

Predicting the Performance Anxiety of Musicians Based on Coping Strategies and Emotional Self-Regulation with the Mediation of the Conscious Mind

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Abstract

Introduction: Music performance anxiety has been the focus of psychological research in recent years. The anxiety of music performance is a big problem which musicians, students of the music field are involved with, and at high levels this anxiety prevents the performance or even leads to an impact on the performance or even leaving the stage. The aim of this study was to develop a causal model for predicting music performance anxiety based on coping strategies and emotional self-regulation mediated by mindfulness. **Materials and Methods:** This research was descriptive-correlation type. The statistical population of this study included all musicians, music teachers, and music students in Kermanshah (1,200 persons). A sample of 300 music students and musicians (according to Morgan's table) were selected as available sampling. In this study, information collection tools included 4 standard questionnaires of music performance anxiety of Kenny, Andler and Parker Coping Styles, emotional self-regulation of Garnfsky & Kreich, and the pentagonal mindset of Bayer *et al.* For inferential analysis of the data, the effects have been investigated using structural equation modeling and Smart PLS software. **Results:** The results showed that emotion-oriented coping style ($\beta=0.04$, $T=6.50$) and avoidance coping style ($\beta=0.03$, $T=7.12$) had a positive and significant effect on music performance anxiety, but problem-oriented coping style has a negative and significant effect ($\beta=-0.05$, $T=-7.04$). Also, positive cognitive-emotional self-regulation had a negative and significant effect ($\beta=-0.08$, $T=7.73$), and negative cognitive-emotional self-regulation had a positive and significant effect ($\beta=0.04$, $T=7.10$). There was a negative and significant effect between mindfulness and music performance anxiety ($\beta=-0.26$, $T=5.74$). **Conclusion:** Music performance anxiety is predictable and appropriate strategies can be used to control and reduce it. In this regard, it is important to educate and inform musicians about coping strategies, emotional self-regulation, and mindfulness.

Keywords: Coping strategies; Emotional Self-Regulation; Mindfulness; Music performance anxiety

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Introduction

Anxiety is a widespread, unpleasant, and vague feeling of fear and worry with an unknown origin that affects a person and includes uncertainty and lack of physiological arousal (1). Performance anxiety is a group of disorders that affect people in a wide range of endeavors, such as tests, math performance, public speaking, sports, and the performing arts in dance, acting, and music (2). Kenny *et al.* defined music performance anxiety as a clear and continuous anxiety of musicians about their performance, which manifests itself in a combination of emotional, cognitive, physical, and behavioral symptoms. Music performance anxiety is a complex phenomenon caused

by the interaction of many factors, including genetic factors, environmental stimuli and experience, emotions, cognitions, and individuals' behaviors. Music performance anxiety manifests through three components, independent of different types: cognition, arousal, and independent behaviors. While a certain degree of functional anxiety is facilitating and normal, sometimes it can be debilitating and can even be considered as a mental disorder (3). The studies conducted in this area such as Ryan (4) and Ryan and Butcher (5) indicate the spread of the problem of music performance anxiety among musicians of all ages and playing styles around the world.

Experience in music making can be undermined by concerns about a performer's evaluation of his/her own performance or

that of others. This can lead to debilitating anxiety in a wide range of physiological, cognitive, emotional, and behavioral domains. Physiological symptoms can be similar to the experience of panic. These include high heart rate, muscle tension, tremors, restricted breathing, sweating, visual disturbances, dizziness, and gastrointestinal disturbances. Concerns about visible manifestations of anxiety can also affect this technique and lead to complications in how the audience perceives the symptoms. Cognitive symptoms can occur before performance in the form of catastrophic thoughts about the possibility of symbolic error, memory loss, loss of body control, negative audience reaction, and fear of negative evaluation. Emotionally, the musician may feel frustrated or depressed (6). Those who succeed in entering the highly competitive field of classical music must not only possess personal attributes such as determination and resilience but also acquire cognitive and social skills, instrument-specific motor skills, coping skills adequate to the psychological demands of public performance, and the ability to manage their time and be responsible for their physical and mental health. While musicians report the highest level of job satisfaction, they are also among the five occupational groups most likely to report mental illness (7).

