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An investigation of the levels of perfectionism among middle school and high school conservatory students in vocational music education

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Abstract

Perfectionism is a multidimensional construct composed of adaptive and maladaptive aspects. Perfectionism has been found to be at a higher level in the school setting where performance education and high academic expectations are at the forefront, and in the field of music where the evaluation made by other people is more because of the nature of the work. The study sought to identify whether the sub-dimensions of perfectionism of middle school and high school level conservatory students receiving professional music education differed in terms of various variables. The study group consists of middle and high school students between the ages of 10-18 in Turkey and entails the entire universe. Personal information form applied to 752 number of students along with The Child-Adolescent Perfectionism Scale developed by Flett, Hewitt, Boucher, Davidson and Munro (2001) were employed. The results yielded no difference in the self-oriented sub-dimension of perfectionism in terms of gender, having a musician in the family, daily working time and instrument type variables. However, significant differences were observed in the education level and perception of success variables. Referring to the socially prescribed sub-dimension of perfectionism, no significant difference was detected according to daily working time variable. Besides that, significant differences were observed in gender, having a musician in the family, education level, perception of success and instrument type.

Keywords: perfectionism, music education, adolescent, music performance, conservatory

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1. Introduction

1.1. Dimensions of Perfectionism

Perfectionism is a multidimensional construct, comprising psychological, social and behavioral component. Following the introduction of the perfectionism from a multinational perspective, perfectionism has been conceptualized not only as a psychopathological condition, but also as a personality trait that can be possessed by ordinary people, with positive and negative consequences (Hill, Burland, King, Pitts, 2020). In the early studies conducted before 1980, perfectionism was characterized as adaptive and maladaptive perfectionism, and the concept of multidimensional perfectionism came to the forefront with the studies conducted after 1990 (Frost, Marten, Lahart, 1990; Hewitt and Flett 1991), and was widely discussed.

Given the literature, it is seen that two models become visible in the multidimensional perfectionism approach. Frost et al. (1990) and Hewitt & Flett (1991) described perfectionism as multidimensional. Flett & Hewitt (1991) defined perfectionism as self-oriented perfectionism, socially prescribed perfectionism, and other-oriented perfectionism, whereas Frost et al. (1990) defined six sub-dimensions of perfectionism as order, excessive concern about making mistakes, doubting one's behaviors, family expectations, parental criticism, and personal standards. Self-oriented perfectionism is defined by self- perceptions to be perfect; socially prescribed perfectionism is defined by perceptions that others require the self to be perfect, and other-oriented perfectionism is defined by expectations of perfectionism from others. The common characteristics of the prominent multidimensional perfectionism approaches (Frost et al., 1990; Hewitt & Flett, 1991) are that the dimensions are delineated into two categories: intrinsic-self-oriented and extrinsic-environmental effects.

Brustein (2013) noted that self-oriented perfectionists often set highly unrealistic personal standards, adding that they tend to experience a high level of self-criticism and stress when their expectations are unmet, and even if their expectations are met from time to time, they still feel dissatisfied and continue to criticize themselves, and they constantly look for a flaw or mistake in their actions.

In educational settings where performance evaluation is at the forefront, the appreciation of the people who make the evaluation creates a perception of the student and this situation is associated with the concept of socially prescribed perfectionism, which is one of the sub-dimensions of perfectionism. Referring to socially prescribed perfectionism, Eroğlu (2018) remarks that individuals utter as follows: "people expect something more perfect from me. It is very difficult to meet others' expectations of me.", and adds that such perfectionists consider other people important and set unrealistically rigid standards for themselves, that they have the motivation to attain perfection and believe that they can only please others when the achievement standards are met.

One of the common characteristics of the two prominent approaches adopted in the definition of perfectionism is that they both highlight adaptive and maladaptive perfectionism. It is seen that although there are similarities and differences in the

multidimensional theories of both Frost et al. (1990) and Hewitt & Flett (1991), the definitions of adaptive and maladaptive perfectionism are salient in both approaches. The concept of adaptive perfectionism refers to the ability of the individual's perfectionism to produce thoughts and behaviors that will contribute to society and himself/herself and exhibit compatible and positive behaviors in a way that increases academic success and performance. The concept of maladaptive perfectionism, on the other hand, is when a person's perfectionist perceptions lead to the destruction of a person's psychological or physical well-being and incompatibility that adversely affects a person's success or job continuity. While Frost et al.'s (1990) personal standards and some traits in Hewitt and Flett's (1991) self-oriented perfectionism are described as adaptive perfectionism, parental expectations and criticism sub-dimensions, as well as various elements of the socially prescribed perfectionism sub-dimension, are described as maladaptive perfectionism.

Hamachek (1978) described adaptive perfectionism as healthy and maladaptive perfectionism as neurotic. According to him, healthy perfectionists, whom he refers to as normal perfectionists, have high standards and are content with the intense effort required to achieve these standards; they are more flexible in the face of failure; and they develop a greater tolerance for mistakes; whereas neurotic perfectionists strive for extremely high standards in all circumstances and never believe that their efforts are sufficient (cited in Ünal, 2013).

1.2. Music Performance and Perfectionism

Due to the variability of musical expression and the abstract dynamics of music, the concept of perfection is beyond the concepts of right and wrong, thereby complicating the definition of perfect performance. Perfectionism is often linked to the performer's perception of perfection rather than a true perfect performance. The criteria for being perfect and who sets them can shape musicians' perceptions of perfectionism. O' Riordan & Griffith (2014) stipulate that although musicians are congratulated on their hard work in front of a bunch of listeners and take positive feedback from the audience, they think they are not perfect enough and they pose the question, what exactly is perfectionism and who defines it.

In music education, the presentation of the performance is usually combined with an audience evaluation. The success of the piece or performance for the student is shaped by the taste of the audience, comprising of instructors, peers, family and others. This situation may cause internal or external pressures on the student for the perfection of the performance during the presentation or preparation of the piece that comes through a continuous and disciplined effort in the field of music, as in other fields of performance-oriented art. For this reason, the individual's perception of perfectionism is influenced by the school, professional work environment, family and social environment, or individuals can rely on their own internal representations, and therefore, approval from their environment becomes visible. In socially prescribed perfectionism, individuals perceive that others have high expectations from them and they think that if they fail, they will not be accepted and others will reject them. When these people are expected to meet high

standards in their works, they do not feel as if they need assistance, but rather as if they have lost control (Brustein, 2013).

