Echoes of Perfection: The Dual Role of Positive and Negative Perfectionism in Shaping Musicians' Motivation, Performance, and Self-Evaluation

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Abstract

The goal of this study is to explore the effects of both negative and positive perfectionism on musicians' motivation, self-evaluation, and performance using the 2x2 Model of Perfectionism. The hypothesis posits that positive perfectionism boosts musicians' motivation, performance, and self-evaluation, while negative perfectionism could influence the connection between perfectionism and the studied variables. A cross-sectional study was conducted using convenience sampling consisting of 38 musicians, with 58% males and 42% females. The mean age of the participants was approximately 30.4 years, with a standard deviation of about 11.1 years. Data was gathered through a survey incorporating *the Frost Multidimensional Perfectionism Scale* and a music pitch game. The data analysis did not reveal any impacts of perfectionism on the outcomes examined. This might have been due to the operationalization of the variable performance. The average game duration of 10 minutes did possibly not suffice to improve their performance significantly.

Keywords: perfectionism, music, 2x2 model of perfectionism

Echoes of Perfection: The Dual Role of Positive and Negative Perfectionism in Shaping Musicians' Motivation, Performance, and Self-Evaluation

"Don't be a perfectionist… leave that to the classical musicians." – Dave Brubeck, American Jazz Pianist and Composer

Perfectionism is a personality trait characterized by a persistent drive to attain high-performance standards and an excessive concern with making mistakes or falling short of one's or others' expectations (American Psychological Association, n.d.). This trait is visible in all sorts of domains and areas of life, such as in sports, academia, one's body image, and many others (Haase et al., 2013). In music, perfectionism can manifest in various ways and positively and negatively impact musicians and their creative process.

On the one side, perfectionism in music can have negative consequences. The relentless pursuit of perfection can create significant stress and anxiety, leading to self-doubt, self-criticism, and a fear of failure (Dempsey, 2015; Dobos & Piko, 2019). Kenny et al. (2014) surveyed professional orchestral musicians in Australia and found that perfectionism was a significant predictor of burnout and diminished psychological well-being. Specifically, musicians who scored higher on perfectionism measures reported higher levels of burnout and lower levels of job satisfaction, while also experiencing greater levels of stress and anxiety. These findings highlight the negative impact that perfectionism can have on musicians and their ability to enjoy the creative process.

On the other side, perfectionism can drive musicians to excel and produce high-quality work. In a study by Stoeber and Eismann (2007), young talented musicians were examined to investigate the relationship between perfectionism and the number of awards won in local, state, and national music competitions. The results showed that a greater number of awards was positively correlated with perfectionistic strivings. Furthermore, perfectionism can lead to meticulous attention to detail, discipline in practice, and a

commitment to constant improvement (Stoeber & Otto, 2006). Moreover, it can help musicians set and achieve challenging goals, resulting in impressive musical achievements and performances that others admire (Stoeber, 2012). The goal of this study is to observe how the two different aspects of perfectionism, positive and negative, influence the motivation and self-evaluation of performance in musicians. Based on the limited amount of research on perfectionism that currently exists in the field of music, this study aims to add value to the future research pool. While research on perfectionism in music has primarily focused on the negative aspects, such as anxiety and burnout (Stoeber & Eismann, 2007), more research is needed to understand the aspects of perfectionism in music to eventually develop interventions that can promote healthy and adaptive forms of perfectionism.

Theoretical framework

One of the most prominent theories that distinguish between positive and negative aspects of perfectionism is the Dual Process Model of Perfectionism proposed by Flett and Hewitt (Flett & Hewitt, 2002). This model recognizes two distinct dimensions: adaptive/perfectionistic strivings and maladaptive/perfectionistic concerns.

Positive perfectionism, also known as perfectionistic strivings or adaptive perfectionism, encompasses constructive and adaptive tendencies. Individuals high in positive perfectionism set ambitious goals, maintain high personal standards, and strive for excellence. They are intrinsically motivated, self-disciplined, and work diligently towards their goals. Positive perfectionists view mistakes as opportunities for growth and learning, embracing a mindset that focuses on improvement rather than personal failure. According to Flett and Hewitt (2002), this aspect of perfectionism is linked to favorable psychological outcomes like higher self-esteem, greater personal fulfillment, and a better quality of life.