Performance anxiety has been investigated in various fields, including exams, public speaking, writing, sexual performance, sports, and performing arts (dance, music, and acting) (7). Urruzola and Bernaras found that anxiety can negatively affect the quality of performance, and increase the probability of failure and dysfunction (3).

One of the factors focused on the music performance anxiety is coping strategies. Coping is mastering, reducing or tolerating the damage that causes stress. There are many theories about coping, according to Folkman and Lazarus (8) that coping includes all cognitive and behavioral efforts used to inhibit, reduce or tolerate internal or external requests. According to Lazarus's theory, there are two main types of coping (problem-oriented and emotion-oriented) against psychological pressure. In problem-oriented coping, a person focuses on the stressful factor and tries to take constructive measures in order to change the stressful situation or eliminate it. On the other hand, in emotion-oriented coping, the person tries to control the emotional consequences of the stressful event (9). The primary function of emotion-oriented coping is to regulate and control the stressor's emotions in order to maintain the individual's emotional balance. Based on psychological theories, the coping strategies play an important role in reducing stress and consequently the mental health of people, and the concept of stress alone, without considering their coping skills, has limited value in explaining and

predicting the condition of people. In other words, the better people's resources are for coping, the less likely they are to be caught in situations that lead to injury (9). In this context, Osório *et al.* (10) found that the most common reasons reported were list difficulty (57%), concern about audience reaction (52%), and stress (51%). The most common coping strategies included breathing/relaxation techniques (66%) and increased practice (53%) considered by at least 49% of musicians. It should be noted that although each of the coping methods is effective, the important discussion of different texts is the identification of effective coping strategies (11). In recent years, the coping strategies have been studied in different groups, one of these groups being musicians.

One of the factors considered by those who are active in the field of music performance anxiety is emotional self-regulation and re-evaluation of negative emotions and excessive expression of emotions in a clear way in people who have negative feelings, thoughts and emotional disturbances, and negative social consequences. As a result, it will bring negative internal reactions, and in this sense, it is considered as an incompatible behavior. This dual function of emotions refers to the process of emotional regulation during which people regulate and adjust their emotions according to different situations. In fact, the emotion regulation refers to the processes by which people influence their emotions, and according to this process, it is determined how a person experiences and expresses his/her emotions (12). Emotional self-regulation refers to one's efforts to change the situation, including thoughts, emotions, impulses, desires, behaviors, and attention processes. Many evidences show that people with emotional self-regulation, that is, those who know their emotions well and regulate them and understand the emotions of others, are successful and efficient in different areas of life. The purpose of emotional self-regulation is not only to suppress undesirable emotions, but also to express one's emotions in a calm situation. Instead, the emotion regulation involves the process of monitoring, evaluating, and modifying emotional experiences. Emotional self-regulation strategies refer to the way people think after a negative experience or traumatic event (13).

It is clear that various factors determine the effect of a psychological intervention on a specific problem, and music performance anxiety is no exception to this rule (12). Mindfulness is an unintentional meditation on current events. Mindfulness can be considered as the ability to self-regulate attention and direct it towards an experience. Based on this, careful regulation of attention is a central component of mindfulness [14]. Mindfulness means paying attention to the

present in a specific and purposeful way without judgment and a way to communicate with positive, negative and neutral experiences. These techniques teach people to identify involuntary habitual patterns and mental rumination and turn them into conscious and voluntary patterns so that negative feelings and thoughts are considered as simple and transient events in the mind. Therefore, the presence of mind is to observe the fluid flow of internal and external stimuli without any judgment (13). Farnsworth-Grodd (12) in a research investigating the role of mindfulness in coping strategies to regulate music performance anxiety in a sample of music students found that the aspect of situational mindfulness was associated with low music performance anxiety. The coping strategies with higher hope and relative avoidance associated with nature mindfulness are more effective than situational mindfulness.

Based on what has been said, the anxiety of music performance is a big problem that Mostly musicians, and students of the music field are involved with, and at high levels this anxiety leads to an impact on the performance or even prevents the performance and leaving the stage. Therefore, the aim of this study was to develop a causal model for predicting music performance anxiety based on coping strategies and emotional self-regulation mediated by mindfulness.

