

Music performance anxiety and perfectionism in Croatian musicians

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Abstract

Music performance anxiety (MPA) is part of every musician's life. Individual differences in MPA have been associated with individual differences in perfectionism, especially maladaptive perfectionism. The aim of this study was to examine MPA and its association with perfectionism in a combined sample of music students studying at the Academy of Music and members of the professional orchestras in Zagreb. Based on the previous studies, we hypothesized that gender, age, and maladaptive perfectionism would predict higher MPA. Data were collected for 239 musicians (152 music students, 87 orchestral musicians, 50.2% female), who filled in Kenny Music Performance Anxiety Inventory–Revised (K-MPAI-R) and Almost Perfect Scale–Revised (APS-R). In our sample, 28% ($n = 67$) of musicians had a clinically significant MPA level. In the regression analysis with gender, age, and dimensions of adaptive and maladaptive perfectionism as predictors, 46% of the MPA variance was explained with gender ($\beta = .14$, $p = .007$), age ($\beta = -.22$, $p < .001$), and discrepancy ($\beta = .62$, $p < .001$) as significant predictors. Higher MPA was predicted by being female, a younger musician, and having a higher maladaptive perfectionism. This indicates it would be important to deal with maladaptive perfectionism to effectively manage MPA.

Keywords

music performance anxiety, professional musicians, personality, perfectionism, music students

Performance anxiety is part of every artist's life, but also of every individual's life in public appearance situation. Musicians as a group often find themselves in public appearance situations from early on in their education and as a part of their professional lives. Kenny (2011) described phenomenology of music performance anxiety (MPA) in classical, jazz, and popular musicians, both instrumentalists and vocalists, and concluded that MPA is a multidimensional and multi-causal phenomenon that appears in people of different age, gender, years of

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experience, or level of technical mastery performing different musical genres. There are different manifestations of someone's MPA, which include somatic (physical or physiological symptoms), cognitive (catastrophic thinking, rumination, perfectionism), affective (embarrassment, fear), and behavioral (sleeping problems, addiction, avoidance) symptoms. MPA can be facilitative and normal, helping us concentrate on the task at hand and perform better. However, MPA is discussed and researched more because it can also be debilitating, and at its extremes even qualify as a mental disorder, a subtype of social anxiety disorder, according to *DSM-5* (American Psychiatric Association, 2013).

Factors influencing a performer's susceptibility to experience performance anxiety have been proposed to include intrinsic, extrinsic, and cognitive features (Papageorgi, Hallam, & Welch, 2007). Intrinsic features which may influence MPA are gender, age, personality, trait anxiety, sensitivity to evaluation by others, self-efficacy beliefs, and self-concept. Extrinsic and/or situation-specific features may include the level or extent of individual performing experience and the quality of previous similar experiences. Finally, proposed cognitive features are intelligence(s), cognitive style, metacognitive skills, attributional style, beliefs about learning and ability and outcome expectancies. Besides individual factors, some studies have indicated that cultural factors could influence both social anxiety (Heinrichs et al., 2006) and MPA (Perdomo-Guevara, 2014) and should therefore be taken into account when investigating them. Recently, Burin and Osorio (2017) have published a critical review of MPA literature. In that review, authors conclude that studies so far indicate that gender and age influence MPA, with females reporting higher prevalence and higher intensity (Biasutti & Concina, 2014; Dobos, Piko, & Kenny, 2019; Kenny, Driscoll, & Ackermann, 2014; Kenny & Osborne, 2006) and with younger musicians experiencing more MPA (Biasutti & Concina, 2014; Kenny et al., 2014). Some studies have found that music students have higher levels of MPA compared with professional musicians (Gorges, Alpers, & Pauli, 2007; Steptoe & Fidler, 1987). In addition, individual differences in MPA were associated with individual differences in personality, especially perfectionism.

