Running Head: MINDFULNESS INFLUENCES MUSIC PERFORMANCE
ANXIETY, NEGATIVE AFFECT AND SELF-CONSCIOUSNESS AMONG
MUSICIANS.

**Freeing the performer's mind: A structural exploration of how mindfulness
influences music performance anxiety, negative affect and self-consciousness
among musicians**

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Abstract

Music performing usually encompasses intense psychological experiences, from which music performance anxiety (MPA) is amongst the most damaging and pervasive.

Furthermore, some constructs seem to be associated with MPA, like negative affect and self-consciousness. In the interaction between these three elements, mindfulness seems to be an effective tool to cope with MPA by altering the relationships between music performing and self-consciousness or negative affect. In this study, a structural model is proposed following a cross-sectional design with a total of 151 Spanish-speaking music performers. Results from a structural equation model seem to support the proposed model, making dispositional mindfulness an effective mechanism to alter the way MPA interacts with self-consciousness and negative affect. More specifically, dispositional mindfulness seems to inversely mediate the relationship between negative affect and MPA, while also inversely moderating the relationship between self-consciousness and MPA. In other words, dispositional mindfulness seems to prevent how self-conscious music performers may be or reduce the likelihood of such negative moods developing into this career-damaging MPA phenomena. Limitations of these findings are discussed, alongside future lines of work to improve the likelihood of this conclusion.

Keywords

music performance anxiety; mindfulness; self-consciousness; negative affect; musicians; music performers; structural equation model

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Introduction

Performing is a complex experience that requires musicians to have a high level of attention and concentration to all aspects related to the performance to assure a good outcome (Rodríguez-Carvajal & Lecuona, 2014). This makes performing an intense and touching experience for many musicians. However, this intense attention also involves being aware of the audience's reaction, which is perceived as social stimuli. This kind of social context and the perception of a possible evaluation from the people who are listening to their performance can activate the stress-response which may lead to a threatening experience (Kenny & Osborne, 2006). In this context, this reaction is called music performance anxiety (MPA), -a type of social anxiety also known as stage fright-. It appears to be higher in females than males (Kenny, Davis, & Oates, 2004), and in pianists and string performers in classical music than jazz musicians (Kaspersen & Götestam, 2002). This problem is a disrupting group of anxiety-related phenomena that could stop or heavily impair a performer's performance and career (Steptoe & Fidler, 1987). Evidence also suggests it is one of the major reasons for young musicians to abandon their musical career (Lin, Chang, Zemon, & Midlarsky, 2008).

Barlow's vulnerability model (Barlow, 2002a) is proposed to explain the process of anxiety apprehension, and therefore MPA acquisition. This well-supported model states that different psychological disorders originate due to the interaction between biological and psychological vulnerabilities. Within psychological vulnerability, three main factors are described: (1) the early context, which is the set of learning experiences in early development; (2) general psychological vulnerability, which includes a large number of

elements (e.g. affect, cognitive bias or personality traits) that contribute to generate these disorders; and (3) specific vulnerability, which are specific events associated with the disorder (in this case, music performance). However, other musicians perceive the performance as a challenging and emotional experience instead of a threatening one as in MPA (Wrigley & Emmerson, 2011). Therefore, understanding vulnerabilities and protective factors related to MPA process becomes a relevant issue to study.

Emotional, cognitive and attentional factors in MPA development

In 1991, Clark and Watson developed one of the most important models to explain how we can distinguish the differences among emotional disorders: the “tripartite model” (Clark & Watson, 1991). In their model, depression and anxiety share negative affect as a general factor along with specific factors that differentiate between them, i.e., low positive affect and high physiological activity, respectively. In other words, negative affect appears as main component in both depression and anxiety disorders (Bonin, 2009). Therefore, negative affect might be an important feature in MPA development.