Materials and Methods

The statistical population of this research included all musicians, music teachers, and music students of Kermanshah city. A sample of 300 students and musicians was selected through the online sampling.

Instruments

In this research, four standard questionnaires were used to collect information:

Kenny Music Performance Anxiety Questionnaire

This questionnaire was created by Kenny *et al.* (3) to investigate the relationship between music performance anxiety and Barlow's emotion-based theory. The dimensions of this instrument include 26 items to elicit anxiety characteristics (including uncontrollability, unpredictability, negative affect, and situational cues), attentional shifts (including focusing on self-evaluation or task, fear of negative evaluation), physiological arousal, and memory bias. The questions are answered on a 7-point Likert scale ranging from -3 completely disagree to +3 completely agree. This questionnaire had high internal consistency with Cronbach's alpha 0.94.

In this research, the internal consistency index, *i.e.*, the Cronbach's alpha coefficient of the questionnaire was calculated as 0.78, but after removing the questions which had a small factor load, the Cronbach's alpha coefficient was obtained as 0.82, showing only 18% of the variance of the total scores of the questionnaire is due to errors. The measurement achieved is also a good sign of the reliability of this questionnaire.

Also, Guttman's method was used to determine the reliability range of the questionnaire. The range of alpha coefficient varied from 0.78 to 0.85. This can be a good sign of the reliability of this questionnaire. The reliability of this test was 0.79 by dividing it into two halves. The intra-factor similarity of Cronbach's alpha method was 0.80 and for the second factor was 0.68. The correlation of these two factors is also 0.64. The correlation of performance anxiety and recall anxiety with the total score was 0.89 and 0.85, respectively (11).

Endler and Parker Coping Styles Questionnaire

Andler and Parker's stress coping styles questionnaire has three subscales including problem-oriented coping style, emotion-oriented coping style, and avoidance-oriented coping style (9). Cronbach's alpha was utilized to obtain the reliability of the stress coping styles questionnaire in the group of students Cronbach's alpha has been reported for the problem-oriented coping style in boys and girls, 0.92 and 0.85 respectively, for emotion-oriented coping style of boys and girls, 0.82 and 0.85, respectively and the avoidance coping style for boys 0.85 and girls 0.82 (14).

Garnevsy and Kraich emotional self-regulation questionnaire

It is a 36-item instrument and measures the cognitive regulation strategies of emotions in response to threatening and stressful life events, including self-blame, other-blame, focus on thought/rumination, catastrophizing (catastrophic thinking), downplaying and positive refocusing. It measures the positive reappraisal, acceptance, and refocusing on planning. The Persian form of this scale has been validated by Samani S, Sadeghi (15) with Cronbach's alpha of 0.88. The alpha coefficient for the subscales of this questionnaire was reported by Granfsky *et al.* in the range of 0.71 to 0.81 (1).

Bayer et al.'s five-dimensional mindfulness questionnaire

It is a 39-item questionnaire developed by Bair *et al.* [6] this Questionnaire was created through combining the questions of the Freiberg questionnaires, the scale of awareness and conscious attention, the revised scale of cognitive and emotional awareness, Philadelphia Mindfulness Questionnaire and using the factor analysis method (13). Philadelphia Mindfulness Questionnaire and was created using the factor