In musical performance, the level of perfectionism is determined by the individual's own beliefs and the beliefs of the environment (family, friends, and teachers) regarding the perfect performance and the constant need to be perceived as perfect. It is believed that high effort, accompanied by self-criticism and criticism of others deemed important, is required to attain the level of perceived perfection. This is true in that pressure and positive/negative criticism can boost motivation to some extent. This implies adaptive perfectionism by increasing the possibilities for better performance. Wright (2015) argues that musicians' high level of effort to meet expectations is also the source of their productivity, and this situation is tied to adaptive perfectionism in terms of consequences. However, given behaviors and consequences, it is evident that perfectionism in music students yields both compatible and incompatible elements in the context of extrinsic and intrinsic factors. In his study on collegiate Music Students, Diaz (2018) found that perfectionistic strivings were generally regarded as positive, correlating with intrinsic motivation (Van Yperen, 2006), along with behaviors such as studying and academic achievement (Bieling, Israeli, Smith, & Antony, 2003). Perfectionistic concerns, on the other hand, were linked to higher levels of SPP and OOP (Short & Mazmanian, 2013), which were tied to negative psychological outcomes, such as anxiety and depression (Chang, Sanna, Chang, & Bodem, 2008; O'Connor, Rasmussen, & Hawton, 2010; cited in Diaz, 2018). Stoeber & Eismann's study on perfectionism in young musicians (2007) concluded that striving for perfection was associated with intrinsic motivation, higher effort, and higher achievement, and was regarded as an adaptive characteristic, whereas negative reactions to imperfection were associated with extrinsic motivation and were regarded as maladaptive characteristics. Flett et al. (2001) emphasized the parental effecting extrinsic motivation or other-oriented perfectionism, and parental psychological control predicted an increase in maladaptive perfectionism, which in turn resulted in vulnerability and depressive symptoms (Soenens, Lucyckx, Vansteenkiste, Luyten, Duriez & Goossens, 2008; cited in Dobos, Piko & Kenny, 2019: 313;).

The family factor plays a key role in the development of perfectionism. Botha and Panebianco (2018) underscored that parents may influence perfectionistic tendencies in music students, which may lead to increased anxiety and, ultimately, maladaptive tendencies. Likewise, Dobos et al. (2019) asserts that perfectionism develops in early childhood, with family and cultural environments playing important roles. While the family plays a significant role in the formation of perfectionism, the presence of a musician in the family, particularly among music students, may have a greater influence on the student's perceptions of perfectionism, with adaptive and maladaptive consequences. The student can have the feeling of constantly being tested. His/her performance, working process, and mistakes are all in evidence, which may lead the student to believe that he/she is being criticized at all times. In terms of socially prescribed perfectionism, this situation makes the family effect even more important. As a result, it seems likely that students who have a musician in their family other than themselves have higher perceptions of perfectionism. This is also confirmed by the current findings.

It may not be enough for music students to attempt to explain the dimensions of perfectionism as one-sided, compatible or incompatible. At this point, there is a simultaneous development of compatible and incompatible aspects concerning self-oriented perfectionism and socially prescribed perfectionism. McNeil, Loi& Bullen (2022) highlight that self-oriented perfectionism, one of the sub-dimensions of perfectionism, involves effort and is characterized by the individual's ability to set high standards for himself/herself, however, this does not mean that it will always be compatible (Mc Neil et al., 2022). Hill et al. (2020) claim that the desire to present oneself perfectly and prevent disclosure of imperfections may produce less positive emotional experiences among music students (Hill et al., 2020). Botha & Panebianco (2018) explain that setting high standards and striving for perfection may have positive consequences for music students, increasing motivation and achievement. (Wristen, 2013); however, being overly critical puts students at risk for decreased well-being and stress, which can lead to depression (Dunkley, Blanstein, Masheb & Grilo, 2006; Hunt and Eisenberg, 2010; cited in Botha & Panebianco, 2018. 218). Wright (2015), on the other hand, claims that many of her students who quit cello gave up thinking that they were defeated in the end, not because they failed or could not progress, but because they felt inadequate about their development or did not have realistic expectations. The differences between adaptive and maladaptive perfectionists are typified by the ways they handle their high standards and need for order. Adaptive perfectionists use these traits constructively, as a motivator for improved performance. They are not overly concerned about their high standards and do not feel demoralized when they do not meet their objectives – they resolve to work harder and smarter. Maladaptive perfectionists, on the other hand, are extremely concerned with meeting their own high standards and frequently feel discouraged when they are not perfect (Kottman & Ashby, 2000).

There are several studies on perfectionism in music students in the literature. These studies revolve around different facets of perfectionism, such as perfectionism and music performance anxiety, occupational stress, trait anxiety, academic procrastination, motivation, effort and achievement orientations, and family factors in the development of perfectionism, coping skills, and social phobia. (Mc Neil et al., 2022; Butkovic, Vukojevic& Carevic, 2022; Hill et al., 2020; Dobos et al., 2019; Kenny, Davis & Oates, 2004; Gencer, 2019; Yücel & Şen, 2019; Botha & Panebianco, 2018; Cupido, 2018; Patston & Osborne, 2016; Stoeber & Eismann, 2007).

A student's perceptions of perfectionism produce psychological and behavioral effects on his/her entire life. Perceptions of perfection start showing up in childhood and take shape in adolescence. Domocus & Damian (2018) emphasize that all theories explaining the development of perfectionism agree that adolescence is a key period in the development of perfectionism. Perfectionism, which is frequently encountered in performance areas and can impact musical performance positively or negatively, can influence the educational process significantly and for a long time due to both physiological and psychological outputs. On the other hand, Jeong & Ryan (2022) argue that in recent years, perfectionism has received increased attention among children and adolescents, particular with regard to its potentially debilitating effects rather than facilitative perfectionism, which is a significant factor, especially in music education, where children are exposed to this effect during formative years of development. In

Turkey, conservatory education begins in middle school and continues through high school and undergraduate education. Unlike other undergraduate vocational training at the undergraduate level, students participate in this educational process during their childhood years and throughout adolescence. In brief, it would be useful to consider the adolescence period, which is the most important period in the prevalence of perceptions about perfectionism, within its sensitive process.

1.3. Perfectionism in Adolescence

Adolescence plays a pivotal role in the development of perfectionism. Hamarta (2009) argues that adolescence is a period of development during which an individual develops a stronger sense of self, and symptoms such as setting high standards, being highly sensitive to family expectations and criticism, uncertainty, and social anxiety may occur. Bayram (2019) emphasized that environmental pressures, parental expectations, and a competitive education system increase the students' sense of perfectionism, and students think that they will only be valued if they are 'perfect'. When emotional needs come to the forefront, particularly in adolescence, adolescents experience negative perfectionism. Over the course of adolescence, since feelings of superiority and inferiority do not completely separate, adolescents tend to see themselves as unwanted individuals (Strip et al., 1991; cited in Bayram, 2019). Recent studies have found that the rates of perfectionism have increased among adolescents and thus focused on whether this situation leads to various problems. It is seen that perfectionism is linked with various disorders such as anxiety, depression, music performance anxiety, negative body image, and eating disorders (Flamarique, Plana, Castro-Forniles, Borras, Moreno & Lazaro, 2019; Domocus & Damian, 2017; Shu, Watson, Anderson, Wade, Kane & Egan, 2019; Çelik and Şenay Güzel, 2018; Patston and Osborne, 2016; Gavino, Nogueira, Perez-Costillas & Godoy, 2019; Duan, He, Huang & Sheng, 2019; Damian, Stoeber, Negru-Subtirica & Baban, 2013; Drieberg, McEvoy, Hoiles, Shu & Egan, 2019; Nigar & Naqvi, 2019; and Jeong & Ryan, 2022).

Other studies on perfectionism in adolescents address perfectionism in adolescence and dimensions of perfectionism (Flett et al., 2016; Gavino et al., 2019), sleep quality (Lin et al., 2019), the link between socially prescribed perfectionism and family expectations (Domocus and Damian, 2018; Damian, Stoeber, Negru & Baban, 2013), learning in perfectionism and gifted and normal students' perfectionism (Kanlı, 2011), perfectionism, subjective well-being and depression (Alim, 2018).