Moreover, conceptualizing MPA as a type of social anxiety, one of the most important cognitive malfunctioning seems to be the attentional bias toward socially threatening information (Barlow, 2002b; Mogg & Bradley, 2002). In addition to this bias, there is a heightened self-focused attention, which is related to an increase of negative affect (Mor & Winkvist, 2002). Actually, situational negative affect in a person with MPA produces a change in attention process where the focus is first places on external tasks and then on self-focused attention (Osborne & Franklin, 2002). Both, the self-focused attention and bias towards socially threatening information is also conceptualized as self-consciousness (SC) (Fenigstein, Scheier, & Buss, 1975).

Self-consciousness is defined by Fenigstein as the disposition to focus the attention towards internal or external (specifically social) aspects of the self (Fenigstein et al., 1975). High SC has been found as a common or transdiagnostic dimension to many psychological disorders, similar to negative affect does. In fact, findings in this field suggest that a high score in SC is positively related with maladaptive cognitive processes, such as social anxiety, negative self-evaluation and poor social performance (Lindsay & Lusia, 2008; Smith, Ingram, & Roth, 1985) as a result of turning the attention inward because it would be more likely to find something to be anxious about (Fenigstein et al., 1975).

Therefore, in the MPA framework, as a specific anxiety process, SC might be an important mechanism from which musicians are more aware of their physical, cognitive and emotional processes and, without adequate coping skills, lead to a negative self-judgement and, ultimately, generate anxiety symptoms. This phenomenon could impair the music performance, -as it happens in social tasks, in social phobia, and under evaluative conditions (Bögels & Mansell, 2004; Hope & Heimberg, 1988)-, probably because this self-attention, and the lack of outward directed attention, could detract resources for an optimal execution (Bögels & Mansell, 2004; Ingram, 1990; Wolverton & Salmon, 1991). Therefore, the attentional processes involved in musicians' life, such as self-focused attention on anxiety signs (private SC) or self-focus on public aspects and social performance (public SC), might be a psychological vulnerability factor as stated in Barlow's model (Kocovski, Fleming, & Rector, 2009). Thus, high SC might play an important role in anxiety maintenance (Lindsay & Lusia, 2008), specifically in social anxiety, such as MPA (Bögels & Mansell, 2004).

However, high SC may not necessarily always mean to have a psychological problem. In fact, high SC seem to have a negative effect with some circumstances where one has

to confront stress without any coping strategies (Bögels & Mansell, 2004). For example, the authors of the SC Scale recognized that in meditation it is easier to achieve a high SC (Fenigstein et al., 1975). This could mean that in a context of high SC, if a performer has adequate coping skills, as those provided by, for example, mindfulness, - a kind of meditation that promotes being aware without judging the experience (Kabat-Zinn, 1990)-, he/she would experience less MPA. Furthermore, preliminary results in this field suggest that trait mindfulness and its specific dimensions (e.g. act with awareness) are associated with lower levels of MPA, supposedly giving musicians positive coping strategies to face the stressful situation (Farnsworth-Grodd, 2012). Taking this fact into account, mindfulness could be considered a way to target different cognitive and behavioral processes that are involved in MPA maintenance and exacerbation (Kocovski et al., 2009), such as self-focused on private aversive aspects (e.g. negative affect, anxiety symptoms) or social performance.

In summary, negative affect and self-consciousness may increase the risk of suffering from MPA as vulnerability factors when no effective coping skills are present.

Moreover, mindfulness might provide these effective coping skills and therefore diminish the risk of MPA. Next to this point, the theoretical model proposed specifies a mediation of trait mindfulness between trait negative affect and MPA, and also specifies a moderation of trait mindfulness between self-consciousness and MPA. The proposal follows a theoretical explanation: On one hand, it is expected that negative affect has a positive relation with MPA, while mindfulness practices damper that effect, breaking the association between experiencing aversive emotions and developing MPA.

Therefore, one variable to block or negatively influence this positive path could be trait mindfulness. On the other hand, trait mindfulness would influence the relation between self-consciousness and MPA. It is expected for self-consciousness and MPA to have a

positive relation, however trait mindfulness proposes a different quality of self-consciousness (e.g. a non-judgemental one) as it is suggested by Lindsay & Creswell (2017). Thus, diminishing the relationship between self-consciousness and MPA. Therefore, the full model includes a combined model where the mediator is also a moderator (see Figure 1).