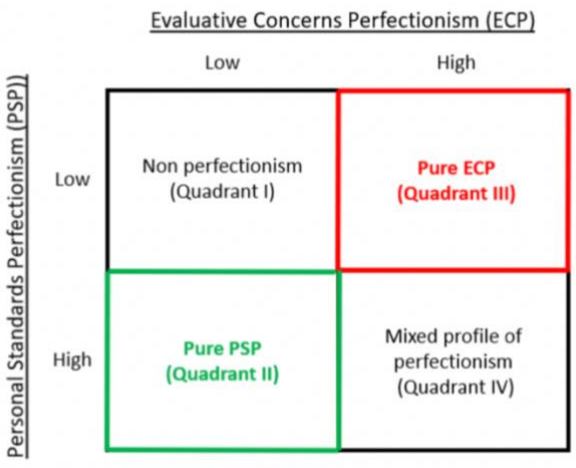
Negative perfectionism, on the other hand, is characterized by maladaptive and self-critical tendencies. It is sometimes referred to as perfectionistic concerns or maladaptive

perfectionism. Individuals high in negative perfectionism are excessively preoccupied with avoiding mistakes, meeting unrealistic standards, and fearing failure. Negative perfectionists are often motivated by an inherent fear of making mistakes and receiving negative feedback from others. They typically engage in intense self-criticism, experience high levels of anxiety, and suffer greatly psychologically when their performance is not reaching their standards. According to Flett & Hewitt (2002), negative perfectionism is associated with anxiety, depression, burnout, and an overall decline in well-being. For instance, the study by Roohafza et al. (2010) found that negative perfectionism was a predictor of depression, anxiety, and negative academic achievement for students, while positive perfectionism had the opposite effect. Another study by Stoeber et al. (2007) investigated the relationship between perfectionism and competitive anxiety in athletes. The researchers concluded that a negative reaction to imperfection was what was related to anxiety but not striving for perfection. These findings point out the importance of differentiating aspects within perfectionism as a construct.

The 2x2 Model of perfectionism by Geadrau and Thompson (2010) adds another layer to how perfectionism can be studied in performance and other domains as such. This model first categorizes perfectionism in two dimensions, perfectionistic strivings, and perfectionistic concerns, which then creates a quadrant of four different types of perfectionism (see Figure 1) by intersecting the dimensions in a 2x2 structure.

Figure 1

2x2 model of perfectionism



As shown in *Figure 1*, Pure Personal Standards Perfectionism (PSP) is comprised of high strivings but low concerns. This can be perceived as adaptive perfectionism, as individuals with Pure PSP aim for high standards but without extensively worrying about criticism. On the other hand, Pure Evaluative Concerns Perfectionism (ECP) is defined as being high in both, strivings and concerns. Here, the individuals' high standards are accompanied by significant anxiety about failing to meet these standards and can, therefore, be defined as negative perfectionism. In addition to the bi-dimensional explanation of perfectionism, Geadrau, and Thompson also define Non-Perfectionists, who are low in both dimensions. These individuals neither set high standards nor worry about perfection and hence, experience fewer psychological issues related to perfectionism. Lastly, the authors define a Mixed-Perfectionism type, which has low strivings but is high on concerns. This leads to a lesser emphasis on high standards but a substantial concern about mistakes and criticism, which can lead to avoidance behaviors and other negative consequences.

In this research study, we will operationalize perfectionism as a spectrum that goes from pure personal standards (described as positive perfectionism) toward pure evaluative concerns (described as negative perfectionism) to investigate the moderating influence of evaluative concerns in addition to personal standards.

Relationship between perfectionism and motivation in music

The link between perfectionism and motivation in the field of music has attracted more and more research attention over time. Positive perfectionism involves having high standards, working persistently, and striving for excellence in music, which can influence musicians' motivation. Research shows that positive perfectionism acts as a motivator driving musicians to continuously seek improvement and reach their musical aspirations. It fosters a sense of purpose, determination, and enthusiasm that fuels musicians' inner drive to practice, hone their skills, and express their identity (Stoeber & Stoeber, 2009). Bonneville-Roussy et

al. (2011) explored how love for music and adaptive perfectionism contributed to musical achievement. They conducted a survey involving 196 musicians (both students and professionals) to evaluate their passion for music, adaptive and maladaptive perfectionism, and their perceived level of excellence. The results indicated that musicians with adaptive perfectionism exhibited levels of harmonious passion for music, resulting in enhanced motivation and perceived excellence. Conversely, maladaptive perfectionism was linked to lower levels of passion and perceived excellence. Through perfectionism fostering a growth mindset, musicians become more open to feedback and see setbacks as opportunities for growth and learning. This positive approach not only boosts their drive to hone their skills but also encourages them to embrace their artistic expression with zeal and determination (Sirois et al., 2017). In essence, the link between perfectionism and motivation in music allows musicians to strike a balance between aiming for greatness and relishing the artistic journey.

