very high and high musical stage anxiety groups.

As for the family of the instrument practiced, only differences have been found in memory reliability that reach statistical significance (p = .034; $\chi 2$ = 6.78), with wind students reporting more confidence in their lower memory (2.83 ± 1.54) than that of string students (3.06 ± 1.60) and especially percussion (3.80 ± 1.12). As for having a musician parent or not, there have also been statistically significant differences only in the category of psychological vulnerability (p = .011; Z = -2.53), presenting those students without musician father or mother greater psychological vulnerability (2.76 ± 1.06) compared to those who has musician father or mother (2.24 ± 0.93).

Finally, Table 3 lists the matrix of correlations between musical stage anxiety and the number of years of musical studies.

Table 3. Correlations between musical stage anxiety factors and the number of years of musical studies

	1	2	3	4	5	6	7	8	9	10	11
1. Years of musical studies	1										
2. Generational transmission of anxiety	.174(**)	1									
3. Parental empathy	-. 185(**)	-.348(**)	1								
4. Depression	.128(*)	.498(**)	-. 398(**)	1							
5. Anxious apprehension	.161(**)	.369(**)	-.120(*)	.403(**)	1						
6. Biological vulnerability	-.037	.158(**)	-.096	.115(*)	.143(**)	1					
7. Proximal somatic anxiety	.127(*)	.465(**)	-.112(*)	.433(**)	.694(**)	.227(**)	1				
8. Worry/fear	.099(*)	.457(**)	-.092	.438(**)	.563(**)	.182(**)	.744(**)	1			
9. Memory reliability	.035	-.045	.044	-.081	-.182(**)	-.108(*)	-.151(**)	-.097	1		
10. Context of early relations	.217(**)	.883(**)	-.747(**)	.553(**)	.321(**)	.160(**)	.386(**)	.370(**)	-.054	1	
11. Psychological vulnerability	.090	.434(**)	-.250(**)	.584(**)	.678(**)	.762(**)	.605(**)	.517(**)	-.181(**)	.433(**)	1
12. Concern about acting	.078	.415(**)	-.109(*)	.412(**)	.628(**)	.229(**)	.821(**)	.790(**)	-.616(**)	.349(**)	.570(**)

A positive correlation is observed between the years of musical studies and the generational transmission of anxiety, depression, anxious apprehension, proximal somatic anxiety, worry/fear, and the context of early relationships. In the opposite direction, more years of musical studies correlate with less perceived parental empathy.

4. Discussion

The main objective of this work was to analyse the degree of scenic anxiety in learners of Professional Music Education Studies in the Region of Murcia. In this sense, we can conclude that MPA is present among these students, being the factors of anxious apprehension, proximal somatic anxiety, and worry/fear the most significant. Moreover, the influence of gender was the first specific goal. Thus, we found a higher MPA condition in the female gender, as a conclusion. As for the second specific goal (type of music instrument), we came to the conclusion that wind instrumentalists were the most likely to suffer from MPA. Finally, with regard to the influence of musician parents (third specific aim), it can be concluded that higher levels of vulnerability corresponded to students without non-musician parents.

Regarding personal variables that may be related to the level of MPA, significant differences were obtained according to sex in the factors of anxious apprehension, proximal somatic anxiety, and worry/fear, the latter two included in the category titled "concern for the performance" established by Ballester-Martínez (2015). Anxious apprehension is the process that is triggered in musicians because of the way they interpret a situation as dangerous, in this case, related to musical performance in public (Velázquez-Díaz *et al.*, 2016). It can manifest itself through affective, cognitive, somatic, and behavioural symptoms in combination (Ballester-Martínez, 2015) so, proximal somatic anxiety (referring to physical symptoms) and worry/fear (referring to cognitive and behavioural symptoms) are directly related to anxious apprehension,

being highly difficult to separate from each other. Because of this connection between the body, mind, and emotions and the influence that each part has on the others, some studies address the problem of MPA proposing holistic treatments, encompassing the different dimensions of the human being and, by extension, the musician's dimension. In this regard, Kenny and Ackermann (2012) present a list of the most used and effective therapies for MPA treatment, addressing physical, cognitive, and behavioural aspects. Along the same line, Rowland and Van Lankveld (2019) found a direct connection between the different symptoms experienced by a musician with MPA and the need to be treated simultaneously to achieve a decrease in anxiety levels.

In terms of potential treatment, Ferreira and Teixeira (2019) recommend four strategies: behaviours to be adapted before the performance (greater rest, greater dedication to testing and vocal warming and moments of relaxation); positive thoughts to dwell on before the performance (self-messages of confidence), avoid worries and try to maintain balance. In the same vein, Puigbó *et al.* (2019) remarked that the development of the three components of emotional intelligence (attention, comprehension, and regulation) represent a key factor as well as looking for social support. Traditionally, many MPA treatments used to intervene with medicines (Shawn *et al.*, 2020). Although there are some medications to prevent or manage anxiety -Kenny et al. (2012) remarked propranolol and nadolol-, the most up-dated trends support the use of psychological therapies, which have demonstrated to be as powerful as medications (Godoy *et al.*, 2019; Pérez-Saussol & Iniesta, 2020). For instance, mindfulness programs are also considered as a good strategy to reduce anxiety and stress levels (Ritvo *et al.*, 2021).

About the gender variable, significant differences have been found in almost all factors, with women most likely to develop MPA, in line with the results of Onuray-Egilmez (2012). Kenny and Osborne (2006) also corroborate this claim, stating that women are two to three times more likely to suffer MPA than men. These results could be associated with the study of Widmer *et al.* (1997), who found that women were more likely than men to suffer from a hyperventilation problem in both everyday situations and public performances.