Consequently, the aim of the present research is to observe the role of (1) negative affect, (2) self-consciousness and (3) mindfulness skills in MPA's process. The second aim is to study the possible mediator and moderator effects of mindfulness skills in the relation between negative affect and SC in MPA.

Method

Participants

A total of 151 Spanish music performers participated by completing a set of self-reports. Gender was relatively equal (45% male, 55% female), while young performers were more prevalent (70.2% between 14 and 22 years old, 29.8% onwards). Also, conservatory-educated performers were the most frequent (76.5%), followed by private music schools/tutors (14.6%), local public music schools (7.3%) and finally amateur/self-taught (2%). Instruments varied widely, string (25.8%) and wind (22.5%) being the most frequent; piano (18.5%) as the third most frequent instrument, followed by guitar (11.9%) and voice (11.9%), and other unspecified instruments (9.3%).

Measures

Kenny-Music Performance Anxiety Inventory (K-MPAI): This instrument was developed to measure Music Performance Anxiety (Kenny, 2009; Kenny et al., 2004). As a self-report measure, it consists of 26 items with a Likert response format from -3 (strongly disagree) to 3 (strongly agree). It has showed good reliability ($\alpha=.94$) and validity indices. The dimensional structure of the Spanish version includes three factors:

(1) Psychological helplessness, characterized as depression cognitions, lack of trust or lack of control. (2) Early relationship context, composed by anxiety transmitted through parental ties. And (3) Specific cognitions, composed by items regarding specific anxiety-related thoughts or concerns regarding scrutiny (for more details, see Zarza, Orejudo, Casanova, & Mazas, 2015).

Five Facets of Mindfulness Questionnaire (FFMQ): This instrument was developed to measure Mindfulness as a dispositional trait (Baer et al., 2008; Cebolla et al., 2012). As a self-report measure, it consists of 39 items with a Likert response format from 1 (strongly disagree) to 5 (strongly agree). The self-report has shown good reliability ($\alpha=.75-.91$) and validity indices. The dimensional structure includes eight factors (Aguado et al., 2015), consisting in an overall mindfulness factor, two method wording factors, and five specific factors or facets: Observing (capability to observe reality as it is), Describing (capability to describe reality events, mainly with words), Acting with awareness (capability to perform actions with awareness of the action itself), Non-judging of inner experience (capability to experiencing inner events without judging them), and Non-reactivity to inner experience (capability to experiencing inner events without reacting to them).

Self-Consciousness Scale (SCS): This instrument was developed to measure self-consciousness as a dispositional trait (Baños, Belloch, & Perpiña, 1990; Fenigstein et al., 1975; Ruipérez & Belloch, 2003; Scheier & Carver, 1985). As a self-report, it consists of 23 items with a Likert response format from 1 (strongly disagree) to 5 (strongly agree). It has shown good reliability ($\alpha=.75-.84$) and validity indices. The dimensional measure includes three main factors: Private self-consciousness (being aware of internal sensations, thoughts and emotions), Public self-consciousness (being

aware of impressions and effects on other of personal image or behaviours) and Social anxiety (feelings of anxiety due to social situations or interactions).

Positive and Negative Affect Schedule (PANAS): This instrument was developed to measure a general view of affective experiences (Crawford & Henry, 2004; Robles & Páez, 2003; Sandín et al., 1999; Watson, Clark, & Tellegen, 1988). As a self-report, it consists of 20 items with a Likert response format from 1 (strongly disagree) to 5 (strongly agree). It has shown good reliability ($\alpha=.85-.89$) and validity indices. The dimensional structure includes two factors with a state and trait form: Positive affect (e.g. joy) and Negative affect (e.g. anger or sadness).

Analysis

Firstly, self-consciousness has not been modelled as a latent variable in the SCS, although literature suggests its existence as an aversive form of self-attention. To assess that issue, a hierarchical latent model is implemented in the model, using the first order factors (private SC, public SC and social anxiety) as items of a general SC factor.

