












## Academic Perfectionism and Related Factors among Medical Students

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### ABSTRACT

Academic perfectionism poses significant challenges within medical education and affects students' mental health and academic outcomes. This study explored the relationship between academic perfectionism and factors, such as gender, psychiatric disorders, upbringing, and peer bullying, in 107 medical students. The participants completed a sociodemographic questionnaire and the Academic Perfectionism Scale that assesses self-doubt, comparison, and idealization. The study focused on gender, the presence of psychiatric disorders, upbringing (urban vs. rural), and peer bullying experiences in the past year. The results showed that female students had significantly higher perfectionism scores compared to their male counterparts ( $p<0.05$ ). Similarly, students with psychiatric disorders exhibited higher perfectionism levels compared to those without such disorders ( $p<0.05$ ). Additionally, those subjected to peer bullying in the past year also scored higher on the perfectionism scale ( $p<0.05$ ). Students raised in urban environments showed higher perfectionism scores than those from rural backgrounds. The study findings highlight that gender, psychiatric conditions, and peer bullying influence academic perfectionism. In particular, female students and those with psychiatric disorders are more likely to exhibit maladaptive perfectionism, emphasizing the need for targeted psychological counseling and support services for mitigating the associated mental health risks.

**Keywords:** Bullying, medical students, mental health, perfectionism, psychiatric disorders.

### ÖZ

#### Tıp Fakültesi Öğrencilerinde Akademik Mükemmeliyetçilik ve İlişkili Faktörlerin İncelenmesi

Akademik mükemmeliyetçilik, tıp eğitiminde önemli zorluklar yaratmakta ve öğrencilerin ruhsal sağlıklarını ve akademik sonuçlarını etkileyebilmektedir. Bu çalışma, 107 tıp öğrencisi arasında akademik mükemmeliyetçilik ile cinsiyet, psikiyatrik bozukluklar, yetişme yeri ve akran zorbalığı gibi faktörler arasındaki ilişkiyi incelemektedir. Katılımcılar, akademik mükemmeliyetçiliğin boyutlarını (öz şüphe, kıyaslama ve idealizasyon) değerlendiren sosyodemografik bir anket ve Akademik Mükemmeliyetçilik Ölçeğini doldurdu. Çalışma, cinsiyet, psikiyatrik bozuklukların varlığı, yetişme yeri (kentsel ve kırsal) ve son bir yılda akran zorbalığı yaşama durumuna odaklandı. Sonuçlar, kadın öğrencilerin erkek öğrencilere göre anlamlı şekilde daha yüksek mükemmeliyetçilik puanlarına sahip olduğunu ( $p<0,05$ ) gösterdi. Benzer şekilde, psikiyatrik bozuklukları olan öğrenciler, bu bozuklukları olmayanlara göre daha yüksek mükemmeliyetçilik seviyeleri sergiledi ( $p<0,05$ ). Ayrıca, son bir yılda akran zorbalığına maruz kalan öğrencilerin de daha yüksek mükemmeliyetçilik puanlarına sahip olduğu bulundu ( $p<0,05$ ). Kentsel bölgelerde yetişen öğrenciler, kırsal bölgelerde yetişenlere göre daha yüksek mükemmeliyetçilik puanları aldı. Bulgular, cinsiyet, psikiyatrik durumlar ve akran zorbalığının akademik mükemmeliyetçiliği etkilediğini göstermektedir. Kadın öğrenciler ve psikiyatrik bozukluğu olanlar, daha olumsuz mükemmeliyetçilik eğilimlerine sahip olup, bu risklerin azaltılması için hedeflenen psikolojik danışmanlık ve destek hizmetlerine ihtiyaç duyulmaktadır.

**Anahtar Kelimeler:** Zorbalık, tıp fakültesi öğrencileri, ruh sağlığı, mükemmeliyetçilik, psikiyatrik bozukluklar.



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## INTRODUCTION

Many medical students face academic and social challenges during the early years of their university life, which they have not previously encountered. These challenges place significant pressure on students, especially as the fear of failure increases their stress levels. Compared to other disciplines, medical education involves a more demanding workload and greater responsibilities, including heavy course loads, constant assessments, and the need to acquire practical skills, all of which significantly affect students' academic lives (Enns et al, 2001). The substantial knowledge load required in medical school, when intertwined with serious themes, such as illness and death, also creates intense stress for students (Enns et al, 2001). One of the most critical factors determining students' academic performance in this context is their ability to manage stress and their psychological resilience (Verner-Filion & Gaudreau, 2010). The success of medical students under intense stress largely depends on these factors.