As highlighted in the research by Bonneville-Roussy et al. (2011), maladaptive perfectionism can hamper a musician's motivation. The dread of falling off standards or facing critique may foster a fear of failure, diminishing the drive to practice or perform (Kobori et al., 2011). This form of perfectionism could also trigger procrastination, where the pursuit of outcomes leads to avoiding or postponing practice sessions, subsequently dampening productivity and motivation (Kenny et al., 2004). The relentless pursuit of flawlessness can result in burnout, leaving musicians mentally and physically drained, thereby reducing their desire to continue honing their skills. Furthermore, the enjoyment and fulfillment derived from creating and performing music may be overshadowed by the chase for perfection, further depleting the incentive to partake in musical activities (Stoeber & Eismann 2007).

Relationship between perfectionism and self-evaluation in music

The relationship between perfectionism and self-evaluation in music is a nuanced one that has not yet been a major subject of empirical research. Musicians characterized by positive or adaptive perfectionism often engage in constructive self-evaluation, setting high personal standards and being intrinsically motivated to meet them (Flett & Hewitt, 2002). Unlike musicians with maladaptive perfectionistic tendencies, those with positive perfectionism view mistakes as learning opportunities rather than personal failures (Stoeber & Otto, 2006). Negative perfectionism in musicians often leads to a negative self-evaluation, as the constant aim for flawless performance sets a high standard that is hard to meet. This harsh self-judgment can hinder personal growth and satisfaction, as the focus tends to be more on perceived mistakes rather than on progress and achievements (Kobori et al., 2011).

It is worth mentioning that the direct relationship between perfectionism and self-evaluation has largely remained unexplored in the realm of music, leaving a significant gap in understanding how these constructs interact within this creative domain. In other contexts, the link between self-evaluation and perfectionism already received valuable attention, for instance, concerning an individual's body image. Steele et al. (2010) have found that negative self-evaluation and perfectionism are associated with the overvaluation of weight and shape and are, therefore, important measures for the development of interventions to treat eating disorders (Wade et al., 2015). Illustrating this association in a more performance-oriented context, Stoeber et al. (2008) investigated perfectionism, self-efficacy, and reaction to success or failure in undergraduate students. They found that negative self-evaluation is related to low self-efficacy, leading to perfectionists losing self-confidence after failure.

This research aims to bridge the current research gap by delving into the association between perfectionism and self-evaluation among musicians, thereby contributing to a richer comprehension of the psychological dynamics at play.

Relationship between perfectionism and performance in music

The relationship between perfectionism and performance has received significant attention in recent years. For instance, Stoeber (2012) investigated the impact of perfectionism on performance, consisting of individuals involved in different high-performance activities, including sports, school, and music. This study points out the demographic diversity of the relationship between perfectionism and performance, illustrating the broad influence of perfectionism's effects on performance. To dive deeper into their relationship in the context of music, Stoeber & Eisman (2007) found that positive aspects of perfectionism are associated with greater effort and higher achievements among musicians. On the other hand, negative perfectionism predicts higher levels of music performance anxiety hindering performance (Butković et al., 2021). This dichotomy showcases that while striving for high standards can fuel excellence in musicians, negative perfectionistic attitudes can lead to anxiety and, therefore, potentially impact performance. Furthermore, Patston and Osborne (2016) added to this body of research by investigating the impact of perfectionism on the prevalence of music performance anxiety, and hence, performance outcome, in a student population across grades 5-12. Their findings suggest that particularly "concerns over mistakes", a core measure of negative perfectionism, was highly related to performance anxiety. Additionally, the levels of music performance anxiety related to perfectionism increased with its years of experience, implying the negative impact it will have over time far into adulthood.

The current study

This study aims to investigate the role of perfectionism in motivation, self-evaluation, and performance among musicians in a music-pitch game. As we will research the variables of motivation, self-evaluation, and performance in a specific task, this study adds an innovative perspective on studying perfectionism in musicians.

The research hypotheses are as follows:

H1: Personal standards will be associated with motivation

H2: Negative perfectionism will be a moderator between personal standards and motivation, decreasing the relationship between the two variables

H3: Personal standards will be correlated with self-evaluation

H4: Negative perfectionism will be a moderator between personal standards and self-evaluation, decreasing the relationship between the two variables

H5: Personal standards will be associated with performance

H6: Negative perfectionism will be a moderator between personal standards and performance, decreasing the relationship between the two variables

Figure 2

Hypothesized model for the association between personal standards and motivation with negative perfectionism as a moderator