In self-oriented perfectionism, which is one of the sub-dimensions of perfectionism, the individual has a strong motivation to be perfect and sets high expectations for himself/herself that are impossible to achieve, as well as an 'all or nothing' reasoning (Flamarique et al., 2019). Self-oriented perfectionism, which differs slightly from socially prescribed perfectionism, is an adaptive dimension with positive outcomes. Wright (2015) contends that intrinsic motivation and effort provide the necessary fuel to practice every day in performance-oriented professions such as athletes and musicians, and that their expectations may become more realistic after a while because they do the work constantly. Additionally, she suggests that failure-avoiding perfectionists may thus exhibit lower performance. Students who work hard to achieve higher-level goals in

adolescence may succeed, yet, adolescents may have difficulty engaging in flexible behaviors in the face of failure, accepting failure, and acting in a constructive manner compared to adults. The social environment and family support become even more important in this period.

Referring to the sub-dimension of the socially prescribed perfectionism, the effect of the family on the development of perfectionism is also critically important. Especially during the period of childhood accompanied by the overly sensitive period of adolescence, the attitude of the family along with their supportive or competitive expectations play a crucial role in the development of the student's perceptions of perfectionism. Hollander (1965), as one of the first scholars working on perfectionism, framed perfectionism as a negative personality trait, arguing that perfectionism is an attempt to secure family approval through flawless behavior and success (cited in Uzel et al. 2018). The perfectionism is rooted in in early childhood, and the family has a significant influence in this period (Flett et al., 2001). Soenens et al. (2008) highlighted that psychological control by parents increased maladaptive perfectionism and made adolescents vulnerable to depressive symptoms (Soenens et al., 2008). Similarly, Domocus & Damian (2018) posit that perceived long-term parental pressure increases perfectionist concerns.

The increase in negative maladaptive perfectionism today seems to reveal the shortage of the values and traditional practices taught in basic and vocational education during childhood and adolescence. Especially in music education, where there is an emphasis on high visibility in performing known works, children may be exposed to the pressure of unrealistic expectations during formative years of development (Ryan, 2004; cited in Jeong & Ryan, 2022). According to Jeong & Ryan (2022), contemporary school curricula typically stimulate and reproduce a competitive system by restricting the concept of academic success and the pathways to achieving it (Curran & Hill, 2019; Nxumalo et al., 2018); even in the early stages of childhood, children are subjected to the stress of increasing demands from various social influences (Curran & Hill, 2019; Flett et al., 2016; Greblo & Bratko, 2014; Lee & Hong, 2016); as a result of this competitive system, children are pushed to develop perfectionistic tendencies as they strive to meet increasingly demanding and unrealistic expectations (Curran & Hill, 2019; Hong et al., 2017; cited in Jeong and Ryan, 2022).

Since the early years of adolescence are accompanied by growth spurts, adolescence involves several compelling factors for the individual and requires coping strategies. The onset of perfectionism and the students' beliefs and perceptions in this process will most likely be effective in the later years of their lives. For example, there is evidence that perfectionism in early adolescence may be a strong predictor of music performance anxiety among professional artists (Ryan, 1999, 2005; cited in Diaz, 2018; 151). Professional music education in Turkey takes place in the first years of middle school and continues through high school and undergraduate college years. This reveals the importance of handling a competitive and performance-oriented education process from the beginning in the triangle of family, school-system, and teacher, with a pedagogical and well-planned systematic approach.

1.4. The Purpose and Significance of the Study

The study sought to identify the perfectionist perceptions of middle school and high school students enrolled in the conservatories affiliated with universities. Conservatories are the sole authority in the professional vocational music education taught in the 5th grade at the earliest in Turkey. The study investigates whether the perception of perfectionism, which is considered important for the student in the process of professional music education, which is a performance-oriented education, differs in terms of various variables. Few studies have addressed adolescent student groups attending professional music education in Turkey. It is also seen that the scarce number of studies includes fine arts high school students. It is, however, well-known that conservatory education focuses more on performance and stimulates a highly competitive environment. It is foreseen that this situation may trigger perfectionist tendencies. Further, middle school years are considered important in terms of the development of perfectionism. In this sense, it is believed that the study is important in that there has been no previous study on vocational music education with middle school students.

Specifically, the study sought to answer to the following questions:

1. Does self-oriented perfectionism scores of the middle and high school conservatory music department students significantly differ according to gender, education level, having a musician in the family, perception of success, instrument type, and daily working time variables?
2. Does socially prescribed perfectionism scores of the middle and high school conservatory music department students significantly differ according to gender, education level, having a musician in the family, perception of success, instrument type, and daily working time variables

2. Method

2.1. Design of the Study

Correlational survey model which is one of the general survey models, was utilized in the study. Correlational survey model are the research models aiming to determine the presence and/or level of change between two or more variables (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2008, 14-15). There are at least two variables in exploring the relationship via comparison. Correlational surveys provide a widespread application. In cases where trial models cannot be used, they are considered the best option (Karasar, 2014).

2.2. Sampling and participants

The study group consists of 752 conservatory middle and high school students, receiving vocational music education, 71.14% of whom are female (n=535) and 28.85% are male (n=217) students , in grades 5-12 in Turkey. The percentage of those studying in middle school (grades 5- 8) is 57% (n=436), while

the percentage of students studying in high school (grades 9- 12) is 38% (n=289). In Turkey, conservatories in the provinces of İzmir, Istanbul (2), Ankara, Bursa, Eskişehir, Adana, and Mersin provide education at the middle and high school levels in addition to the undergraduate level. The study aimed to reach the whole universe. The forms of the students who were absent from the class on the day the scale was implemented or the students who were in the school but partly filled out the forms were not taken into account. Data was collected in view of the total number of respondents included in the study.

2.3. Data Collection Tool

1. *Personal Information Form*: It is the form developed by the researcher and encompasses age, gender, class, instrument, and other variables that are the subject of the research.
2. *The Child-Adolescent Perfectionism Scale*:

It was originally developed by Flett, Hewitt, Boucher, Davidson and Munro (2001). The scale was prepared based on the Multidimensional Perfectionism Scale developed by Hewitt and Flett (1991). The scale administrated to a group of 247 people aged 8-17, and the internal consistency of the scale was calculated as .85 for self-oriented perfectionism and .81 for socially prescribed perfectionism. The scale was adapted into Turkish by Uz-Baş and Siyez (2010). The Turkish version of the scale was performed on 459 middle and high school students. The two sub-dimensions of perfectionism, namely, self-oriented perfectionism and socially prescribed perfectionism, emerged and thus confirmed the original scale.

The 18-item-scale is comprised of 9 items for self-oriented perfectionism and 9 items for socially prescribed perfectionism. The scale items are rated as follows: almost never appropriate=1, usually appropriate=2, neither true nor false=3, usually true=4, and very true=5. However, Item 15 is reverse-scored. In the Turkish version of the scale, the Cronbach's alpha reliability coefficient was reported as .82 for self-oriented perfectionism and .64 for socially prescribed perfectionism. In this study, the Cronbach Alpha internal consistency coefficient was found to be 0.68 for self-oriented perfectionism, 0.89 for socially prescribed perfectionism, and 0.86 in total. The validity proofs of the data collection tool obtained from the study are provided in Table 1 and Table 2.