Confirmatory Factor Analysis (CFA) was performed in order to contrast the hierarchical model versus the three-factor model. Due to ordinal items, polychoric correlations with Weighted Least Squares Mean-and-Variance Adjusted estimator (WLSMV) were chosen. Fit measures selected to assess the models were the χ^2 test (with $p>.05$ indicating fair fit), the χ^2/df ratio (Tabachnick & Fidell, 2001) with values below 3 indicating fair fit, the Comparative Fit Index or (CFI, Steiger, 1990), the Tucker-Lewis Index (TLI, Tucker & Lewis, 1973), the Root Mean Square Estimation Approximation and its 95% confidence interval (RMSEA, Steiger, 1990), and the Weighted Root Mean Square Residual (WRMR). Both the CFI and the TLI have the criteria of values $\geq .95$ as good fit, while the RMSEA has the criteria of values below $\leq .05$ as good fit and the

WRMR with values ≈ 1 . All analyses were computed with the *lavaan* package (Rosseel, 2012) of the R software (R Development Core Team, 2010).

Afterwards, a structural equation model (SEM) was proposed following literature and evidence. Items were forced to have the same score format (from 1 to 5 or 7 in some cases) and latent dimensions were estimated with the mean of the items instead of the sum to avoid possible metric or test length biases. Regarding the model proposed in Figure 1, indirect and total effects were calculated in the following way: (1) the indirect mediation effect, (2) the indirect mediation-moderation effects and (3) the total effects. In (2), models require that the mediator-moderator (in this case, overall FFMQ score) was treated as discrete in moderation (Hayes, 2013). Therefore, overall FFMQ score was divided into three subsamples following percentiles 33 and 66 as cut-off criteria to then calculate their specific mean (in this case, 2.507 as low, 2.890 as medium and 3.283 as high). Regarding estimation, given normality assumptions were violated in some cases, a Maximum Likelihood Robust (MLR) method was chosen. Fit measures selected to assess the models were the same for the CFA except for the WRMR, which was replaced by the Standardized Root Mean Square Residual (SRMR, Hu & Bentler, 1999). The SRMR has the criteria of good fit with values below .05. In addition, bootstrap methods were selected to calculate indirect effects in spite to the Sobel test, and therefore, the entire model was bootstrapped with 5,000 samples. Lastly, multi-group analysis was performed with gender (men vs women), groups of age (youth vs adults, with a cut-off criteria of 25 years old) and musical studies (conservatory vs amateurs or non-professional studies). To assess group differences the proposed model was progressively constrained in the following cumulative order: (1) equal regressions coefficients, (2) equal intercepts, (3) equal residuals, and (4) equal covariances. Fit measures were obtained to each level and the delta chi-square ($\Delta\chi^2$) statistic with

Satorra-Bentler correction was obtained, which is the difference between a model and the next, more restrictive one. To avoid sample bias, bootstrap methods were also implemented to obtain fit measures and coefficients of the models.

Results

Regarding the CFA, the three correlated factor model did not report good fit enough indices ($\chi^2(226) = 585.703^{***}$, $\chi^2/df = 2.580$, CFI=.938, TLI=.931, RMSEA=.103[.092;.113], WRMR=1.260), but could not be compared to the hierarchical model due to problems of convergence. Therefore, a modification index was included, this is, an error covariance between items 17 (“One of the last things I do before leave my house is look in the mirror”) and 21 (“I’m usually aware of my appearance”), which can be explained as referring specifically to physical appearance. With this covariance included, both models were estimated and compared. The three factor model still reported lower fit ($\chi^2(225) = 545.006^{***}$, $\chi^2/df = 2.411$, CFI=.945, TLI=.939, RMSEA=.097[.087;.107], WRMR=1.204), in contrast to good fit indices of the hierarchical model ($\chi^2(226) = 548.351^{***}$, $\chi^2/df = 2.426$, CFI=.978, TLI=.975, RMSEA=.098[.087;.108], WRMR=1.211). Thus, the hierarchical model shows a better fit. In addition, measurement invariance was assessed between males and females, and between youth and adults too. In both comparisons, strict invariance was met (all p-values >.05), with even equal latent means. Therefore, the hierarchical model seems to be supported in this sample. Following this conclusion, the mean of all the items was used as the second-order factor (general self-consciousness) estimate in the structural model.