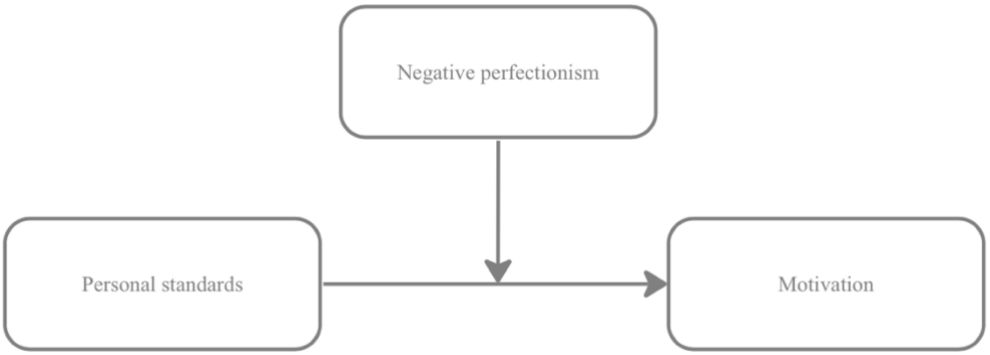


Figure 3

Hypothesized model for the association between personal standards and self-evaluation with negative perfectionism as a moderator

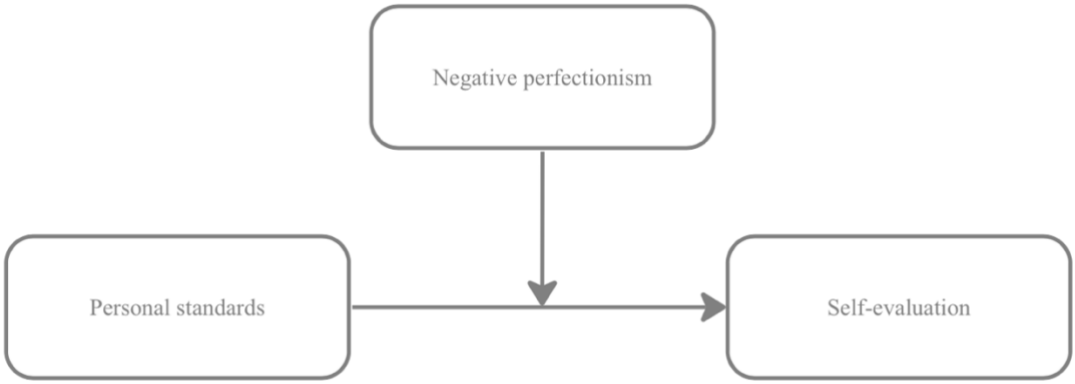
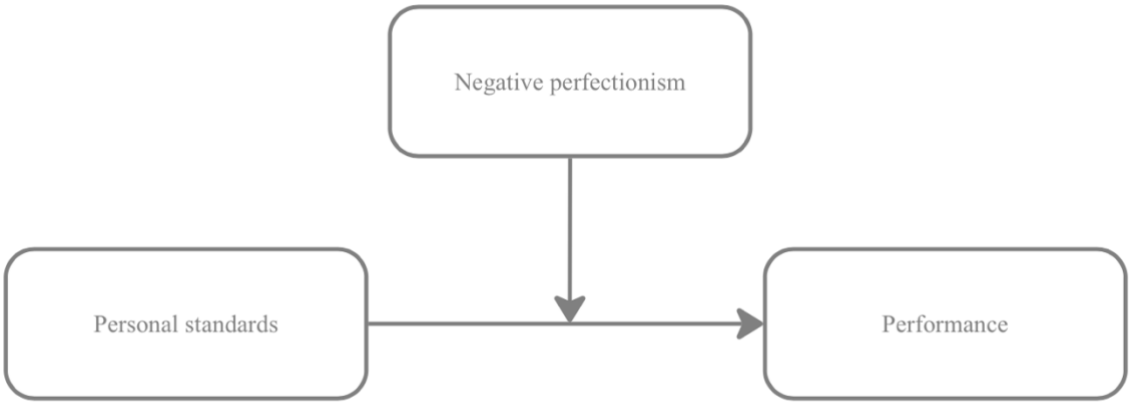


Figure 4

Hypothesized model for the association between personal standards and performance with negative perfectionism as a moderator



Method

Participants

Initially, a total of 63 participants were recruited through convenience sampling. The inclusion criteria were (a) being above 18 years old, (b) having a career orientation in music, including individuals who are currently music students, and (c) actively making music. Participation was fully voluntary, and participants could drop out anytime throughout the

participation of the study. Eventually, 25 participants had to be excluded from the analysis due to issues such as incomplete data or failure to fully participate in the intervention. As a result, a final sample of 38 participants, consisting of 58% males and 42% females, was included in the study. The age distribution of the participants was categorized into four distinct groups: 31.6% between 18-25 years (*n*=12), 57.8% between 26-35 years (*n*=22), 5.3% between 36-45 years (*n*=2), and 5.3% aged 45 years and above (*n*=2). In terms of educational attainment, the final sample comprised 18.4% of individuals with a high school diploma, 39.5% with a bachelor's degree, 39.5% with a master's degree, and 2.6% with a PhD or higher level of education.