2.4. Data Analysis

The SPSS 21.0 package program was employed for the analysis of statistical data. In the study, in which it was intended to identify whether the perfectionism subscale scores of the students differed among the subgroups of various variables, the score distributions of the related groups were first examined. An independent sample t-test was used to compare independent variables with normal distribution in all subgroups and two subgroups, and an analysis of variance was used to compare more than two groups. The Mann Whitney U test was used to compare differences between two groups,

at least one of which did not normally distributed, and the Kruskal Wallis H test was used for more than two groups.

2.5. Test of the Measurement Model

Table 1. CFA fit indexes of the Child-Adolescent Perfectionism Scale

Fit Index	**Criteria**	**Perfectionism**
Satora Bentler X^2/Degree of Freedom	≤3=perfect fit 3≤X^2≤5=good fit*	4.74
RMSEA	≤0,05= perfect fit ≤0,08= good fit **	0.079
NFI	≥0.95=perfect fit ≥0.90=good fit***	0.94
NNFI	≥0.95= perfect fit ≥0.90=good fit***	0.94
GFI	≥0.95= perfect fit ≥0.90=good fit***	0.90
AGFI	≥0.95= perfect fit ≥0.90= good fit ****	0.86
RMR	≤0,05= perfect fit ≤0,08= good fit ****	0.09
S RMR	≤0,05= perfect fit ≤0,08= good fit ****	0.062
CFI	≥0.95=perfect fit ≥0.90=good fit***	0.95

*****(Kline, 2005), ** (Byrne and Campbell, 1999), *** (Bentler, 1980), **** (Schermelleh-Engel and Moosbrugger, 2003).

Table 1 details the CFA fit indexes of the Child-Adolescent Perfectionism Scale. In this context, referring to the two-factor higher-order model of the perfectionism scale , the fit indices provided a good fit for Satora Bentler X^2/sd, RMSEA, NFI, NNFI, GFI, and S RMR, a perfect fit for CFI, and a poor fit for AGFI and RMR values. The t values of the items related to the established model are not significant and the errors are not high. The evaluation of fit index values was based on a holistic approach, and the model-data fit was ensured. The path coefficients of the model are illustrated in Figure 1.

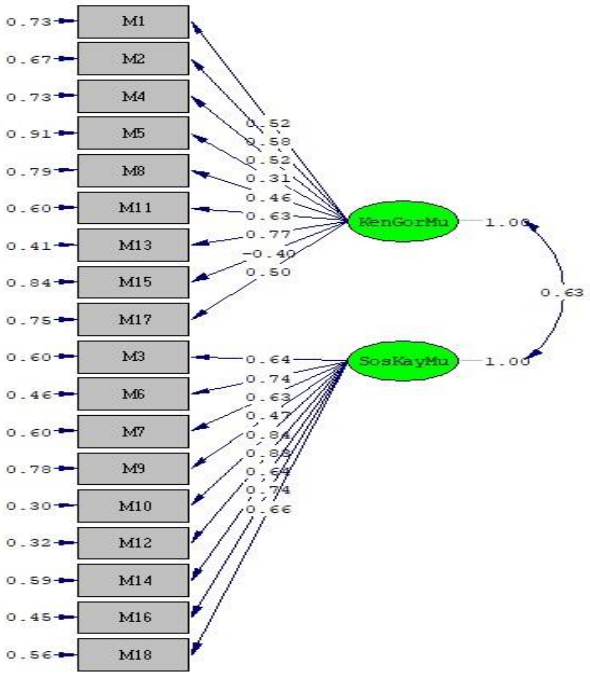

Figure 1. Diagram of Path Coefficients of the Perfectionism Scale

2.5.1. Reliability Evidence of the Child and Adolescent Perfectionism Scale

Table 2. The Cronbach Alpha internal consistency coefficients of the scores obtained from the scale and all subscales

Scale	**Sub-Dimension**	**Reliability Coefficient**
Perfectionism Scale	Self-Oriented Perfectionism	0.68
	Socially Prescribed Perfectionism	0.89
	Overall	0.86

The Cronbach Alpha internal consistency coefficient was calculated to assess the reliability of the perfectionism scale and its subscales employed in the study. Consequently, the internal consistency coefficient of the self-oriented perfectionism sub-factor, which was one of the perfectionism sub-factors, was 0.68, the internal consistency coefficient of the socially prescribed perfectionism was 0.89, and the internal consistency coefficient of the overall scale was 0.86.

2.5.2. Testing for Normality

One of the key steps to follow before answering the research questions is to provide the evidence of normality. The normal or skewed distribution of the data group to be analyzed influence the type of analysis, in other words, the amount and quality of error. Given the normality approaches in the literature, several methods that will provide evidence for normality become visible. In this context, normality testing methods were preferred to assess the normality at the subgroup level of each variable and to perform the appropriate analysis. Among these methods, the Kolmogorov-Smirnov (KS) / Shapiro-Wilk (SW) tests were used to assess the normality using a statistically established hypothesis. The fact that the value obtained as a result of these tests is not significant implies that the data distribution is normally distributed. The Shapiro-Wilk (SW) Test is more appropriate for the sample size less than 30, and the KS test was more appropriate for the sample size greater than 30 (McKillup, 2012). Due to the fact that if the sample size is too large, KS will almost always be significant, taking a holistic approach along with other approaches will provide accurate information about the data distribution. Another proof of normality is based on the approach that the skewness-kurtosis of the data are between -1 and +1. It can be implied that the data set in this value range has a normal distribution (Field, 2009). A z-score, which is another approach and entails a strong evidence, is a statistical proof obtained by dividing the skew values or excess kurtosis by their standard errors. The fact that the z-score is between -1.96 and +1.96 provides robust evidence for a normal distribution (Howitt & Cramer, 2011). With this in mind, the previously mentioned methods were utilized to examine all variables at the lower levels and a multiple perspective was taken, thereby concluding that the variables were normally distributed.

3. Results

This section includes information regarding the statistical data obtained in the sub-dimensions of perfectionism, namely, self-oriented perfectionism and socially prescribed perfectionism, in terms of gender, education level, instrument type, perception of success, having a musician in the family, and daily working time, and statistical evidence on whether these sub-dimensions differed according to the aforementioned variables.

3.1. Distributions of the Self-Oriented Perfectionism Factor at Lower Levels of Some Variables

Table 3. Evidence of the Distribution of the SOP Factor at the Lower Levels of Some Variables.