Regarding the structural model, excellent fit measures were obtained ($\chi^2(1) = 1.083$, p=.833, CFI=.994., TLI=.997., RMSEA=.028 [0; .158], SRMR=.019), which suggests

the proposed model as valid. Standardized loadings and intercepts are displayed in Figure 2 (see Figure 2).

Additional indirect and total effects were calculated. First, three mediation-moderation indirect effects were calculated, one for each discrete level of overall FFMQ scores. Second, a specific indirect effect for the mediation model was calculated. Third, three mediation-moderation total effects were calculated, and finally, a total effect for the mediation was calculated. All effects were significant. Table 1 displays all mentioned effects (see Table 1).

As can be extracted by the model, the mediation and the combined mediation-moderation has a significant effect, and following these results, the structural model seems to be supported by evidence. Therefore, trait mindfulness seems to diminish the association between SC and MPA, and also blocking or negatively mediating the association between dispositional negative affect and MPA.

Lastly, bootstrapped multi-group analysis revealed the model as invariant in regressions coefficients, intercepts, residuals and covariances in gender, groups of age and musical studies (all $p > .05$). Therefore, the proposed structural model seems to be equivalent between men and women, youngsters and adults, and also professional and amateur-orientated musicians (see Table 2). Regarding multi-group analysis, the most restrictive models were computed and still had good fit indices (gender: $\chi^2(15) = 16.501$, $p = .650$, CFI=.961, TLI=.988, RMSEA=.035 [.007; .102], SRMR=.109; age groups: $\chi^2(15) = 18.276$, $p = .674$, CFI=.965, TLI=.990, RMSEA=.034 [.005; .104], SRMR=.095; musical studies: $\chi^2(15) = 16.887$, $p = .636$, CFI=.959, TLI=.986, RMSEA=.037 [.008; .103], SRMR=.097). Thus, coefficients and effects were computed again following restrictions between groups, which show little to no different fit measures from the previously obtained model (Table 4). Also, model parameters differences were very low

(mean overall difference = .020, SD=.032). Therefore, the model seems to be invariant between males and females, youngsters and adults, and professionals and amateur musicians.

Discussion

MPA is a common problem among musicians that may result in a serious impact in their career. The present study was designed to explore the role of three variables (self-consciousness, negative affect and mindfulness) in the development and maintenance of MPA. Considering the previous literature, a possible model that comprised the relations between these variables was proposed in the introduction (Figure 1). The compiled evidence indicates that our proposed model seems to be valid. In addition, the model seems to be invariant across gender, age and music studies, which contributes to its robustness. A more detailed explanation about the relations found in our model and their implications are given below.

Affects and cognitive and attentional factors in MPA

Recalling Barlow's model (2002), affects and cognitive biases were among the psychological vulnerabilities. With this being said, the present study has provided evidence for the important role of SC and negative affect in the development of MPA. Firstly, as it was suggested by Clark and Watson (1991), negative affect has shown a direct, linear effect to MPA in the current study. Secondly, previous literature has pointed SC as a key variable in other anxiety phenomena development (Lindsay & Lucia, 2008), hence it was expected that SC would be associated with MPA. This has also been found in our research. Moreover, the results show a significant relation between SC and Negative affect, which is supported by previous research such as Mor & Winquist meta-analysis (2002). This may mean that SC and negative affect could

play a crucial role to be considered not only in the development of the problem, but also in its maintenance. Thus, it will be important to look for those strategies due to their effect on MPA.

Within this context, the role of mindfulness in the development of MPA comes along as one of the main aims of the present study. Results show evidence in favor of mindfulness as a mechanism to change the interactions between the other variables involved in the model. Following evidence, mindfulness seems to alter the relations between SC, negative affect and MPA in an inverse way, respectively mediating and moderating its relations. Mindfulness appears to be an inverse mediator between negative affect and MPA. Therefore, the more mindful a person is in a dispositional level, less MPA phenomena will occur due to negative affect. Therefore, mindfulness could be interpreted as a coping skill in this process, and therefore it could block or impair the effects of negative affect on MPA and also contribute to diminish the levels of MPA. Regarding SC, mindfulness may behave as a moderator that negatively influences the SC and MPA relationship. Therefore, the more mindful a person is in a dispositional level, the association between its SC and MPA will be weaker. Thus, its SC levels would not (at some degree) develop into more intense MPA phenomena.