Table 1. Descriptive indices of research variables

The variables	N	SD (Mean)	Score range		Skewness	Kurtosis
			Min	Max		
Problem-oriented coping style	309	11.93 (37.75)	16	80	0.84	1.11
The second is emotional confrontation	309	11.70 (38.28)	16	69	0.48	-0.39
Avoidant coping style	309	11.52 (36.42)	16	66	0.72	0.07
Positive focus/planning	309	7.69 (33.36)	14	50	-0.16	-0.31
Positive evaluation/wider view	309	3.89 (16.27)	6	25	-0.27	-0.17
Positive cognitive regulation	309	9.64 (49.64)	23	72	-0.23	-0.26
Blame yourself	309	3.31 (13.07)	4	20	-0.24	-0.25
Blame others	309	2.65 (8.78)	3	15	0.06	-0.47
Rumination	309	4.05 (15.23)	5	25	-0.009	-0.37
Make a disaster	309	3.38 (14.18)	4	20	-0.43	-0.04
Reception	309	4.26 (18.41)	5	25	-0.64	0.11
Negative cognitive regulation	309	14.51 (69.70)	27	100	-0.21	-0.41
View	309	6.92 (32.34)	12	45	-0.37	-0.34
Description	309	5.71 (23.91)	9	35	-0.57	-0.16
Action with awareness	309	6.80 (26.81)	9	40	-0.27	-0.35
No judgment	309	6.48 (23.27)	8	40	-0.06	-0.12
Lack of reaction	309	5.32 (22.19)	8	35	0.02	-0.07
Mindfulness	309	22.48 (128.54)	62	185	-0.16	-0.24
Self-assessment	309	13.16 (26.78)	0	56	0.002	-0.73
Negative affect and situational signs	309	10.23 (12.89)	0	41	0.78	-0.25
Fear of negative evaluation	309	5.13 (7.77)	0	24	0.87	0.64
Uncontrollable	309	4.50 (9.85)	0	18	-0.26	-0.72
Unpredictable	309	3.26 (6.58)	0	12	-0.18	-1.03
Music performance anxiety	309	27.24 (63.90)	8	144	0.15	-0.44

analysis method. This questionnaire measures five dimensions of mind-awareness under the title of observation, description, conscious action, non-judgment of internal experiences, and non-reaction to internal experiences (13). According to the results, the internal homogeneity of the factors was appropriate and the alpha coefficient was in the range of 0.75 (in the non-reactivity factor) to 0.91 (in the description factor). The correlation between the factors was moderate and significant in a range between 0.15 and 0.34 (9). Also, in a study conducted on the validity and reliability of this questionnaire in Iran, the test-retest correlation coefficients of the FFMQ questionnaire in the Iranian participants were between $r=0.57$ (related to the non-judgmental factor) and $r=0.84$ (the factor observed). Also, the alpha coefficients were acceptable (between $\alpha=0.55$ for the non-reactivity factor and $\alpha=0.83$ for the description factor) (9).

For the inferential analysis of the data, using the structural equation model, using the SmartPLS version 3 software, the specified paths of the research were examined according to the conceptual model.

Results

The Table 1 summarizes the descriptive indices of the research variables.

Kolmogorov-Smirnov test was used to check the type of data distribution. As shown in the Table 2, the significance level of the Kolmogorov Smirnov test for the variables of positive cognitive regulation, negative cognitive regulation, mindfulness, and musical anxiety was more than 0.05 and shows that the data distribution of these variables was normal. Therefore, Pearson's parametric method was used to examine the correlation between these variables. Except for the mentioned variables, the significance level of other variables was less than 0.05, showing that the distribution of their data was abnormal. Therefore, Spearman's non-parametric method was applied to investigate the relationship between these variables and other ones.

Measurement models

In examining external models, three criteria of reliability, convergent validity, and divergent validity were utilized. In the

Table 2. The results of the data distribution type test

Variables	Kolmogorov Smirnov test		Test result
	Statistic value	Level of significance	
Problem-oriented coping style	0.083	0.001	Abnormal
The second is emotional confrontation	0.122	0.001	Abnormal
Avoidant coping style	0.136	0.001	Abnormal
Positive focus/planning	0.073	0.001	Abnormal
Positive evaluation/wider view	0.085	0.001	Abnormal
Positive cognitive regulation	0.05	0.057	Normal
Blame yourself	0.085	0.001	Abnormal
Blame others	0.103	0.001	Abnormal
Rumination	0.063	0.004	Abnormal
Make a disaster	0.085	0.001	Abnormal
Reception	0.086	0.001	Abnormal
Negative cognitive regulation	0.042	0.2	Normal
View	0.067	0.002	Abnormal
Description	0.124	0.001	Abnormal
Action with awareness	0.074	0.001	Abnormal
No judgment	0.076	0.001	Abnormal
lack of reaction	0.068	0.001	Abnormal
Mindfulness	0.047	0.20	Normal
Self-assessment	0.05	0.065	Normal
Negative affect and situational signs	0.121	0.001	Abnormal
Fear of negative evaluation	0.11	0.001	Abnormal
Uncontrollable	0.078	0.001	Abnormal
Unpredictable	0.113	0.001	Abnormal
Music performance anxiety	0.037	0.20	Normal