Variable	Level	K-S Test(p value)	Kurtosis	Skewness	Z-score	Distribution
Gender	Male	0.000	-0.348	-0.228	-1.38	Normal
	Female	0.003	-0.437	-0.042	-0.39	Normal
Education Level	Middle School	0.200	-0.421	-0.007	-0.06	Normal
	High School	0.192	-0.474	-0.239	-1.67	Normal

Instrument Type	Piano	0.016	-0.492	0.206	1.02	Normal
	Strings	0.200	-0.357	-0.256	-1.82	Normal
	Wind	0.200	-0.290	0.042	0.22	Normal
	Percussion	0.200	-0.266	0.057	0.11	Normal
Perception of Success	Moderate and Less	0.200	-0.553	-0.192	-0.73	Normal
	Good	0.014	-0.546	-0.075	-0.49	Normal
	High	0.075	-0.396	-0.056	-0.40	Normal
	Very High	0.200	-0.181	-0.166	0.67	Normal
Having a Musician in the Family	Yes	0.004	-0.422	0.040	0.28	Normal
	No	0.002	-0.402	-0.173	-1.49	Normal
Daily Working Time	One hour	0.200	-0.616	0.054	0.22	Normal
	Two hours	0.000	-0.516	-0.149	-0.87	Normal
	Three hours	0.037	-0.179	-0.108	-0.65	Normal
	Four hours	0.076	-0.546	-0.074	-0.37	Normal
	Five hours	0.200	-0.260	0.128	0.37	Normal
	Six hours	0.200	-0.116	-0.260	-0.67	Normal

From Table 3, it is seen that Kolmogorov-Smirnov (K-S) calculated to figure out how the scores obtained from the self-oriented perfectionism sub-factor were distributed at the lower levels of the variables of gender, education level, type of instrument, perception of success, daily working time, and having a musician in the family, yielded significant and non-significant results. Besides that, Z score obtained by dividing skewness values by their standard errors was found to be less than 1.96 and the values of skewness and kurtosis were within the range of -1 to +1. The K-S test may give significant results in the case of a larger sample size. Following the evaluation of the proofs, it can be argued that the lower levels of all the variables indicate a normal distribution or close to a normal distribution. The findings obtained imply that normality tests that assess the assumption of normality can be performed. Since the number of sub-levels in the variables of gender, education level, and having a musician in the family was two, the t-test was conducted to compare the group averages. An analysis of variance (ANOVA) was performed because the other variables, such as instrument type, perception of success, and daily working time, had more than two sublevels.

3.2. The Distribution of the Socially Prescribed Perfectionism (SPP) Factor at the Lower Levels of Various Variables

Table 4. Evidence of the Distribution of the SPP Factor at the Lower Levels of Various Variables.

Variable	Level	K-S Test(p value)	Kurtosis	Skewness	Z- score	Distribution
Gender	Male	,000	-.671	-.243	-1.47	Normal
	Female	.018	-.834	-.068	-0.65	Normal
Education Level	Middle School	.001	-.766	-.201	-1.60	Normal
	High School	.022	-.673	.023	0.15	Normal
Instrument Type	Piano	.073	-.776	.084	0.41	Normal
	Strings	.003	-.635	-1.247	-2.75	Not Normal
	Wind	.082	-.797	-.155	-0.82	Normal
	Percussion	.200*	-.242	.537	1.07	Normal
Perception of Success	Moderate and Less	,037	-,844	-,283	-0,92	Normal
	Good	,020	-,722	-,168	-1,02	Normal
	High	,087	-,692	-,029	-0,20	Normal
	Very High	,200*	-.863	-.054	-0.20	Normal
Having a Musician in the Family	Yes	.057	-.827	-.067	-0.45	Normal
	No	.001	-.748	-.167	-1.31	Normal
Daily Working Time	One hour	.200*	-.699	-.035	-0.13	Normal
	Two hours	.200*	-.650	-.142	-0.78	Normal
	Three hours	.026	-.853	-.177	-1.00	Normal
	Four hours	.200*	-.734	.028	0.12	Normal
	Five hours	.182	-1.026	.020	0.05	Normal
	Six hours	.110	-.270	-.250	-0.54	Normal

From Table 4, it is seen that Kolmogorov-Smirnov (K-S) calculated to figure out how the scores obtained from the socially prescribed perfectionism sub-factor were distributed at the lower levels of the variables of gender, education level, type of instrument, perception of success, daily working time, and having a musician in the family, yielded significant and non-significant results. Besides that, Z score obtained by dividing skewness values by their standard errors was found to be less than 1.96 and the values of skewness and kurtosis were within the range of -1 to +1. The K-S test may give significant results in the case of a larger sample size. Following the evaluation of the proofs, it can be argued that the lower levels of all the variables mentioned, except instrument type, indicate a normal distribution or close to a normal distribution. The findings obtained imply that

normality tests that assess the assumption of normality can be performed. Since the number of sub-levels in the variables of gender, education level and having a musician in the family was two, the t-test was conducted to compare the group averages. Analysis of variance (ANOVA) was performed because the other variables, namely, perception of success and daily working time, had more than two sublevels. Given the "string instrument", one of the sub-levels of the instrument type variable, since the K-S test is significant, the skewness coefficient is less than -1 and the Z-score is less than -1.96, it has a skewed distribution. The results show that it will not be appropriate to perform analyses that require the assumption of normality and that non-parametric tests should be used. The Kruskal-Wallis test was conducted because the instrument variable was skewed and the number of sublevels was more than two.

3.3. Differentiation of Sub-Factor Levels of Self-Oriented Perfectionism According to Gender, Education Level and Having a Musician in the Family Variables

Table 5. T-test results of SOP scores based on gender, education level, and being a musician variables.

Variable	Level	N	Mean	Standard Deviation	SD	*t*	p	Effect Size
Gender	Female	535	31.17	5.63	750	0.902	0.368	---
	Male	217	30.76	5.39				
Education Level	Middle School	436	31.41	5.60	750	2.206	0.002	0.006
	High School	289	30.49					
Having a Musician in the Family	Yes	303	31.14	5.49	747	0.412	0.680	---
	No	446	30.97					

* The significance level is taken as $p<0.05$

Table 5 shows that students' self-oriented perfectionism subscale scores do not produce a significant difference ($t_{(750)}=0.902$, $p>0.05$) based on gender. In this context, it can be implied that there is no statistical or practical difference between the self-oriented perfectionism subscale scores of female students (31.17) and those of male students (30.76). Self-oriented perfectionism subscale scores of students do not yield a significant difference ($t_{(750)=}0.412$, $p>0.05$) according to the subscales of having a musician in the family. It can be thus argued that there is no statistical or practical difference between the self-oriented perfectionism subscale scores (31.14) of the students who have musicians in their family, and the self-oriented perfectionism subscale scores (30.97) of the students who have not musicians in their family. Given the lower levels of the education level, the self-oriented perfectionism subscale scores of the students indicate a significant difference ($t_{(750)}=2.206$, $p<0.05$), compared to the lower levels of the education level. As a result, the self-oriented perfectionism subscale scores of the middle school

students (31.41) are higher than the self-oriented perfectionism subscale scores of the high school students (30.97).

3.4. Differentiation of Sub-Factor Levels of Self-Oriented Perfectionism According to Perception of Success, Working Time, and Instrument Type Variables

Table 6. Descriptive characteristics of SOP scores in terms of sub-levels of perception of success, working time, and instrument type variables.

Variable	Level	N	Mean	Standard Deviation
Perception of Success	Moderate and Less	84	29.80	5.43
	Good	261	30.35	5.66
	High	307	31.49	5.23
	Very High	95	32.58	6.06
	Total	747	31.04	5.57
	Total	750	31.04	5.55
Daily Working Type	One hour	103	31.78	5.59
	Two hours	200	30.81	5.61
	Three hours	218	30.83	5.73
	Four hours	144	31.21	5.41
	Five hours	50	30.50	5.35
	Six hours	37	31.92	5.31
Instrument Type	Piano	144	30.67	5.46
	Strings	305	31.61	5.47
	Wind	164	30.80	5.77
	Percussion	22	30.27	5.45
	Total	635	31.14	5.55

Table 7. The results of analysis of variance (ANOVA) of the SOP scores in terms of the sub-levels of the perception of success, working time, and instrument type variables.