Furthermore, this combined mediator-moderator effect exists both in low level of mindfulness and in medium and high ones. However, in the first case (low level), despite its significance, its importance seems to be lower, whereas in medium and high levels of Mindfulness the weight of its contribution is higher. This could mean that to use mindfulness as a better coping skill we may need to train people to acquire medium or high level of mindfulness. In addition, it also could mean a possible incremental effect of mindfulness, this is, as an individual is more mindful, their power to isolate aversive or painful experiences (in this case, negative affect and self-consciousness) to

develop suffering (in this case, MPA) is stronger. Surely, it won't eliminate MPA or completely block these associations, but it may help to reduce their impact on people who suffer from MPA and also reduce MPA levels by themselves.

A possible explanation for these results could be found in the Monitor and Acceptance Theory or MAT (Lindsay & Creswell, 2016). This model considers mindfulness as a dual synergetic process between (1) an attentional monitor skill and (2) an acceptance attitude (e.g. non-judging, detached) and a non-reactive emotion regulation skill. While (1) increases creativity and cognitive/perceptual performance, it also increases affective reactivity, which leads to increased stress and suffering. Then, (2) prevents (1) from developing reactivity by non-reactiveness, detachment and non-judgement, and also serves as an emotion regulation strategy to reduce stress and suffering by itself.

Following these assumptions, SC could fit as a pure attention monitor manifestation directed to the self, including its reactive components. Therefore, the mindfulness regarded in the MAT would play an active role in debilitating affective reactivity in SC and therefore transforming it into non-reactive and non-judging self-awareness. Also, mindfulness would play a key role into debilitating the potential of negative affect to contribute in a suffering process (in this case, MPA).

These results may suggest, given our interpretations of data, that dispositional mindfulness interrupts or breaks to some extent the relations between SC and negative affect with MPA. Regarding this point, it is important to have into account that dispositional mindfulness can be trained in Mindfulness-Based Interventions (MBIs) (for a review, see Creswell, 2016) and therefore, augmented. Given that, one possible pathway to prevent MPA from developing or maintaining would be to implement MBIs or other evidence-based mindfulness training techniques towards music performers, whether in music schools and education or in professional settings. Some of the first

studies demonstrate this concept (Langer, 2009; Lin et al., 2008), which makes a promising subject for future studies. Other trends which future studies could follow would be to ensure the causal relations of our proposed structural model, which includes (1) the influence of SC and negative affect as vulnerability factors towards MPA, (2) mediational and moderational effect of mindfulness in these aspects, and (3) the mediation-moderation effect of mindfulness which presents increasing effect while dispositional mindfulness levels increase. In this way, lab studies and longitudinal studies would be needed to adequately observe these relations.

Limitations

The current research has some limitations. First of all, the cross-sectional design excludes causal relations to be assumed. Nonetheless, the design and analysis conducted allow for the exploration of the variables involved in MPA development and the possible mechanisms of this process. Experimental studies are needed, consequently, to verify and amplify these conclusions. In addition to this point, a single measurement method (self-report) was used, leading to a need for different methods to contrast possible biases. Secondly, a relatively small sample size compromises its representativeness. Thus, replication studies with larger and more representative samples are needed. In the third place, although these findings are compatible with ongoing theories of mindfulness, cross-cultural studies are needed to test if the process presents variations across cultures. Finally, it should be taken into account that mindfulness has been measured in the present study as a dispositional trait. Therefore, it is necessary to check if mindfulness states play an important role, or if trained mindfulness really helps musicians to prevent MPA or if it only helps if it is an intrinsic phenomenon towards dispositional mindfulness, as was mentioned in the discussion.