reliability section, it is necessary to check the reliability at the level of the representative and the current variable. Cronbach's alpha coefficient and composite reliability coefficient are criteria for checking the internal consistency between observable variables in a measurement model. Internal consistency indicates the degree of correlation between a variable and its related items. Acceptability criterion for Cronbach's alpha coefficient and composite reliability coefficient indicates the reliability of the measurement model, which has a minimum value of 0.7.

As can be seen in the Table 3, the Cronbach's alpha coefficient values of all measured variables were more than 0.7. The appropriateness of reliability was confirmed with this index. The values of the combined reliability coefficient of all variables were more than 0.7. So, it confirms the appropriateness of their reliability. The convergent validity is defined as measuring the degree of explanation of the underlying variable by the observable variables measured by the average variance extracted. As shown in the Table 3, the mean of the extracted variance of the variables was more than 5. So, the appropriateness of convergent validity was confirmed with this index. Divergent validity is the third criterion for examining the fit of external models. Divergent validity is the extent to which a construct is

correctly distinguished from other constructs by empirical criteria. This validity is calculated at two levels of the indicator and the underlying variables. At the representative level, transverse loads are used to calculate divergent validity, and it is necessary that the load of a corresponding representative of the structure is greater than all the loads of that representative on other structures. This condition was met for all the reagents, but due to the length of the Table, its presentation has been avoided. At the latent variable level, the Fornell-Larker criterion as the square root of the average variance extracted was used, and each latent variable must be greater than the highest correlation of that construct with other constructs of the model. The logic of this construct is that a construct should have more variance with its indicators than other constructs. The results showed that all variables had an acceptable divergent validity. According to the results of reliability, convergent validity, and divergent validity, it can be acknowledged that the external models have the ability to measure the variables of the research in a favorable way.

Main hypothesis was that the conceptual model of the relationship between coping strategies and emotional self-regulation with the mediation of mindfulness on music performance anxiety was consistent with the experimental model.

Table 3. Indexes of Cronbach's alpha coefficient and composite reliability coefficient

Variables	Cronbach's alpha coefficients	Composite reliability coefficient	AVE>0.5	Result
	Alpha>0.7	CR>0.7		
Problem-oriented coping style	0.944	0.950	0.544	Optimal
The second is emotional confrontation	0.945	0.951	0.551	Optimal
Avoidant coping style	0.955	0.960	0.599	Optimal
Positive cognitive regulation	0.877	0.899	0.649	Optimal
Positive focus/planning	0.902	0.919	0.532	Optimal
Positive evaluation/wider view	0.780	0.849	0.530	Optimal
Mindfulness	0.934	0.940	0.557	Optimal
view	0.883	0.906	0.521	Optimal
description	0.888	0.913	0.601	Optimal
Action with awareness	0.893	0.907	0.554	Optimal
No judgment	0.862	0.891	0.508	Optimal
lack of reaction	0.874	0.902	0.569	Optimal
Music performance anxiety	0.917	0.927	0.518	Optimal
self-assessment	0.893	0.912	0.511	Optimal
Negative affect and situational signs	0.900	0.921	0.627	Optimal
Fear of negative evaluation	0.706	0.818	0.53	Optimal
Uncontrollable	0.719	0.841	0.640	Optimal
unpredictable	0.731	0.880	0.785	Optimal
Negative cognitive regulation	0.931	0.939	0.679	Optimal
Blame yourself	0.775	0.856	0.599	Optimal
Blame others	0.782	0.873	0.697	Optimal
rumination	0.834	0.84	0.604	Optimal
make a disaster	0.799	0.868	0.623	Optimal
reception	0.855	0.896	0.633	Optimal

Considering the completion of the measurement model and the successful completion of all tests, we are now going to examine the structural model. A structural model is a model that examines the relationship between hidden variables. In the structural model, path coefficients) beta) and its significance (t-values), examining the coefficient of determination index (endogenous latent variables), examining the predictive correlation index, examining the intensity of effect index, and examining the co linearity index) VIF) has been evaluated. The Figure 1 shows the conceptual model of the research in the case of standardized path coefficients.