Variable	Sources of Variance	Sum of Squares	*SD*	*Mean squares*	*F value*	*p*	*Effect Size*	*Significant Difference*
Perception of Success	Intergroup	539.797	3	179.932	5.915	.001	0.023	Moderate and Less-Very High
	Intragroup	22600.998	743	30.419				Good-Very High
	Total	23140.795	746					
Daily Working Time	Intergroup	123.514	5	24.703	.795	.553		
	Intragroup	23179.027	746	31.071				
	Total	23302.541	751					
Instrument Type	Intergroup	134.544	3	44.848	1.456	.226		
	Intragroup	19438.127	631	30.805				
	Total	19572.671	634					

* The significance level is taken as $p<0.05$

Given the results of the analyses in Tables 6 and 7, the students' self-oriented perfectionism subscale scores indicate a significant difference ($F_{(3,743)}$=5.915, p<.05) in terms of the sub-levels of the perception of success variable. In other words, students' SOP scale scores significantly differ by the perception of success variable. The eta squared coefficient calculated for the significant difference is 0.023, and it can be commented that this value produces a small effect size. The Scheffe test, which is one of the multiple comparison tests, was performed because there were differences in the number of data between the groups whereby it was intended to identify the difference between groups According to the results of the Scheffe test, it was revealed that the scale scores of the students with a "Very High" achievement level (32.58) were higher than the scale scores of the students with "Moderate and Less" (29.80) and "Good" (30.35) achievement levels. The analysis results of the perfectionism subscales indicate no significant difference ($F_{(5,746)}$= 0,795 p>.05) in the levels of the daily working time variable of the individuals' SOP subscale scores. The analysis results of the perfectionism subscales conclude that there is no significant difference ($F_{(3,631)}$= 1.456 p>.05) between the scores of the individuals' SOP subscales in terms of the levels of the instrument type variable.

3.5. Differentiation of Sub-Factor Levels of Socially Prescribed Perfectionism According to Gender, Education Level and Having a Musician in the Family Variables

Table 8. T-test results of SPP scores based on gender, education level, and having a musician variables.

Variable	Level	N	Mean	Standard Deviation	SD	*t*	p	Effect Size
Gender	Female	535	26.75	8.91	750	3.917	0.028	0.020
	Male	217	29.53	8.58				
Education Level	Middle School	436	28.32	8.89	750	3.044	0.002	0.012
	High School	289	26.30	8.79				
Having a Musician in the Family	Yes	303	28.31	9.08	747	2.002	0.046	0.005
	No	446	26.98	8.75				

As can be seen in Table 8, students' SPP subscale scores yield a significant difference ($t_{(750)}$=3.917, p<0.05) according to gender. In this frame, male students' SPP subscale scores (29.53) are higher than female students' SPP subscale scores (26.75). When the lower levels of the education level, which is another variable, are examined, it is seen that the SPP subscale scores of the students produce a significant difference ($t_{(750)}$=3.044 p<0.05) compared to the lower levels of the education level. As a result, the SPP subscale scores of the middle school students (28.32) are higher than the SPP

subscale scores of the high school students (26.30). It is found that the eta squared coefficient calculated for the significant difference is 0.012. The SPP subscale scores of the students demonstrate a significant difference ($t_{(750)}$=2.002, p<0.05) based on the subscales of having a musician in the family. Thus, the SPP subscale scores of the students who have musicians in their family (28.31) are higher than the SPP subscale scores (26.98) of the students who have not musicians in their family.

3.6. Differentiation of Sub-Factor Levels of Socially Prescribed Perfectionism According to Perception of Success and Daily Working Time Variables

Table 9. Descriptive characteristics of SPP scores in terms of sub-levels of perception of success and working time variables.

Variable	Level	N	Mean	Standard Deviation
Perception of Success	Moderate and Less	84	28.86	8.71
	Good	261	28.35	8.62
	High	307	26.32	8.89
	Very High	95	27.58	9.25
	Total	747	27.47	8.86
Daily Working Time	One hour	103	28.16	8.94
	Two hours	200	28.15	8.70
	Three hours	218	27.19	8.94
	Four hours	144	26.31	9.29
	Five hours	50	27.74	8.38
	Six hours	37	29.38	8.64
	Total	752	27.55	8.90

Table 10. The results of analysis of variance (ANOVA) of the SPP scores in terms of the sub-levels of the perception of success and daily working time variables.

Variable	Sources of Variance	Sum of Squares	*SD*	*Mean squares*	*F value*	*p*	*Effect Size*	*Significant Difference*
Perception of Success	Intergroup	770.809	3	256.936	3.300	.020	0.013	Moderate and Less-High
	Intragroup	57855.432	743	77.867				
	Total	58626.241	746					
Daily Working Time	Intergroup	484.881	5	96.976	1.225	.295		
	Intragroup	59039.096	746	79.141				
	Total	59523.977	751					

*The significance level is taken as p<0.05

The analysis results tabulated in Table 9 and Table 10 yield a significant difference in terms of perception of success in the students' socially prescribed

perfectionism subscale scores ($F_{(3.743)}$=3.300, p<.05). In other words, students' SPP scale scores significantly differ by the perception of success variable. The eta squared coefficient calculated for the significant difference is 0.013 and it can be interpreted that this value is close to the small effect size. The Scheffe test, which is one of the multiple comparison tests, was performed because there were differences in the number of data between the groups whereby it was intended to identify the difference between groups According to the results of the Scheffe test, it was revealed that the scale scores of the students with "Moderate and less" (28.86), were higher than the scale scores of the students with "High" achievement level (26.32).The analysis results of the perfectionism subscales indicate no significant difference ($F_{(5.746)}$= 1.225 p>.05) in the levels of the daily working time variable of the individuals' SPP subscale scores. In other words, the SPP subscale scores of the students do not differ significantly based on the daily working time.

3.7. Differentiation of Sub-Factor Levels of Socially Prescribed Perfectionism According to Instrument Type Variable

Table 11. Kruskal Wallis test result for the SPP scores based on the lower levels of the instrument variable.

Variable	Level	N	Mean Rank	Sd	Chi square	p	Significant Difference
Instrument	Piano	144	271.15				
	Strings	305	333.26				Piano-Strings
				3	14.182	0.003	
	Wind	164	336.16				Piano-Strings
	Percussion	22	277,75				
	Total	635					

From Table 11, it is seen that the Socially-Prescribed Perfectionism (SPP) subscale scores of the students significantly differ based on the instrument type (X2(sd=3,n=635) = 14.182, p<0.05). The Mann Whitney U test, employed for pairwise comparisons, was performed to identify the significant differences between the groups. Subsequently, the mean rank of the SPP subscale scores of the "Strings" group (333.26) and the mean rank of the "Wind" group (336.16) are higher than the mean rank of the SPP subscale scores of the students who play the "Piano" (271.15).