Another crucial factor closely associated with academic success is perfectionism (Verner-Filion & Gaudreau, 2010). Perfectionism is defined as individuals' act of setting high goals for themselves and continuously striving to achieve these goals (Flett et al, 1995; Slaney et al, 2002). Medical students, in particular, often enter medical school with high academic standards or set ambitious goals for themselves, and during their education, they continue to maintain and achieve these high standards. This is a characteristic commonly associated with perfectionism (Kyeon et al, 2010). While perfectionism can motivate individuals to achieve academic success, failure to meet these goals can negatively affect a student's self-confidence and psychological well-being (Kyeon et al, 2010).

From developmental and behavioral psychology perspectives, perfectionism is considered as a personality trait shaped by developmental processes and environmental factors (Lewis & Cardwell, 2020). Hewitt and Flett (1991) defined perfectionism as the act of setting unrealistic standards, excessively focusing on failures and employing an all-or-nothing approach when evaluating outcomes. This approach helps better understand the effects of perfectionism on an individual's mental health. Perfectionistic tendencies like unrealistic expectations and constant self-criticism can contribute to the development of psychological issues, including depression, anxiety, and burnout syndrome (Adkins & Parker, 1996; Hewitt & Flett, 1991).

Recent research suggests that perfectionism is associated with negative consequences and may provide certain positive contributions. Specifically, adaptive perfectionism can motivate individuals to strive for and achieve success, thereby contributing to academic achievement (Chang & Rand, 2000; Flett et al, 1991). On the contrary, maladaptive perfectionism

can lead individuals to overload themselves and experience a fear of failure. Studies conducted on medical students have shown that adaptive perfectionism positively contributes to academic achievement, whereas maladaptive perfectionism leads to anxiety, burnout, and low self-esteem (Chang & Rand, 2000; Flett et al, 1991; Hamachek, 1978). Socially prescribed perfectionism, which refers to the belief that others expect the individual to be perfect, is also directly related to psychological distress in medical students (Henning et al, 1998).

The relationship between psychological resilience and perfectionism is highly significant. Individuals who develop strategies for coping with stress may manage stress better because of their perfectionistic tendencies, or these tendencies may weaken their resilience (Flett et al, 1995; Verner-Filion & Gaudreau, 2010). Research conducted on medical students has shown that high levels of perfectionism make students more vulnerable to stress and anxiety (Heinen et al, 2017; Hu et al, 2019; Seeliger & Harendza, 2017). Therefore, psychological counseling and guidance services in medical schools must be structured to address issues related to perfectionism. Promoting adaptive perfectionism can positively affect students' academic success and mental health, and support should be provided to help students cope with the negative effects of maladaptive perfectionism (Samfira & Paloş, 2021; Yu et al, 2016).

Many factors may be associated with academic perfectionism, including demographic variables and adverse childhood experiences. Miller and Vaillancourt (2007) reported that individuals who experienced bullying during childhood tend to exhibit higher levels of perfectionism in adulthood. Accordingly, exploring how these negative childhood experiences shape perfectionistic tendencies in adulthood and how these tendencies affect academic performance and psychological health is essential (Flett et al, 2011).

This study aims to investigate the relationship between medical students' levels of academic perfectionism and sociodemographic factors. This will specifically examine the influence of cultural factors on perfectionism and how these tendencies develop among medical students in Türkiye. The findings from this study may lay the groundwork for developing preventive or supportive programs.

## METHODS

### Participants

A total of 107 students from Eskişehir Osmangazi University participated in this study. The participants were aged between 18 and 25 years, with 64.5% being female and 35.5% male. Students who agreed to participate completed a data survey and the Academic Perfectionism Scale online. Participation was voluntary. All participants were informed about the study's

objectives, content, and data confidentiality. The participants were also informed that they could withdraw from the study at any time without any consequences. All participants fully completed the surveys, and their anonymity was ensured. The sample size was determined based on previous studies and a power analysis. This study was approved by the Ethics Committee of Eskişehir Osmangazi University and conducted following the Declaration of Helsinki.

### Instruments

The survey collected sociodemographic information from the participants, namely, gender, number of siblings, place of upbringing, family income, and whether they or their family members had any psychiatric disorders. Additionally, the participants were asked whether or not they had been subjected to peer bullying in the last year, following the definition of “peer bullying.” They were also asked to complete the Academic Perfectionism Scale developed by Odacı et al. (2017) and was designed to measure the level of academic perfectionism in university students (Odacı et al, 2017).

The scale consists of 13 items and three sub-factors: “Self-Doubt” (six items); “Comparison” (four items); and “Idealization” (three items). It uses a 5-point Likert scale, wherein higher scores indicate higher tendencies toward academic perfectionism. The reliability analysis of the scale showed Cronbach’s alpha values ranging from 0.57–0.78 for the subscales, with a total scale reliability of 0.82 (Odacı et al, 2017).