Perfectionism is a personality trait characterized by striving for flawlessness and setting high performance standards, critical self-evaluations, and evaluation concerns (Flett & Hewitt, 2002). Today, it is considered to be a multidimensional, complex construct with both intrapersonal and interpersonal aspects. Perfectionism is usually conceptualized as positive or adaptive and negative or maladaptive. Perfectionism appears to be both an etiological and maintaining factor in MPA and can exert both a positive and negative effect on the performance. Adaptive perfectionism is hypothesized to be associated with facilitative aspects of MPA and maladaptive perfectionism with its debilitating aspects. How perfectionism develops across the lifespan is not known (Stoeber, 2018), but several studies indicate that perfectionism declines with age (Hewitt & Flett, 2004; Landa & Bybee, 2007; Stoeber & Stoeber, 2009). In two studies, both adaptive and maladaptive perfectionism declined with age (Landa & Bybee, 2007; Stoeber & Stoeber, 2009), while in Hewitt and Flett's (2004) study only maladaptive perfectionism declined with age. Jackson et al. (2009) examined perfectionism as a facet of conscientiousness and found no age differences in a community and a representative state-wide sample, but there was an Age \times Socioeconomic Status (SES) interaction in the representative state-wide sample. Low-SES individuals showed greater levels of perfectionism with age, whereas high-SES individuals had lower levels of perfectionism with age. Several studies have reported no gender differences in perfectionism (e.g., Flett, Blankstein, Hewitt, & Koledin, 1992; Hewitt & Flett, 1991), but Dunn, Gotwals, and Dunn (2005) indicated that gender differences in perfectionism might depend on whether perfectionism is measured as a global personality or domain-specific construct. Specifically, gender differences were not found on a global measure of perfectionism, while in a

sports domain men had a higher perfectionism than women. Finally, recent meta-analysis, which examined the data between 1989 and 2016, has indicated that levels of perfectionism are increasing in college students in the United States, Canada, and the United Kingdom, and that this is possibly related to cultural changes (Curran & Hill, 2019).

Perfectionism has been studied in relation to MPA in music students and in professional musicians, with three studies examining this association in children and adolescents aged between 8 and 20 years (Dempsey, 2015; Patston & Osborne, 2016; Stoeber & Eismann, 2007), three studies in student population (Diaz, 2018; Sarikaya & Kurtaslan, 2018; Sinden, 1999), and four in professional musicians (Damjanović & Rosandić, 2019; Kenny, Davis, & Oates, 2004; Kobori, Yoshie, Kudo, & Ohtsuki, 2011; Mor, Day, Flett, & Hewitt, 1995). Two studies used a combined sample of music students and professional musicians (Dobos et al., 2019; Gorges et al., 2007). These studies differed in the number of participants, measures they used, and cultural contexts. Sample sizes ranged from around 30 (Dempsey, 2015; Kenny et al., 2004) to around 500 (Patston & Osborne, 2016; Sarikaya & Kurtaslan, 2018). In the majority of the studies, MPA was measured with some version of Music Performance Anxiety Inventory, while perfectionism was measured with some version of Multidimensional Perfectionism Scale. As for the cultural context, two studies came from Australia, Canada, Germany, and the United States, and one each from Hungary, Japan, Turkey, and a combined sample from Serbia, Bosnia and Herzegovina, and Montenegro. Studies mainly confirmed the association between maladaptive perfectionism and debilitating aspects of MPA, while findings were mixed for the association between adaptive perfectionism and facilitative aspects of MPA. Perfectionism factors significantly positively associated or predicting higher MPA were concern over mistakes, doubts about actions, and self-oriented and socially prescribed perfectionism. Only one study used the Almost Perfect Scale to measure perfectionism (Sarikaya & Kurtaslan, 2018) and found that High Standards, an adaptive perfectionism subscale, had a negative association with MPA, while Discrepancy, a maladaptive perfectionism subscale, had a positive association with MPA in regression analysis. Although this study had the largest sample size, the participants were all music teacher candidates, which are a specific group of musicians, and therefore these findings need to be examined in a more diverse sample of musicians.

The aim of this study was to examine MPA and its association with perfectionism in a combined sample of music students studying at the Academy of Music and members of the professional orchestras in Zagreb. Based on the previous studies, we hypothesized that gender, age, and maladaptive perfectionism would predict higher MPA. This study is the first to our knowledge using Almost Perfect Scale to measure perfectionism in a combined sample of music students and musicians. So far only one study used this scale and obtained significant findings for both adaptive and maladaptive perfectionism. We examined whether this finding would be replicated in a different cultural context.