The first criterion of examining the structural model was the significant t coefficients between the underlying variables. If the obtained value is more than 1.96, the relationship or hypothesis can be confirmed.

As seen in the Table 4, the calculated t values between all independent and dependent variables in the model were greater than 1.96 and significant at the 95% level. Cohen (1988) introduced the effect size criterion to determine the intensity of the relationship between the underlying variables of the model. The values of 0.02, 0.15, and 0.35 respectively indicate the size of small, medium and large impact of one structure on another structure. This index can

be calculated for dependent variables affected by more than one variable. As shown the Table 4, the intensity of the effect of positive cognitive regulation (0.157) on mindfulness was more than other variables. Also, the intensity of the effect of mindfulness (0.097) on the anxiety of music performance was more than other variables. It should be mentioned that the existence of the above independent variables caused the intensity of the effect to be low. The VIF value for the independent variables was estimated to be less than the limit of 5, which shows no collinearity problem was observed between the data. In fact, the results of the Table 4 indicate that there was no collinearity problem. Also, the values for the endogenous (dependent) variables, namely, mindfulness (0.47) and music performance anxiety (0.61) were at a very appropriate level.

Therefore, it can be interpreted in this way that 47% of the variance (changes) of mindfulness is predicted by the variables of cognitive emotional regulation and coping styles. Also, 61.1% of the variance of musical performance anxiety was estimated by emotional cognitive regulation, coping styles, and mindfulness. The findings of the research also showed that the values for the endogenous variables of the model, i.e. mindfulness (0.135) and music performance anxiety (0.197)