Materials

Perfectionism

The Frost Multidimensional Perfectionism Scale (FMPS), developed by Frost et al. (1990), is a widely utilized 35-item self-report measure designed to assess various dimensions of perfectionism. The FMPS focuses on perfectionism as a multifaceted construct and includes four distinct subscales, each encompassing a specific dimension of perfectionistic behavior. The subscale *Concern over Mistakes and Doubts about Actions* includes 12 items that measure the degree to which individuals worry about making mistakes and doubt their actions. The questions focus on fears about failure and the critical evaluation of one's performance. An example item from this subscale is: "If I fail at work/school, I am a failure as a person." Comprising 9 items, the subscale *Excessive Concern with Parents' Expectations and Evaluation* evaluates the influence of perceived parental expectations and their evaluative processes on the individual's sense of worth and self-evaluation. An example question here is: "My parents set very high standards for me." The subscale *Excessively High Personal Standards* has 7 items that assess the extent to which individuals set and adhere to high personal standards and goals, which often surpass those of others. An example item is:

"If I do not set the highest standards for myself, I am likely to end up a second-rate person." Including 6 items, the subscale *Concern with Precision, Order, and Organization* measures the importance placed on being organized, precise, and orderly. This dimension of perfectionism focuses on environmental and personal organizational skills. An example from this subscale is: "Organization is very important to me." Responses are measured using a 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The Frost Multidimensional Perfectionism Scale has demonstrated robust psychometric properties in this study, with Cronbach's alpha values ranging from $\alpha = .88$ for *Excessive Concern with Parents' Expectations and Evaluation*, $\alpha = .90$ for *Concern over Mistakes and Doubts about Actions*, $\alpha = .89$ for *Concerns with Precision, Order, and Organization*, and $\alpha = .68$ for *Excessively High Personal Standards*, showcasing acceptable to good internal consistency (Taber, 2017). Other research has shown similar results. For instance, Franco et al. (2014) concluded an alpha of $\alpha = .66$ for *Excessive Concern with Parents' Expectations and Evaluation* and an alpha of $\alpha = .80$ for *Concern over Mistakes and Doubts about Action*.

In this research, the subscale *Excessively High Personal Standards* was used to operationalize the independent variable “positive perfectionism” and a combined variable of *Concern over Mistakes and Doubts about Action* and *Excessive Concern with Parents' Expectations and Evaluation* as the independent variable “negative perfectionism”.

Motivation

Prior to engaging in the game, participants were asked to reflect on their levels of motivation through two thoughtfully designed questions: 'How motivated are you to do the task?' (with responses ranging from 'Very motivated' = 1 to 'Very unmotivated' = 5) and 'How invested are you in the outcome of this task?' (where 1 signifies 'Fully invested' and 5 indicates 'Not invested at all’). The calculated Cronbach’s alpha resulted in a value of $\alpha = .79$ and is, therefore, deemed acceptable.

Self-evaluation

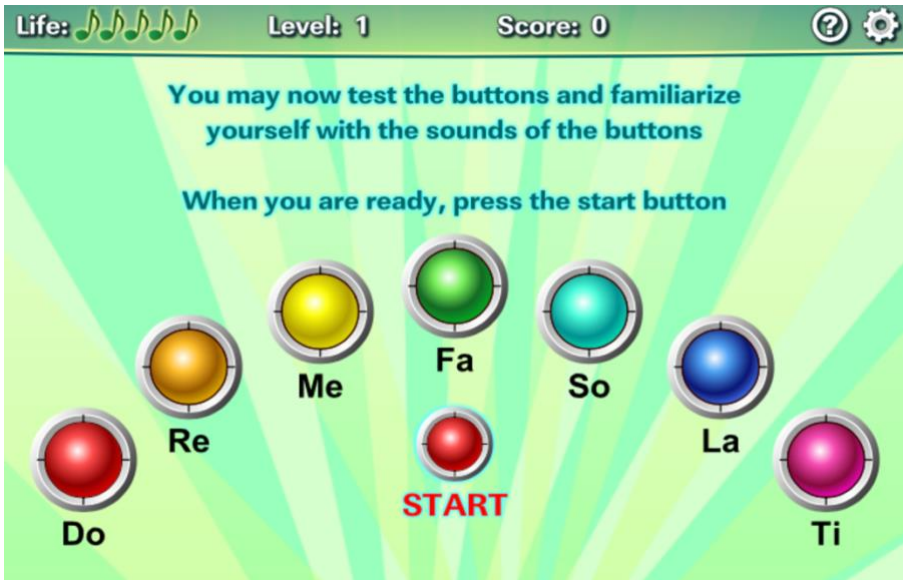
Participants were asked to rate their performance after completing the task by answering the question 'How well did you do on this task?' on a scale of 0 to 10, with 0 = 'Not well at all' and 10 = 'Extremely well'. This question aimed to investigate and understand how well participants thought they performed on the task.