### Statistical Analysis

The Shapiro–Wilk test was used to assess whether the data were normally distributed. An independent samples t-test was performed for the normally distributed continuous variables. The students’ academic perfectionism levels were summarized using descriptive statistics, such as arithmetic mean, standard deviation, median and minimum and maximum values. The relationships between variables were analyzed using parametric analysis techniques, and a significance level of  $p < 0.05$  was accepted. All statistical analyses were performed using the SPSS software (Version 23.0).

## RESULTS

A total of 107 university students with an average age of 19.6 years (standard deviation (SD) =1.1) participated in the study. The gender distribution of the participants was 35.5% male ( $n=38$ ) and 64.5% female ( $n=69$ ). The majority of the participants were second-year students (65.4%). The remaining 34.6% were first-year students. In terms of family structure and socioeconomic status, 99.1% of the participants reported that their mother was alive; 97.2% stated that their father was alive; and 92.5% reported that their parents were living together (Table 1).

**Table 1.** Sociodemographic data of the participants

	n	%
Gender		
Female	69	64.5
Male	38	35.5
Grade		
First year	37	34.6
Second year	70	65.4
Place of upbringing	62	57.9
City	29	27.1
Town	12	11.2
Village	4	3.8
Family income level		
High	67	62.6
Middle	31	29
Low	9	8.4
Presence of psychiatric disorder	34	31.8
Yes	73	68.2
No	0	0
Family history of psychiatric disorder	23	21.5
Yes	84	78.5
No	36	33.6
Peer bullying in the last year	71	66.4
Yes	40	37.4
No	67	62.6

Among the participants who reported having a psychiatric disorder, the most common diagnosis was anxiety disorders ( $n=13$ , 12.1%). The other reported diagnoses included obsessive–compulsive disorder ( $n=5$ , 4.7%), depression ( $n=3$ , 2.8%), and attention-deficit/hyperactivity disorder ( $n=1$ , 0.9%). The effect of these psychiatric disorders on the participants’ academic perfectionism scores was analyzed. The results showed that those with psychiatric disorders had significantly higher academic perfectionism scores (Table 2). This finding suggests that certain psychiatric disorders may increase tendencies toward perfectionism.

When comparing academic perfectionism scores across different demographic and socioeconomic variables, the female participants ( $M=39.6$ ,  $SD=11.1$ ) showed significantly higher scores than the male participants ( $p < 0.05$ ). This result is consistent with that of previous studies indicating that women generally tend to have higher perfectionism tendencies (Sand et al, 2021).

**Table 2.** Comparison of Academic Perfectionism Scale scores by variables

	<b>Total academic perfectionism score</b> Mean±SD	<b>Self-doubt</b> Mean±SD	<b>Comparison</b> Mean±SD	<b>Idealization</b> Mean±SD
Gender				
Female	39.6±11.1	19±6.1	10.1±4.3	10.5±2.4
Male	33.9±8.5	16.2±5.2	8.1±3.4	9.5±2.3
p-value*	0.006	0.013	0.019	0.046
Presence of psychiatric disorder				
Yes	44.3±9.1	21.7±4.2	11±4.7	11.5±1.8
No	35.8±10.3	17±5.9	9±3.9	9.7±2.4
p-value*	0.001*	0.001	0.041	0.003
Place of upbringing				
City	38.7±11.1	18.2±6.1	10.1±4.4	10.4±2.3
Town/village	35.8±9.4	17.7±5.7	8.3±3.4	9.7±2.5
p-value*	0.170	0.718	0.029	0.168
Peer bullying in the last year				
Yes	40.6±10.3	19.8±5.2	10.3±4.9	10.5±2.2
No	35.8±10.4	17±6.8	8.9±3.5	9.9±2.5
p-value*	0.022	0.018	0.079	0.255

SD: Standard deviation; P: Significance level; \*: Mann–Whitney U test.

Furthermore, a significant difference was found between the participants who experienced peer bullying in the past year and those who did not. The participants who were victims of bullying ( $M=40.6$ ,  $SD=10.3$ ) had significantly higher academic perfectionism scores compared to those who did not experience bullying ( $p<0.05$ ). This finding supports the hypothesis that bullying can increase perfectionistic tendencies in individuals (Miller & Vaillancourt, 2007).

Additionally, participants who grew up in urban areas ( $M=38.7$ ,  $SD=11.1$ ) had significantly higher perfectionism scores than those who grew up in rural areas ( $p<0.05$ ).

## DISCUSSION

This study examined the factors associated with academic perfectionism in a sample comprising medical students. The findings showed that academic perfectionism scores were significantly higher in women, those with psychiatric disorders, those who grew up in large cities, and those who experienced peer bullying in the past year.