This trend is also determined by the levels of trait anxiety (biological characteristics) existing in everyone, being higher among the female population, as demonstrated by Kokotsaki and Davidson (2003). Therefore, a connection could be established between the degree of MPA and gender. However, Rodríguez-Mora and López-Díaz (2020) stated that it is difficult to determine which are the specific characteristics that make women feel more MPA compared to men. Cuartero-Oliveros (2019) pointed out that, in this difference with regard to gender, perhaps the less support that women feel from their teachers compared to men could act as a predictor of MPA. According to Rodríguez-Mora and López-Díaz (2020), scientific literature about this difference is still scarce and it could be considered as a future research line.

Regarding the instrumental family, it has been proven in this study that wind instrumentalists tend to rely less on their memory compared to string and percussion students. According to Burin and Osório (2017), this could be because wind instrumentalists rely on their breathing quality for optimal results and respiratory system fails may lead to temporary memory loss episodes. Therefore, it is essential for students to learn correct breathing for the instrumental technical domain and the management of nervousness, anxiety, and stress in situations that involve musical performance in front of an audience (Sellés-Navarro, 2019). This finding is consistent with that obtained by Fishbein *et al.* (1988), which concluded that MPA was higher among musicians who play wind instruments. However, these data contradict those obtained by Wolfe (1989), who found that the highest levels of MPA are presented among string

instrumentalists compared to other instrumental families, coinciding this result with a more recent study by Zarza-Alzugaray (2012), who obtained significant differences in both string instrumentalists and singing students compared to other instrumental families. According to these studies, one of the variables that could be related to these results could be the type of repertoire that students must interpret and the level of technical demands that comes with the execution of such musical works. In this point, it is important to point out that, in this study, there were no participants whose instrument was his voice. Ferreira and Teixeira (2019) analysed the anxiety levels among lyric singers and stated that bad performance experiences in this group leads to anxiety alterations of daily routines with regard to personal and social habits. Torrano *et al.* (2020) observed that 1181 university students from Murcia remarked that their biggest source of stress was those examinations or tests that implied the use of their voice, instead of the typical written test.

With regard to family, it has been proven that having one or two musician parent influence the psychological vulnerability of the student; in other words, the student is more psychologically vulnerable when he does not come from a family whose members are musicians. According to Ballester-Martínez (2015), this could be due to a more lavish musical affinity and family support that favours the development of musical skills and fosters greater confidence, reducing MPA levels. Besides, an optimistic and playful environment regarding public performance provides motivation and positive attitudes, preventing the possible suffering of MPA (Zarza-Alzugaray *et al.*, 2016b). In this regard, it is important to remark that family has been traditionally considered as a wellness setting (Cerezo *et al.*, 2011). However, Flores-Bravo *et al.* (2018) also pointed out that those parents who perceived that they have not developed the required capabilities to cover a suitable upbringing tends to suffer anxiety. There is also a positive correlation between psychopathologic symptoms in parents and psychological problems in their children (Leijdesdorff *et al.*, 2017).

Concerning the number of years of musical studies, a positive correlation has been found between the number of years and MPA levels; the more years of musical study, the higher the level of anxiety. According to Kenny *et al.* (2004), this could be because, in advanced courses, there are higher aspirations on the part of the interpreter and a higher desire to achieve good results which, in turn, generate more pressure on the student and, therefore, greater tendency to suffer MPA. By contrast, Domingo-Mateo (2015) states that the more years of musical study the less anxiety about public performances is experienced. However, Zarza-Alzugaray *et al.* (2015) have stated there is no relationship between the number of years of musical studies and MPA levels.

According to previous paragraphs, personal variables have great weight in the condition of MPA and, in this regard, Zarza-Alzugaray *et al.* (2016a) pointed out that part of the problem has been attributed to the absence of adequate training plans properly integrated into the curriculum of musical studies, as well as the lack of teaching preparation involving the learning of stage coping strategies.

In conclusion, it must be said that this work already has results that could serve as a guide for the development of stage intervention strategies. The provided characteristics that correlate with MPA (women, wind students and those without musicians in their family context) should be considered to design more adequate treatments. However, some limitations to be considered for in future research must be acknowledged. First, so as to facilitate extrapolation of the results to the rest of the population under study, it would be advisable to increase the sample size, as well as to use non-probabilistic sampling techniques. This could mitigate the possible influence of

Murcia sociocultural peculiarities in the results; a possible influence whose details have not been analysed in this study.

Secondly, the information obtained was collected through a single instrument, which could be supplemented by implementing other data collection methods, not only quantitatively as has been done in this research but also qualitative techniques such as interviews or discussion groups, so researchers may get involved in a process of triangulation of information.

5. Scope, limitations and future research

In this research, there was a high sample of subjects from two centres of Musical Teaching in the Region of Murcia (403 students). However, in future research, the scale of work is intended to be expanded, diversifying the selection of the sample to a more significant number of centres. Moreover, to enrich the new data collection, the use of questionnaires and other techniques such as interviews and discussion groups is also suggested. Although it is true that learners of Professional Music Education Studies have been the object of study, research by shifting the focus towards their teachers could be decisive for the prevention and/or decrease of MPA. For this reason, the authors propose the following research lines: the verification of those personal strategies that help to reduce MPA, seeing whether MPA is mediated by specific traits of personality or the influence of previous musical experiences (like relationships between students and teachers) and analysing the perspective of the musical interpretation teacher, taking into account his knowledge of stage strategies, as well as the level of involvement when teaching those skills. Furthermore, and as the last proposal, a curriculum analysis could be included in the musical studies related to scenic confrontation sought by music schools that could even prevent the abandonment of such studies because of a MPA problem.

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