Task

The practical task at hand was a creatively engaging, music-themed game called *Music Memory* (ProProfs, n.d.). In this task, participants were instructed to listen to notes played by the computer and replay them in the same sequence. Before playing the game, individuals could familiarize themselves with the different notes (see *Image 1*).

Image 1

Starting screen



Once playing the game, with each successful sequence, the number of notes increased per round, increasing the game's difficulty (see *Image 2*).

Image 2

Advancing to the next level

The moment an incorrect button (hence, the incorrect note) was pressed, the player lost a life. Lastly, the game ended when all lives are lost, which then counts the total score. In this study, participants were asked to spend at least 10 minutes exploring, adapting, and enhancing their proficiency within this game. Performance was then tested through the high score metric by asking participants to note their scores before playing the game, providing a quantitative measure of improvement.

Procedure

Ethical approval was granted by the EC-BSS at the University of Groningen. After ethical approval was granted, the data collection started. The data was gathered through convenience sampling based on the social circle of researchers; the researchers distributed the questionnaire through social media, such as Facebook, Instagram, WhatsApp, and LinkedIn. At the beginning of the questionnaire, participants read the information about the focus of the study, namely perfectionism and music. After the participants provided their consent, they

gained access to the questionnaire. Firstly, they provided information about their demographic information, including age, gender, level of education, and main musical instrument. Afterward, the FMPS was administered to the participants, asking 35 questions across the following four domains: concerns over mistakes and doubts about actions, excessive concern with parents' expectations and evaluation, excessively high personal standards, and concerns with precision, order, and organization. Following this, participants were briefed on the music game they would play. Before starting, their motivation was assessed through a series of questions. Subsequently, participants engaged in a task involving the music game *Music Memory* to improve their scores over time spent playing. Post-task, participants were asked to rate how well they did on the task and how difficult they perceived it as. The participants could terminate the experiment during the survey without any explanation, and their answers would remain anonymous. The survey took, on average, 30 minutes and was available solely in English.

Data Analysis

Firstly, the power analysis was conducted by using G*power test. The results showed that at least 60 participants were necessary to gather sufficiently reliable findings. IBM SPSS Statistics 28 was used to analyze the data. Before using the data, the data was checked for missing values and outliers and cleaned. The analyses of the hypotheses was conducted using regression analyses. Before starting the analyses, the assumptions (linearity, normality, homoscedasticity, and independence) were checked. For Hypothesis 1 (H1) and Hypothesis 2 (H2), the moderation model by Hayes et al. (2013) was used to quantify the relationship between positive perfectionism and motivation moderated by negative perfectionism. Similarly, for Hypothesis 3 (H3) and Hypothesis 4 (H4), Hayes' moderation model focused on the association between positive perfectionism and self-evaluation at post-task, moderated by negative perfectionism. For Hypothesis 5 (H5) and Hypothesis 6 (H6), the moderation

model was used to analyze the relationship between positive perfectionism and performance difference, using the best score as the dependent variable and negative perfectionism as moderator.

Results

Descriptive Statistics

Table 1 represents the descriptives of the main variables (personal standards, negative perfectionism, motivation, self-evaluation).

Table 1

Minimum, Maximum, Means, and Standard Deviation of the Different Variables (*n*=38)

Variables	Minimum	Maximum	*M*	*SD*
Personal standards	17	33	25.4	4.2
Negative dimensions	28	89	58.5	15.9
Motivation	5	10	7.4	1.5
Self-evaluation	0	7	3.1	2.1
Best Score	4500	62000	23271.1	13828.6

Hypothesis 1 and 2: Perfectionism and Motivation

The hypotheses were tested using regression analyses. First, a normality test was conducted to test the assumptions of the regression analysis, which showed that the residuals were not normally distributed. A histogram of the residuals was created to investigate normality further, indicating a fairly normal distribution with a slight skew to the right. Additional normality tests (Q-Q plots) also supported this finding. It was concluded to be

sufficient. Furthermore, the assumptions of the independence of errors and homoscedasticity were both met. Examining standardized residuals also did not show any significant outliers.