Conclusions

The current study provides important insights and information about the key role of SC and negative affect in MPA development, and therefore should be studied thoroughly. On account of this, it also provides information about the usage of new variables such as mindfulness to influence these relations, specifically in a debilitating way, showing invariant effects across gender, age and the type of instrument played in such studies. And, ultimately, making performance enjoyable and non-threatening to musicians, and, in the end, helping freeing the performer's mind.

Ethical Approval

Ethical approval for this project was given by the Research Ethics Committee of Autonomous University of Madrid [CEI-48-920].

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Conflict of Interest

There is no conflict of interest between the authors of this article.

Notes

Data and script files, along with pre-prints are available at the Open Science

Framework: <https://osf.io/rvgb2/>

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Table 1: Indirect and total effects in the model. NA = Negative Affect; M = Mindfulness; MPA = Music Performance Anxiety; SC = Self-Consciousness; * = $p < .05$; ** = $p < .01$; *** = $p < .001$.

Effects	Path	Parameter
(1) Indirect (mediation-moderation): Low FFMQ scores	NA $\rightarrow$ M $\rightarrow$ MPA + (low M*SC $\rightarrow$ MPA)	.028*
(2) Indirect (mediation-moderation): Medium FFMQ scores	NA $\rightarrow$ M $\rightarrow$ MPA + (medium M*SC $\rightarrow$ MPA)	.045***
(3) Indirect (mediation-moderation): High FFMQ scores	NA $\rightarrow$ M $\rightarrow$ MPA + (high M*SC $\rightarrow$ MPA)	.052***
(4) Indirect (mediation)	NA $\rightarrow$ M $\rightarrow$ MPA	.056***
(5) Total (mediation-moderation): Low FFMQ scores	(1) + NA $\rightarrow$ MPA	.258*
(6) Total (mediation-moderation): Medium FFMQ scores	(2) + NA $\rightarrow$ MPA	.280***
(7) Total (mediation-moderation): High FFMQ scores	(3) + NA $\rightarrow$ MPA	.281***
(8) Total (mediation)	(4) + NA $\rightarrow$ MPA	.285***

Table 2: Fit measure comparison between nested models. *) p<.05, **) p<.01, ***)

p<.001.

<i>Model</i>	$\Delta\chi^2$	Δdf	<i>p</i>	ΔCFI	ΔTLI	$\Delta RMSEA$	$\Delta SRMR$	ΔAIC	ΔBIC
<i>Gender (men vs women)</i>									
No constrain	-	-	-	-	-	-	-	-	-
Regression coefficients	4.572	4	.311	-.011	-.004	-.001	.033	9.117	-2.951
Intercepts	4.254	4	.394	-.006	.002	-.003	.015	.461	-11.607
Residuals	4.348	4	.379	-.010	.000	-.000	.030	-.896	-12.965
Covariances	1.136	1	.286	-.000	-.000	-.000	.004	-1.105	-4.122
<i>Age (youth vs adults)</i>									
No constrain	-	-	-	-	-	-	-	-	-
Regression coefficients	4.544	4	.337	-.011	-.005	-.001	.028	6.678	-5.392
Intercepts	5.043	4	.400	-.005	.004	-.004	.014	2.962	-9.107
Residuals	4.561	4	.335	-.008	-.002	.000	.022	5.363	-6.705
Covariances	0.949	1	.329	.000	.001	-.001	.003	0.412	-2.604
<i>Musical Studies (conservatory vs non-professional studies)</i>									
No constrain	-	-	-	-	-	-	-	-	-
Regression coefficients	4.938	4	.293	-.015	-.010	-.001	.028	6.676	-5.392
Intercepts	4.203	4	.379	-.006	.060	-.004	.014	2.962	-9.107
Residuals	4.349	4	.360	-.007	.002	.000	.022	5.363	-6.705
Covariances	1.140	1	.285	-.003	.000	-.001	.003	.412	-2.604

Figure 1: Conceptual model proposed.

Figure 2: Empirical model with standardized loadings and variances. *) $p < .05$, **) $p < .01$, ***) $p < .001$.