4. Discussion

The study sought to answer if the perfectionism perceptions of middle school and high school students (ages 10-18) in the conservatory music department differed in terms of various variables. The notion of perfectionism, which was delineated in two dimensions as self-oriented perfectionism and socially prescribed perfectionism, was discussed in the study on adolescent students. These two dimensions were investigated using variables

such as gender, education level, daily working time, perception of success, instrument type, and having a musician in the family considered important in music education.

Given the gender variable, while there was no difference between the scores of male and female students in the self-oriented perfectionism sub-dimension, the scores of the male students in the socially prescribed perfectionism sub-dimension were significantly higher. In a similar vein, Saracaloğlu, Saygı, Yenice & Altın (2016) concluded that male music students' total scores of perfectionism and the sub-dimensions of doubt from behaviors, parental expectations, parental critics, and personal standards were significantly higher. In their study with fine arts high school music department students, Yücel & Şen (2019) reported that female students scored lower in total and female students were less perfectionist than male students. Bayram (2019), on the other hand, argued that male students from different types of high schools scored higher in perfectionism in terms of family and teacher expectations. These findings are consistent with the present study's results. The sub-dimension of socially prescribed perfectionism accompanied by family and teacher expectations involves the perception that other people have perfectionist expectations for one's performance. The results of the present study also indicated that male students had higher scores in socially prescribed perfectionism. Alim (2018) found that the scores of male high school students were higher than those of girls in the parental criticism sub-dimension, whereas girls scored higher in the sub-dimension of organization. However, unlike the results of this study, Patson & Osborne (2016) proposed that adolescent female students had higher levels of perfectionism and music performance anxiety. Stornelli, Flett, and Hewitt (2009) highlighted that female students enrolled in fine arts departments had higher levels of perfectionism than male students enrolled in the same department and students from other departments. Damian and friends' study on the adolescent group (2017) revealed that female students scored higher in the sub-dimensions of perfectionism. Dobos et al. (2019), on the other hand, emphasized that there was no difference in the total scores of male and female students, however, female students scored higher in the sub-dimension of concern over mistakes. The results of the present study and the results of other studies in which perfectionism was in favor of men imply that men's interactions with the outside world have evolved differently from women's since their existence. Since the early ages, men have strived to acquire gains in the environment outside the home, in the professional life or in the social environment. The woman, on the other hand, developed skills in doing household chores and caring of the children, managing life by staying at home, and maintaining order. Men strived to gain achievements by fighting with their rivals in the social environment, interacting with other people, and they developed perceptions of the expectations of both the environment and their family over time. This seems to explain why men have higher perceptions of perfectionism towards socially prescribed perfectionism than women. In today's modern society, these roles have begun to change, and women have begun to take more part in social life by sharing the same roles as men. However, it is quite possible that we still experience traces of millions of years of transference.

Another variable discussed in the study is the students' perceptions of perfectionism, which may differ according to having musicians in the family variable. In the self-oriented perfectionism sub-dimension, there was no significant difference

between the scores of the students who had or had not a musician in their family, while the scores of the students who had musicians in their families were found to be significantly higher in the socially prescribed perfectionism sub-dimension. In their study with music students, Dobos et al. (2019) found that the sub-dimensions of parental criticism and doubts about actions, which are the sub-dimensions of Frost et al.'s perfectionism, impacted music performance anxiety. Although Dobos et al. (2019) employed Frost's multidimensional scale in their study, the parental expectation sub-dimension also stressed the role of family effect, which could be evaluated within the socially prescribed perfectionism sub-dimension of Hewitt and Flett. In their study on adolescents, Domocus & Damian (2018) found that perceived parental pressure predicted longitudinal increases in perfectionistic concerns. Yücel & Şen (2019) reported that high school students had higher perfectionism scores in the dimension of parental expectations. Bayram (2019) investigated high school students' perceptions of perfectionism, concluding that their perceptions of perfectionism differed by family's attitude in the sub-dimensions of excessive concern over mistakes, parental expectation, and parental criticism. The effect of the family on perfectionism has been frequently underlined in the relevant literature, and no opposite result has been found. In music students, the fact that there is another musician in the family other than the student himself/herself can be interpreted as that the family effect on the perfectionist perceptions of the student increases more. This is because students see the musician in their family as the person who evaluates the performance or the teacher.

Based on the education level variable, secondary school students' scores were found to be significantly higher than high school students' scores in both the self-oriented perfectionism sub-dimension and the socially prescribed perfectionism sub-dimension, No direct study was found on the level of perfectionism in middle school and high school years. In addition to that, various studies have discovered music performance anxiety in connection to perfectionism is more prevalent at younger ages. Butkovic et al. (2022) asserted that music performance anxiety because of perfectionism increases with age in both professional musicians and music students. Similarly, from Diaz's point of view (2018), music performance anxiety also appears to begin in early adolescence. On the other hand, Dobos et al. (2019) highlighted that the role of parents can differ for late adolescents and young people, and perceived family expectations do not associate with self-oriented perfectionism; however, they predict an increase in socially prescribed perfectionism.

The reason for the higher perfectionism scores of conservatory students, especially in the early years of adolescence, may be linked to the school adaptation problems of students who move from primary to secondary school. Factors such as the priorities and expectations of the new school and system, receiving education together with high school and undergraduate students, and the competitive nature of the system accompanied by aptitude tests can be challenging and may influence student perfectionism. Consequently, even if the student is 10 years old, he/she is aware that he/she has just started a vocational education unlike his or her peers. In this process, he/she begins to experience and realize that he/she will be in a constant evaluation environment for better performance. In addition to the mental and physical challenges students undergo during the transition from childhood to adolescence, adjusting to a completely new order can

elevate perceptions of perfectionism. This also entails students' parents. Parents strive to learn and adapt to the system. Further, parents grasp the importance of vocational education and its competitive nature, thereby increasing their perfectionist expectations. Thus, adapting to the process and the new system in the first years of secondary school is more challenging for students compared to high school years. Although some studies claim that as awareness and knowledge increase, perfectionism also increases (e.g., Damian et al., 2017), this type of perfectionism is felt in the later years of education, with an emphasis on the artistic value of the performance, which implies adaptive perfectionism. In the meantime, the student grows up, and acquires coping skills for both the process and environment. At the same time, the student is less influenced by the triangle of school, family, and teacher and experiences fewer problems during the adaptation process. However, students eventually comprehend the school's system, take the stage more frequently, and witness their own success and failures, and as well as the successes and failures of their peers. As their experience increases, they become well-equipped to deal with their perfectionist perceptions.

Given the perception of success variable, it was seen that the students who reported their success as “very high” in the sub-dimension of self-oriented perfectionism scored significantly higher than the others. In a study conducted by Damian et al. (2017) on a sample of adolescents, results indicated a positive bidirectional effect between perfectionistic strivings and academic achievement. This finding of Damian et al. (2017) demonstrates a positive correlation with the sub-dimensions of success perception and self-oriented perfectionism, and it is consistent with the present study. In addition to that, in view of the results obtained in the study, the perfectionism scores of those who describe their success as “moderate and less” in the sub-dimension of socially prescribed perfectionism were found to be higher than those who describe their academic achievement as "high". This result implied that the students might be influenced by their social environment’s definition of success. It is not surprising that a student influenced by the social environment will score higher in socially prescribed perfectionism. The student’s perception of success and level of perfection about himself/herself will most likely be proportional to how others perceive the student. In their study titled “Perfectionism and Attributions of Success and Failure”, Levine et al. (2017) discovered that self-critical perfectionism was related to attributing goal attainment to external sources; conversely, personal standards perfectionism was related to attributing failure more to external sources. These results highlight differences in how perfectionism influences the use of the self-serving bias. In their study on adolescence, Endlemen, Brittain & Vaillancourt, (2022) revealed that perfectionism was more likely an outcome of academic achievement, rather than an antecedent, and academic achievement positively predicted both self-oriented perfectionism (SOP) and socially prescribed perfectionism (SPP). It is also worth mentioning that there have been studies (Alim 2018) that have found no significant correlation between success and perfectionism.