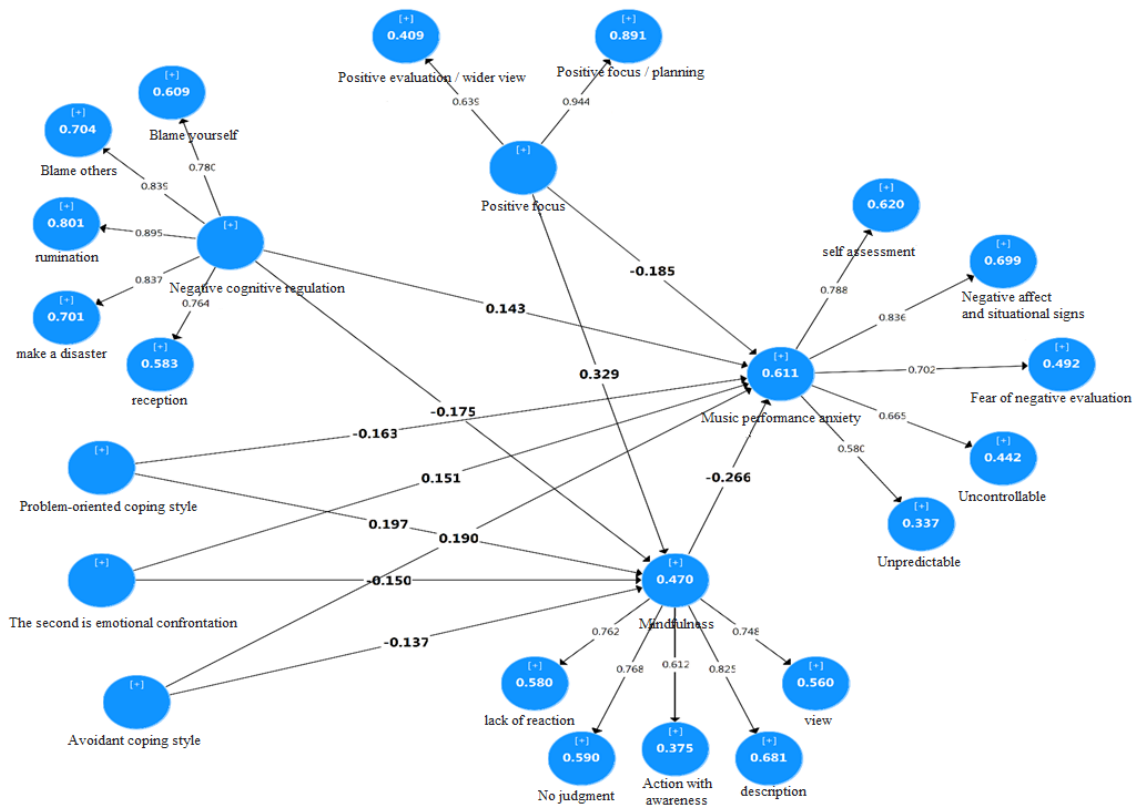


Figure 1. The research model in the case of standardized path coefficients (evaluation of structural models)

were positive at a desirable and acceptable level, which shows the acceptable power of the model. Therefore, according to the criteria related to the structural model and the obtained results, it can be inferred that the structural models were approved, and we can go to the fit of the general model and finally test the research hypotheses.

Review of the general model

There is an index named goodness of Fit (GOF) to evaluate the fit of the whole model. This test determines the overall quality of measurement and structural models.

As shown in Table 4, the standard value of GOF was calculated as 0.483, which shows the strong fit of the overall research model. Therefore, it can be concluded that the presented model has a good fit and the collected data were able to cover the designed model and confirm the model with a high power.

Discussion

The results showed that emotion-oriented coping and avoidance-oriented styles had a positive and significant effect on music performance anxiety, and problem-oriented coping

style had a negative and significant effect on the mentioned parameter these results are in line with the results of Shahbazi *et al.* (9), Kenny *et al.* (16), and Osório *et al.* (10). In fact, one of the factors that can have a positive or negative effect on music performance anxiety is coping strategies. According to Lazarus' theory, in the problem-oriented coping style, the person focuses on the stressful factor. In this case, the person tries to take effective and constructive measures in order to change the stressful situation or eliminate it. On the other hand, in the emotion-oriented coping style, the person tries to control the emotional consequences of the stressful event. As a result, the primary function of the emotion-oriented coping style is to regulate and restrain the emotional pressure to maintain the emotional balance of the person (13).

Also, based on psychological theories, the coping strategies play an important role in reducing stress and the occurrence of tension in a person, and the concept of stress alone, without considering their coping skills, has limited value in explaining and predicting people's situations. In other words, the better people's coping resources are, the less likely they are to be caught in situations that lead to harm (9). In the explanation of these

Table 4. Results related to the significance of relationships between variables

Direct variable: Independent variable ← dependent variable	VIF Dependent variable	β	T-value	Level of significance	F ² Independent variable
Positive cognitive regulation/Mindfulness	1.298	0.329	6.050	0.001	0.157
Negative cognitive regulation/Mindfulness	1.338	-0.175	3.109	0.002	0.043
Problem-oriented coping style/Mindfulness	1.516	0.197	4.026	0.001	0.048
Emotion-oriented coping style/Mindfulness	1.381	-0.150	2.799	0.005	0.031
Avoidant coping style/ Mindfulness	1.604	-0.137	2.490	0.013	0.022
Positive cognitive regulation/music performance anxiety	1.502	-0.185	3.747	0.001	0.059
Negative cognitive regulation/music performance anxiety	1.396	0.143	3.00	0.003	0.038
Problem-oriented coping style/music performance anxiety	1.590	-0.163	3.171	0.002	0.043
Emotional coping style/music performance anxiety	1.423	0.151	2.861	0.004	0.041
Avoidant coping style/music performance anxiety	1.639	0.190	3.230	0.001	0.057
Mindfulness/Music performance anxiety	1.885	-0.266	5.748	0.001	0.097
Indirect effects					
		β	T-value	Level of significance	
Positive cognitive regulation/mindfulness/music performance anxiety		-0.087	7.738	0.001	
Negative cognitive regulation/mindfulness/music performance anxiety		0.046	7.109	0.003	
Problem-oriented coping style/Mindfulness/Music performance anxiety		-0.052	-7.04	0.002	
Emotion-oriented coping style/Mindfulness/Music performance anxiety		0.04	6.506	0.004	
Avoidant coping style/Mindfulness/Music performance anxiety		0.036	7.122	0.001	