Method

Measures

The following questionnaires were used in this study: Kenny Music Performance Anxiety Inventory–Revised (K-MPAI-R) and Almost Perfect Scale–Revised (APS-R). Also, demographic data about participants were collected. The order of the scales was the same for all participants. First, they filled in K-MPAI-R because of the large number of items, then APS-R, and at the end the demographic data.

K-MPAI-R (Kenny, 2016) consists of 40 items that measure the level of anxiety in the context of music performance. This inventory measures seven factors: (1) proximal somatic anxiety and worry about performance, (2) negative cognitions focused on self/other scrutiny, (3) psychological vulnerability, (4) parental empathy, (5) memory, (6) generational transmission of anxiety, and (7) anxious apprehension. In addition, one item assesses biological vulnerability. The proximal somatic anxiety and worry about performance factor comprises 11 items, such as "Prior to, or during a performance, I experience dry mouth." Negative cognitions focused on self/other scrutiny factor contains eight items, for example, "I am often concerned about a negative reaction from the audience." Psychological vulnerability factor also contains eight items, such as "Sometimes I feel depressed without knowing why." Parental empathy factor consists of four items, for example, "My parents were mostly responsive to my needs." Memory factor contains two items, such as "When performing without music, my memory is reliable." The general transmission of anxiety factor comprises three items, for example, "Excessive worrying is a characteristic of my family." The anxious apprehension factor consists of three items, for example, "I never know before a concert whether I will perform well." Finally, the item that assesses biological vulnerability is "From early in my music studies, I remember being anxious about performing." The participants' task is to indicate how much they agree or disagree with each of the 40 items on the scale ranging from 0 to 6, where 0 means "strongly disagree" and 6 means "strongly agree." The participant's result on this inventory is a sum of all the items, with higher score indicating higher MPA. In addition, it is possible to obtain the participant's result on seven factors and biological vulnerability. Cronbach's alpha coefficient for the whole scale was high ($\alpha = .92$), while they were in the .57–.90 range for the factor scales (see Table 1). Kenny (2015) reported similar trend with $\alpha = .94$ for the whole scale and reliabilities in the .59–.92 range for factor scales.

APS-R (Slaney, Rice, Mobley, Trippi, & Ashby, 2001) consists of 23 items that measure the level of perfectionism. The scale measures three dimensions of perfectionism: order, standards, and discrepancy. Order refers to a tendency toward orderliness and tidiness and consists of four items, for example, "I am an orderly person." Standards dimension refers to the tendency to set high standards and goals to achieve perfection, and consists of seven items, for example, "I have high standards for my performance at work or at school." Discrepancy refers to the feeling of disproportion between our expectations and achievements and consists of 12 items, for example, "My performance rarely measures up to my standards." The participant's task is to indicate how much he or she agrees or disagrees with each item on a scale with 7 degrees, going from 1 to 7, where 1 means "strongly disagree" and 7 means "strongly agree." The total score on this scale is a sum of all the items, with higher scores indicating higher perfectionism. In addition, it is possible to obtain the participant's result on each of the three dimensions, with higher scores on order and standards dimensions indicating higher adaptive perfectionism, while higher scores on discrepancy indicating higher maladaptive perfectionism. Cronbach's alpha coefficient for the whole scale was high ($\alpha = .91$) and ranging from .85 to .92 for all three dimensions (see Table 1). Slaney et al. (2001) found similar Cronbach's alpha coefficients for the whole scale ($\alpha = .88$) and for the three dimensions (order $\alpha = .82$, standards $\alpha = .84$, and discrepancy $\alpha = .92$).

Participants and procedure

The participants were 239 musicians, music students ($n = 152$, 63.6%) and professional orchestral musicians ($n = 87$, 36.4%). Their age ranged between 16 and 64 years ($M = 28.08$, $SD = 12.37$). Eight participants (3.3%) did not provide information on their age. There were