Referring to the instrument variable, it was observed that there was no significant difference in self-oriented perfectionism, whereas there was a significant difference in socially prescribed perfectionism. In this respect, the socially prescribed perfectionism scores of the string instrument students and the wind instrument students are significantly higher than the scores of the piano students. Very little research has

examined perfectionism in terms of instrument variable. Botha & Panebianco (2018) reported that, the level of perfectionism of music students who play string instruments is significantly higher than those who play wind instruments in the sub-dimension of parental expectations and criticism proposed in Frost's multidimensional perfectionism. The findings of the present study reveal that the scores of the students who play both strings and wind instruments are higher than the others. It is thought that one of the reasons for this instrumental difference may be the orchestra and chamber music lessons, which are mainly covered in the conservatory education of string and wind students. It may also be related to environmental expectations (peer/teacher evaluation). At this point, the student feels more responsible for being in harmony with the group and performing flawlessly in ensemble settings. Additionally, the potential intonation issues in these two instrument groups, particularly strings, may not occur in other instruments. This can increase the perfectionist expectations of the student, who knows that more effort should be made to attain a more accurate and perfect sound, and that, in the case of an intonation problem, it will likely be noticed in the orchestra or instrument group. It is also worth noting that the attitude towards intonation is regarded as a sensitive subject matter in music education, and no flexibility is provided, which has always been a challenging factor for the student In fact, Tas (2020) shares the following example to explain the importance of intonation. As quoted from the famous violist Tertis; "Perfect intonation is the rock-foundation of the string player's equipment. Without this, no one should be allowed to perform in public." (Tertis, 1975, p. 146; cited in Taş, 2020). Tas (2020) also mentions that intonation problems are critically important in ensemble playing and a high-quality performance is not possible without good intonation. Fewer intonation problems or absence of intonation problems in other instrument groups due to their technical structure seem to explain the perfectionist approach of string and wind students under social effects.

Referring to the daily working time variable of the study, no meaningful differences were observed both in self-oriented perfectionism and socially prescribed perfectionism. Mosing, Madison, Pedersen, Kuja-Halkola & Ullen (2014) reported that more practice enhances better music skills, adding that there was no difference in ability within monozygotic twin pairs differing in their amount of practice. It can thus be implied that better music skills are related to perfectionism, and different variables need to be used to identify the relationship between working time and perfectionism. The daily working time may not directly influence the skill, and the individual's perception of perfectionism may not directly influence the daily working time. Because perfectionism is related to an individual's own perceptions they have about themselves and other's perfectionists' expectations. To illustrate, a student who works hard may not feel perfect enough ever, or a student who works less may find himself/herself less flawed or even perfect. Therefore, it can be argued that working time is not directly associated with perfectionism.

5. Conclusions

The research sought to identify whether the sub-dimension of self-oriented perfectionism and the sub-dimension of socially prescribed perfectionism differed

according to gender, education level, having a musician in the family, perception of success, instrument type, and daily working time variables. The findings yielded no significant differences in the sub-dimension of self-oriented perfectionism in terms of gender, having a musician in the family, daily working time, and instrument type, while significant differences were observed in the education level and perception of success variables. In addition to that, not only daily working time but also gender, having a musician in the family, education level, perception of success level, and instrument type were correlated to the sub-dimension of socially-prescribed perfectionism.

Recommendations

Teacher, family and student interactions

The adolescence period, especially between the ages of 10 and 18, is the time when many personality traits that will affect an individual's life, such as a healthy education process, perception of success, anxiety, self-perception, and self-esteem, become more visible and permanent. Therefore, educators and families need to know about adolescence. For this reason, instrumental music teacher educators should receive a pedagogical education if they do not have it, and develop their teaching approaches accordingly. In addition, it is recommended to implement training programs created separately by expert educators and psychologists for instrument instructors, families, and even students. Such training should encourage instrument instructors or families to share their experiences and engage in the subject through drama activities from time to time. Because the student-family-teacher triangle is very crucial, particularly in the professional music education process in adolescence, and it is expected to be a harmonious and balanced interaction for a healthy process. For this reason, it is of high importance to pay close attention to psychological counseling and guidance in conservatories, to make these units effective, and to enable families, students, and teachers to benefit greatly from this service in the schools.

Conventional conservatory educational system

Most conservatories in Turkey accept students as early as 5th grade and provide vocational training. However, these schools continue undergraduate education simultaneously. Educators working in higher education institutions also deliver middle and high school courses. This situation raises the topic of the pedagogical training of trainers working in these institutions. Most educators working in other middle and high schools are either graduated from the faculty of education or they have received pedagogical formation education. For this reason, teachers working in these schools, which are affiliated with higher education institutions and with the Ministry of National Education in terms of curriculum, need to be well-equipped. Continuing education with a single instructor during the 12-year vocational education period, which continues from the first year of middle school to the last year of undergraduate education, will not result in good academic performance in the long term, and this situation can adversely influence students' well-being and be challenging for both the student and the teacher. Hence, different instructors who work with students in this age group and have expertise

in the field can be a better alternative up to the undergraduate level. It is also important to incorporate courses such as pedagogy and educational psychology into the conservatory graduate education curriculum and to pay close attention to these courses.

The fact that conservatory middle and high school students are educated in the same physical environment as undergraduate and even graduate students, accompanied by the same instructors, may pose challenges to this age group's development. As a matter of fact, middle school and high school students should be educated in a physically separate environment from the undergraduate department, and engage in educational settings where they can meet their needs and develop their skills (social activities, drama activities, or sports that will provide physical strength and relaxation). Adolescent students who continue their education can sometimes come together with undergraduate students. It is important to note that continued regular meetings may lead to some problems.

Limitations and recommendations for future research

There is a considerable body of literature on perfectionism. Looking at literature on music education and perfectionism, music performance anxiety has been widely discussed. Music performance anxiety is a form of anxiety experienced by musicians and is often associated with maladaptive perfectionism. However, a multidimensional approach needs to be taken, going beyond the musical performance anxiety and maladaptive perfectionism, and further research is needed. Perfectionism has been associated with more positive outcomes in music students. However, the music literature has generally associated perfectionism with negative personality traits. Theoretical knowledge frames perfectionism as two-sided, as compatible and incompatible. For this reason, addressing music and perfectionism through different variables can provide new insights into the matter. However, little research has examined perfectionism in adolescent musicians. As a matter of fact, perfectionism is especially important for this age group, particularly for music students. In brief, further research is needed to assess the perfectionism of musicians in adolescence. Besides that, given the scarcity of studies on the perception of success and perfectionism, as well as the complexities of the relationship between both variables, additional research is required.

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