Hypothesis 1 stated that personal standards will be associated with motivation, moderated by negative perfectionism, decreasing the relationship between personal standards and motivation (H2). The hypothesized moderation model was tested using PROCESS macro model number 1, which tested the moderating effect of negative perfectionism on personal standards and motivation (Hayes, 2013; Hayes, 2015). The regression analysis results are visible below in *Table 2*. In this model, neither personal standards, B = -.14, SE = .26, t = -.55, p = .59, nor negative dimensions, B = -.05, SE = .12, t = -.45, p = .66, were significant predictors of motivation and hence, they did not display an association with the outcome variable, motivation. Furthermore, the interaction between personal standards and negative dimensions was not a significant predictor of motivation (B = .002, SE = .004, t = .48, p = .64). These results suggest that there is no significant moderating effect of negative dimensions on the relationship between personal standards and motivation in the proposed model and therefore, hypotheses 1 and 2 can be rejected.

Table 2

Scores of moderation analysis using Hayes' PROCESS (DV = motivation)

Model	*B*	*SE*	*t*	*p*
(Constant)	10.86	6.64	1.64	.111
Personal standards	-.14	.26	-.55	.59
Negative dimensions	-.05	.12	-.45	.66
Interaction	.002	.004	.48	.64

Hypothesis 3 and 4: Perfectionism and Self-evaluation

In examining the assumptions, normality was assessed, and the residuals did not adhere to a normal distribution. A histogram for the residuals was created to look further into the normality aspect. This histogram displayed a distribution that closely resembled normality but with a slight skew towards the left. Further examinations using Q-Q plots reinforced the observation of normality, deeming it acceptable for additional analysis. Additionally, the criteria for error independence and homoscedasticity were satisfied. An analysis of standardized residuals revealed no significant outliers.

Hypothesis 3 expected personal standards to be correlated with self-evaluation, with negative perfectionism moderating the relationship, decreasing the association between the two variables (H4). Using Hayes' PROCESS macro, a moderation analysis was conducted to explore the impact of personal standards and negative dimensions on self-evaluation. *Table 3* showcases the results of the moderation model. The results show that none of the predictors were statistically significant in influencing self-evaluation. Personal standards did not significantly predict self-evaluation, B = .05, SE = .37, t = -.14, p = .893, therefore, showing no association between personal standards and self-evaluation. Similarly, negative dimensions of perfectionism were not a significant predictor, B = .-.06, SE = .16, t = -.37, p = .715. Moreover, the interaction between personal standards and negative dimensions also did not significantly predict self-evaluation, B = .001, SE = .006, t = .22, p = .833. These findings suggest that there is no significant moderating effect of negative dimensions on the relationship between personal standards and self-evaluation in the examined model. Therefore, hypotheses 3 and 4 can also be dismissed.

Table 3

Scores of moderation analysis using Hayes' PROCESS (DV = self-evaluation)

Model	*B*	*SE*	*t*	*p*
(Constant)	5.8	9.28	28.68	.535
Personal standards	-.05	.37	-.14	.893
Negative dimensions	-.06	.16	-.37	.715
Interaction	.001	.006	.22	.833

Hypothesis 5 and 6: Perfectionism and Performance

The assumptions for normality, error independence, and homoscedasticity were all met. An examination of standardized residuals indicated the absence of any notable outliers.

Hypothesis 5 states that personal standards are associated with performance with negative perfectionism moderating their relationship, decreasing their association (H6). A moderation analysis was performed to examine the effects of personal standards and negative dimensions on the best score (performance), employing Hayes' PROCESS macro. The regression analysis results for the moderation model are presented below in *Table 4*. Analysis indicated that neither personal standards, $B = 1236.16$, $SE = 1262.31$, $t = .98$, $p = .334$, negative dimensions, $B = 682.40$, $SE = 559.61$, $t = 1.22$, $p = .231$, nor their interaction, $B = -19.72$, $SE = 21.37$, $t = -.92$, $p = .363$, were significant predictors of the best score. Therefore, personal standards seem not to be associated with performance in this study, and neither do negative dimensions of perfectionism impact performance. These findings suggest that there is no significant moderating effect of negative dimensions on the relationship between personal standards and performance within the proposed model, which means that hypotheses 5 and 6 can be rejected.

Table 4

Scores of moderation analysis using Hayes' PROCESS (DV = best score)

Model	*B*	*SE*	*t*	*p*
(Constant)	-30234.43	32016.62	-.95	.352
Personal standards	1236.16	1262.31	.98	.334
Negative dimensions	682.40	559.61	1.22	.231
Interaction	-19.72	21.37	-.92	.363

Discussion

The study aimed to dissect the dual role of positive and negative perfectionism within the context of musical performance, particularly focusing on motivation, self-evaluation, and performance. However, the hypothesized models did not reveal statistically significant effects, suggesting a more complex interplay than initially anticipated.