Table 1. Descriptive statistics and correlations between MPA, perfectionism, age and gender.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. MPA1	1													
2. MPA2	.79*	1												
3. MPA3	.41*	.45*	1											
4. MPA4	.03	.01	.36*	1										
5. MPA5	.23*	.21*	.12	.22*	1									
6. MPA6	.51*	.49*	.56*	.33*	.16	1								
7. MPA7	.67*	.60*	.41*	.06	.25*	.30*	1							
8. MPA8	.54*	.53*	.29*	.20*	.29*	.51*	.34*	1						
9. MPA total	.89*	.86*	.68*	.29*	.36*	.69*	.71*	.63*	1					
10. P1	.03	.04	.00	-.02	-.03	-.02	-.02	-.02	.01	1				
11. P2	.15	.25*	.01	-.07	-.14	.10	-.07	.00	.12	.37*	1			
12. P3	.51*	.60*	.53*	.20*	.07	.42*	.47*	.28*	.63*	.17*	.23*	1		
13. P total	.45*	.55*	.41*	.13	.007	.35*	.34*	.21*	.53*	.50*	.58*	.89*	1	
14. Age	-.37*	-.31*	-.14	-.11	-.05	-.14	-.21*	-.16	-.30*	.14	-.20*	-.14	-.14	1
15. Gender	.12	.21*	.08	-.03	.08	.09	.08	.09	.15	.10	.13	.07	.12	-.03
N	239	239	239	239	239	239	239	239	239	239	238	238	238	231
M	24.67	18.46	17.15	6.83	4.31	6.45	6.86	2.11	86.85	21.42	40.36	42.58	104.36	28.08
SD	14.54	9.83	7.49	4.39	3.27	4.15	3.66	1.95	35.66	5.49	6.67	16.82	21.64	12.37
α	.90	.82	.72	.57	.81	.61	.59	—	.92	.92	.85	.92	.91	—

Note. MPA = music performance anxiety; MPA1 = proximal somatic anxiety and worry about performance; MPA2 = negative cognitions focused on self/other scrutiny; MPA3 = psychological vulnerability; MPA4 = parental empathy; MPA5 = memory; MPA6 = generational transmission of anxiety; MPA7 = anxious apprehension; MPA8 = biological vulnerability; MPA total = total score on MPA scale; P1 = order; P2 = standards; P3 = discrepancy; P total = total score on perfectionism scale; gender 0 = male, 1 = female; N = number of participants; M = arithmetic mean value; α = Cronbach's α coefficient.

* $p < .01$.

50.2% women ($n=120$) and 48.5% men ($n=116$), while three participants (1.3%) left out their gender data. Most participants in the music students' subsample were instrumentalists (87.5%) and the rest were singers (12.5%). Instrumentalists mainly played piano (30.3%) and violin (17.1%). The professional orchestral musicians' subsample consisted of professional musicians employed in four professional orchestras of comparable qualifications in Zagreb. When participants who did not provide information on their instrument or section were excluded ($n=9$), the representation of instrumental sections within the subsample was approximately the same as in most symphony or opera orchestras (60% strings and 40% woodwinds, brass players, percussionists, and other instrumentalists).

The data for both subsamples were collected with paper–pen method. Before filling in the questionnaires, participants were informed about the study and gave their consent. For the student sample, it was done in a group setting during the classes they attended at the Academy of Music in Zagreb. Professional orchestral musicians were invited to participate by their managers and the third author. They filled out the questionnaires individually and, according to the instructions, returned them to a sealed box in a room near their rehearsal halls. One participant from the professional musicians' subsample did not complete the perfectionism scale. Response rates indicated that 13%, 31%, 37%, and 77% of professional musicians from the four orchestras agreed to participate and returned the filled in questionnaires. One-way independent-samples analyses of variance (ANOVAs) were conducted on professional orchestral musicians' data to check that there were no differences between the participants from the four orchestras. Results showed that there were no significant differences (all $p > .215$) in mean age and for all scores on MPA and perfectionism scales, and in further analyses, we treated all professional musicians as one subsample.

Results

Preliminary analysis

Preliminary analysis tested the normality of distributions with series of Kolmogorov–Smirnov (K-S) tests for total scale and their related factor scale scores. Although some K-S test values were significant and indicated non-normal distributions of results, values of skewness and kurtosis coefficients were in the range of the suggested values for the distribution to be considered approximately normal (Ryu, 2011). Therefore, we concluded that the distributions of both total scale and their related factor scores in both samples met the criteria for parametric statistical analysis. We set our critical p value for correlation and regression analyses to 1%.