The academic perfectionism scores were significantly higher in women compared to men, suggesting that female students may have higher expectations of themselves and may continuously strive to improve their academic

performance. Societal pressures on women to succeed may also influence this outcome (Miller & Vaillancourt, 2007). The pressure to conform to gender roles may also increase perfectionism in women. Our finding is consistent with that of other studies in the literature. For example, Er and Aydemir (2022) reported that female students had higher levels of academic perfectionism. Other studies on medical students also reported higher perfectionism levels in women (Tekin, 2022). However, some found higher perfectionism levels in men, suggesting that these differences may be attributed to cultural and educational system-specific factors (Madigan, 2019; Yilmaz et al, 2019).

When participants were asked whether or not they have any psychiatric disorder, approximately one in five reported having a disorder. The most commonly reported diagnoses were anxiety disorders and obsessive–compulsive disorder. Previous studies showed that perfectionism is strongly related to social disconnection, loneliness, and psychological distress in medical and other student populations (Chen, et al, 2024). This relationship suggests that high levels of academic perfectionism may exacerbate feelings of loneliness and reduce social support, making students more vulnerable to mental health challenges. Participants with psychiatric disorders had higher academic perfectionism



scores than those without, suggesting that perfectionism may be both a risk factor and a consequence of the development of psychiatric disorders (Enns et al, 2001). Some studies in the literature examined the relationship between perfectionism and mental health. A study conducted with medical students found that maladaptive perfectionism is significantly correlated with distress (depression, hopelessness, and suicidal ideation) and neuroticism (Enns et al, 2001). Maladaptive perfectionism was also reported as a strong predictor of anxiety and depression in medical students (Seeliger & Harendza, 2017). Bußenius and Harendza (2019) reported that medical students at the University of Hamburg exhibited high levels of maladaptive perfectionism associated with stress that negatively affected their performance. Another study conducted on Korean university students found a negative relationship between psychological well-being and perfectionism (Ko et al, 2020). Additionally, some studies performed on gifted students showed that perfectionism leads to severe self-criticism, self-doubt, and fear of failure, which may increase the tendency to develop suicidal thoughts and behaviors (O'Connor, 2007). The connection between perfectionism, anxiety, and academic procrastination is well-documented in the literature. A recent study found that higher levels of perfectionism in medical and dental students were associated with increased anxiety and procrastination behaviors often used as coping mechanisms for fear of failure (Rezaei-Gazki, et al, 2024). Therefore, providing psychological support and counseling services, especially to students who exhibit high levels of perfectionism, could be an important step in improving their psychological well-being (O'Connor, 2007).

When comparing students who grew up in large cities with those who grew up in rural areas, students from large cities were found to have higher academic perfectionism scores. This finding reflects the pressure exerted on students by competitive social environments in urban settings. Students from large cities may have greater access to opportunities and higher standards, which may increase their perfectionism tendencies (Flett et al, 2002). The literature also suggests that growing up in a large city exposes an individual to more competition, which may influence perfectionism levels (Flett et al, 2002).

The study also found that students who experienced peer bullying in the past year had higher academic perfectionism scores compared to those who did not. This finding suggests that bullying may trigger perfectionism as a coping strategy. Studies in the literature found a significant relationship between childhood peer bullying and perfectionism in adulthood (Flett et al, 2011; Miller & Vaillancourt, 2007).

Individuals who experienced bullying may force themselves to be perfect to avoid future negative experiences (Farrell & Vaillancourt, 2019). This suggests that perfectionism may develop as an effort to avoid negative experiences and meet the expectations of others, such as peers and authority figures. Unrealistic social expectations and the desire to please important figures in one's life (e.g., peers) may make some young people more vulnerable and easier targets for peer victimization (Farrell & Vaillancourt, 2019). Following negative experiences like bullying, perfectionism may serve as a coping mechanism to reduce further victimization and/or to gain approval from important figures, such as peers, parents, and teachers (Farrell & Vaillancourt, 2019; Miller & Vaillancourt, 2007).

Our study has some limitations in terms of result interpretation. The cross-sectional design of this study limits the ability of establishing causal relationships regarding medical students' perceptions of perfectionism. Additionally, the use of self-report measures increases the risk of individual bias. The lack of detail in some questions (e.g., types and duration of peer bullying) prevents further inferences. Future studies should explore the relationship between perfectionism and psychiatric disorders using longitudinal designs.

## CONCLUSION

This study shows that academic perfectionism is higher in female students and individuals with psychiatric disorders and strongly associated with peer bullying. The findings highlight that perfectionism is a critical issue that must be carefully addressed among medical students. Providing psychosocial support and counseling services for these students may be an important step in reducing the negative effects of perfectionism.

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