findings, it can be said that the musician's use of a problem-oriented coping style can have an effect on reducing or, at best, eliminating the anxiety of music performance. In such a situation, in fact, the person faces anxiety with a better state and condition, the possibility of reducing is more, and the person's performance improves. In the emotion-oriented style, however, a person is experiencing strong positive and negative emotions, as a result, the possibility of the anxiety of music performance increases. Therefore, the anxiety of the person increases associated with decreased performance. Finally, in the avoidance coping style, due to a person avoids stress and stressful situations, it has a positive effect on the anxiety of music performance.

Other results demonstrated that the positive emotional cognitive self-regulation had a negative and significant effect on music performance anxiety and the negative emotional cognitive self-regulation had a positive and significant effect on this parameter. These results are in line with the results of Farnsworth-Grodd (12) and Wrosch and Schier (11). Emotional self-regulation and occurrence of positive and negative emotions during performance can contribute to anxiety. Lack of emotional expression and excessive expression of emotions in people who have negative feelings and thoughts

and emotional disturbances can lead to negative social effects and subsequent negative internal reactions. This dual function of emotions refers to the process of emotional regulation during which people regulate and adjust their emotions according to different situations. We believe that a person who has the skill of emotion regulation, avoids excessive emotions and feelings. Because, in fact, emotion regulation refers to the processes by which people influence their emotions and according to this process, it is determined how a person experiences and expresses emotions (3). Many evidences show that people with emotional self-regulation, that is, those who know their emotions well, regulate them, and understand others' emotions, are successful and efficient in different areas of life. The purpose of emotional self-regulation is not only to suppress undesirable emotions, but also to express one's emotions in a calm situation.

Also, other results showed that there was a negative and significant effect between mindfulness and music performance anxiety. These results are in line with the results of Farnsworth-Grodd. (12) Mindfulness is an unintentional meditation on current events. Mindfulness can be considered as the ability to self-regulate attention and direct it towards an experience. Based on this, careful regulation of attention is a central component of

mindfulness (9). Mindfulness means paying attention to the present in a specific and purposeful way without judgment and a way to communicate with positive, negative, and neutral experiences. These techniques teach people to identify involuntary habitual patterns and mental rumination and turn them into conscious and voluntary patterns so that negative feelings and thoughts are considered as simple and transient events in the mind. Therefore, the presence of mind is to observe the fluid flow of internal and external stimuli without any judgment (11). Farnsworth-Grodd (12) investigated the role of mindfulness in the coping strategies to regulate music performance anxiety in a sample of music students, and found that the aspect of situational mindfulness was associated with low music performance anxiety.

Coping strategies with higher hope and relative avoidance with nature mindfulness were more effective than situational mindfulness. In explaining this finding, it can be said that people who have a high level of mindfulness, regardless of the good and bad events of the past, travel their current path and thus reduce the anxiety caused by past experiences in many cases. Also, the mediating role of mindfulness in the relationship between positive emotional cognitive self-regulation with music performance anxiety and the mediating effect of mindfulness in the relationship between negative emotional cognitive self-regulation with music performance anxiety were confirmed (12).

Conclusion

Music performance anxiety is predictable and appropriate strategies can be used to control and reduce it. Music performance anxiety, while energizing at optimal levels, impairs performance quality when excessive. In line with the results of this research, it is suggested that in order to reduce the anxiety of the music performance of musicians and those who work in the field of music, familiarization with coping strategies, emotional self-regulation, and mindfulness through practical courses and workshops in this field can be very important.

Compliance with ethical guidelines

The ethics code of the current research was IR.IAU.SDJ.REC.1399.040. The participants were informed about the purpose of the research and its implementation stages. They were also assured about the confidentiality of their information and were free to leave the study whenever they wished, and if desired, the research results would be available to them.

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Conflict of interest

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Authors' contributions

All authors made substantial contributions to the conception, design, analysis, and interpretation of data.

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