Descriptive statistics for all the measures are presented in Table 1. Kenny (2015) identified cutoff scores for clinical purposes in a population of professional orchestral musicians using established clinical screening tests for anxiety and depression, and these cutoff scores ranged between 84.5 and 118.5. Average score in our sample is 86.85 and lies in the lower half of that range. This would indicate that on average our participants do not have a clinically significant level of MPA. However, 28% ($n=67$) of musicians in our sample had a clinically significant MPA level, with scores higher than cutoff score of 104.5 on K-MPAI (Kenny, 2015). Cutoff scores determined for each dimension of perfectionism are 14 for order, 25 for standards, and 42 for discrepancy (Slaney et al., 2001). In this study, participants on average scored higher than cutoff scores on all three dimensions, with scores on order and standards indicating high adaptive perfectionism in our sample and score on discrepancy indicating borderline maladaptive perfectionism.

Associations between MPA, perfectionism, age, and gender

To examine the associations between MPA, perfectionism, age, and gender in a combined sample of music students and members of the professional orchestras, we first calculated Pearson's correlations between our variables and they are presented in Table 1. Age was significantly negatively correlated with the MPA total score, $r = -.30, p < .001$, as well as with its three factors: proximal somatic anxiety and worry about performance, $r = -.37, p < .001$, negative cognitions focused on self/other scrutiny, $r = -.31, p < .001$, and anxious apprehension, $r = -.21, p = .001$. This means that younger musicians in our sample experienced more MPA. Gender was significantly correlated only with negative cognitions focused on self/other scrutiny, $r = .21, p = .001$, with women scoring higher on this MPA factor than men. MPA total score was significantly correlated only with discrepancy, $r = .63, p < .001$. Discrepancy was significantly correlated with all MPA factor scores except memory, ranging from .20 to .60, all $ps \leq .002$. Order and standards, dimensions of adaptive perfectionism, were not significantly correlated with any of the MPA factor scores, with the exception of standards correlating with negative cognitions focused on self/other scrutiny, $r = .25, p < .001$. A significant negative correlation was found between age and standards, $r = -.20, p = .002$, while gender was not correlated with any perfectionism scale.

To test our hypothesis that gender, age, and maladaptive perfectionism would predict higher MPA, we ran regression analysis with gender, age, and dimensions of both adaptive and maladaptive perfectionism as predictors. All three perfectionism dimensions were included in the regression analysis as they were all significantly intercorrelated. Our predictors explained 46% of the MPA variance, $F(5, 223) = 40.21, p < .001$, with gender ($\beta = .14, p = .007$), age ($\beta = -.22, p < .001$), and discrepancy ($\beta = .62, p < .001$) as significant predictors, while order ($\beta = -.07, p = .226$) and standards ($\beta = -.06, p = .261$) were not significant predictors. In other words, higher MPA was predicted by being female, a younger musician, and having a higher maladaptive perfectionism.

Discussion

In this study, the association between MPA and perfectionism was examined in a combined sample of music students studying at the Academy of Music and members of the professional orchestras in Zagreb. The data were collected for a wide age range between 16 and 64 years, and males and females were equally represented in the sample. Since previous studies found some age and gender differences in MPA and perfectionism, we included age and gender as predictors of MPA in our analysis. Previous studies mainly confirmed the association between MPA and maladaptive perfectionism, but results were less consistent for adaptive perfectionism. Only one previous study on music teacher candidates in Turkey used Almost Perfect Scale to measure perfectionism and obtained significant findings for both adaptive and maladaptive perfectionism. Therefore, with this study we also examined whether this finding for adaptive perfectionism using the same perfectionism scale would be replicated in a different cultural context.

In line with our hypothesis that gender, age, and maladaptive perfectionism would predict higher MPA, results of the regression analysis showed that female gender, younger age, and maladaptive perfectionism were significant predictors of MPA, explaining 46% of the variance. This finding is in line with previous studies. Previous studies have indicated that females report higher prevalence and higher intensity of MPA than males (Biasutti & Concina, 2014; Dobos et al., 2019; Kenny et al., 2014; Kenny & Osborne, 2006), and that

younger musicians (Biasutti & Concina, 2014; Kenny et al., 2014) or music students compared with professional musicians (Gorges et al., 2007; Steptoe & Fidler, 1987) experience more MPA. Gender was not correlated with any perfectionism scale which is in line with several studies reporting no gender differences in perfectionism (Flett et al., 1992; Hewitt & Flett, 1991) and with Dunn et al.'s (2005) finding of no gender difference when perfectionism is measured as a global construct.