Contrary to expectations, our results indicate that neither positive nor negative dimensions of perfectionism significantly influenced musicians' motivation levels. This is contrary to previous research, which showed positive perfectionism to foster musicians drive to practice and seek improvement, while negative perfectionism was linked to a diminished drive to practice or even perform (Stoeber & Stoeber, 2009; Kobori et al., 2011). This lack of significance could be interpreted in several ways. First, it suggests that motivation in musical contexts might be influenced by other factors beyond the scope of perfectionism, such as passion, intrinsic interest in music, or external circumstances such as immediate performance pressure. Previous literature, such as the study by Bonneville-Roussy et al. (2011), highlighted how adaptive perfectionism could enhance motivation through harmonious passion. Our study suggests that the direct effect of perfectionism traits on motivation might be more nuanced, potentially mediated by other psychological constructs not captured in this study.

Similarly, the study found no significant effects of perfectionism on self-evaluation among musicians. This outcome is somewhat surprising, given that literature often suggests that perfectionistic tendencies, particularly negative perfectionism, are associated with more critical self-assessment (Kobori et al., 2011). A possible explanation for this discrepancy could be the specific context of the music pitch game used in this study, which might not fully encapsulate the real-world evaluative scenarios where musicians' perfectionistic tendencies are more prominently triggered. Additionally, the musicians' prior experiences and their familiarity with performance evaluation might buffer the typical influences of perfectionism on self-evaluation (Kinney, 2009).

The relationship between perfectionism and performance also did not demonstrate significant results, challenging some existing literature that shows a clear link between these constructs (Stoeber, 2012). It is possible that the operationalization of performance through a music pitch game did not sufficiently mimic live performance conditions under which the pressure associated with negative perfectionism might manifest more clearly in lower performance. Furthermore, participant’s short playing time (on average 10 minutes) also challenged the measurement of performance, as acquiring an understanding of the task alone can take 5-10 minutes (Aljamal et al., 2019). In addition, performance, and more so performance improvement, might not be fully reflected in a music game that assesses the musician’s pitch. Research shows that perfect pitch is something very rare and does not always represent a musician’s skill or talent (Bahr et al., 2005). Coming back to the general relationship between perfectionism and performance, literature shows that their relationship is much more complex and nuanced, which is why research often does not show an association between these two variables. For instance, McNeil et al. (2022) found personal standards perfectionism was associated with active coping, which moderated performance anxiety. However, it did not establish that perfectionism directly impacted performance.

Further limitation

Other limitations must be considered when interpreting these results. The sample size was relatively small (38 participants), and the use of convenience sampling might limit the generalizability of the findings. The group of musicians mainly consisted of my personal network in music, which meant that the individuals were predominantly in their 20s and 30s and many still students. This automatically excluded a bigger pool of older individuals, non-students, or people who are fully dependent on making music to earn their living. As important musicians' groups are underrepresented in this sample, the generalizability of the findings is low.

Strengths

Despite the limitations and the lack of significant findings in the hypothesized relationships, this study has several strengths that contribute valuable insights into the field of music psychology. One major strength is its focus on both positive and negative aspects of perfectionism, a dual approach often overlooked in research, as it often concentrates on this trait's maladaptive aspects (Stoeber & Otto, 2006). By examining both dimensions, the study provides a balanced view that can inform more nuanced interventions and support mechanisms for musicians. Furthermore, the methodological rigor in operationalizing perfectionism through validated scales, such as *the Frost Multidimensional Perfectionism Scale* (Frost et al., 1990), adds to the credibility and scientific value of the findings. The study's innovative use of a music pitch game as a performance measure also introduces a novel experimental approach to assessing musical performance in a controlled, replicable manner. This allows for a clear assessment of performance outcomes in relation to perfectionistic traits, paving the way for future studies to explore similar methodologies in more varied and complex settings.

Future research

Future research should explore these relationships using larger, more diverse samples and multiple forms of performance evaluation to understand better how perfectionism manifests in various musical settings. For example, peer assessments have been shown to provide valuable insights into technical proficiency and self-reflection, enhancing the accuracy of performance evaluations (Johnston, 1993). Additionally, audience feedback can be crucial for evaluating the emotional impact and overall reception of musical performances (Barbosa et al., 2012). Investigating mediators and moderators such as stress, anxiety, and resilience could provide deeper insights into how perfectionism affects musicians' psychological profiles and performance outcomes. For example, McNeill et al. (2022) that active coping strategies can moderate the relationship between perfectionism and performance anxiety, reducing the negative impact of perfectionistic concerns on performance outcomes.

Conclusion

In conclusion, this study contributes to the nuanced understanding of perfectionism within the musical domain, challenging some assumptions about its direct effects on motivation, self-evaluation, and performance. While perfectionism did not show significant direct effects in this study, the complex nature of these relationships warrants further exploration to fully understand the implications of perfectionistic traits in the artistic performance of musicians.

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