In previous studies, maladaptive perfectionism was found to be associated with MPA when measured as concern over mistakes, doubts about actions, socially prescribed perfectionism, and discrepancy. However, Sarikaya and Kurtaslan (2018) found that standards, an adaptive perfectionism subscale, had a negative association with MPA. In our study, both order and standards, scales measuring adaptive perfectionism, had non-significant correlations with MPA and were not significant predictors of MPA in regression analysis. In other words, we have not replicated this finding for adaptive perfectionism in a different cultural context. There are number of differences between two studies, for example, the previous study only had music teacher students as participants, so their age range was more limited, and 65% of the sample was female. There is no descriptive statistics for Turkish sample, so we cannot be sure whether there was a difference in MPA and perfectionism levels in two studies. A recent meta-analysis has indicated that recent generations of young people in the United States, Canada, and the United Kingdom have higher levels of both maladaptive and adaptive perfectionism and that this is possibly due to cultures becoming more individualistic, materialistic, and socially antagonistic (Curran & Hill, 2019). These influences would have been more at work in a Turkish sample composed of students only. In addition, in our study there was a significant negative correlation of standards scale with age, indicating that older participants in our study had lower levels of adaptive perfectionism. This finding is in line with some previous studies which found that adaptive perfectionism declined with age (Landa & Bybee, 2007; Stoeber & Stoeber, 2009). However, in those studies maladaptive perfectionism also declined with age, which is in line with the finding that younger people have higher levels of perfectionism, but in our study the correlation between age and discrepancy was not significant at $p < .01$. This could be related to the cultural context. In a family study of perfectionism in a sample of Croatian students and their parents using the same perfectionism scale as the one we used in this study, parents had higher scores than children on order, there was no difference on standards, and mothers, but not fathers, had higher scores on discrepancy (Marković, 2007). In other words, findings were in the direction of higher adaptive and maladaptive perfectionism in parents compared with children.

To better understand which aspects of MPA are influenced by our predictors, we examined the correlations for MPA scales. Age was significantly correlated with three MPA scales: proximal somatic anxiety and worry about performance, negative cognitions focused on self/other scrutiny, and anxious apprehension, while gender was significantly correlated only with negative cognitions focused on self/other scrutiny. Discrepancy was correlated with all MPA scales except memory. Therefore, the only MPA scale correlated with all three predictors was negative cognitions focused on self/other scrutiny, which also had a significant bivariate correlation with standards scale. Therefore, we ran the regression analysis with the same predictors and this scale as an outcome, and the results were very similar to the results for the total score, meaning that age, gender, and discrepancy were significant predictors explaining 45% of the variance. In other words, from our data it seems that negative cognitions focused on self/other scrutiny scale captures the most important MPA aspect associated with perfectionism.

Limitations and conclusions

This study has also some limitations. Only orchestras from Zagreb were approached to gather data on professional musicians, and in some orchestras, response rate was rather low. It could be that members of the orchestras having the highest prevalence of MPA decided not to participate in the study and that could have influenced our findings. However, our findings are in line with previous studies. In addition, one of the contributions of our study is that we measured different aspects of MPA. Reliabilities of the three subscales (parental empathy, generational transmission of anxiety and anxious apprehension) were lower than .70, and biological vulnerability was measured with only one item. These lower reliabilities could have also influenced the found associations. Therefore, further studies with better measures are needed to examine the association between different aspects of MPA and maladaptive perfectionism. Finally, this study is correlational, so it is impossible to determine whether maladaptive perfectionism influences MPA or MPA maladaptive perfectionism or whether there is bidirectional causation. Longitudinal studies are needed to disentangle this and understand the interplay between maladaptive perfectionism and MPA even better. In addition, further studies are needed to better understand the association between adaptive perfectionism and MPA and to determine whether this association depends on the specific cultural context. In other words, additional research is needed to weigh the relevance of our findings.

Better understanding of the associations between perfectionism and MPA is important for effective treatment planning. Our findings indicate that around one-fourth of musicians in our sample has clinically significant MPA level. Our findings, in line with previous ones, point out that having higher levels of maladaptive perfectionism is associated with higher MPA levels. Therefore, it seems that it would be important to deal with maladaptive perfectionism to effectively manage MPA, for which we need to further study their relationship.

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