

# Examination of the Relationship Between Perfectionism and Self-Assessment in Adults with Stuttering: A Cross-Sectional Study

## Kekemeliği Olan Yetişkinlerde Mükemmeliyetçilik ve Öz Değerlendirme Arasındaki İlişkinin İncelenmesi: Kesitsel Araştırma

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This study was completed within the scope of the corresponding author's master's thesis at Üsküdar University.

**ABSTRACT Objective:** This study aimed to examine the relationship between multidimensional perfectionism and stuttering self-assessments of adults who stutter. **Material and Methods:** A cross-sectional research method was used in this study. It investigated whether there is a relationship between multidimensional perfectionism and stuttering self-assessment of adults who stutter. 69 stuttering individuals between the ages of 19-45 participated in the study. The participants included in the study were reached through the social media accounts of stuttering self-help groups. The inclusion criteria were taken into consideration while reaching the participants. Data were collected using the Personal Information Form, the Multidimensional Perfectionism Scale, and the Turkish version of the Stuttering Self-Assessment Scale, administered both face-to-face and online. Since the data of the study were normally distributed, parametric statistical tests were used. Pearson correlation analysis was performed for the relationship between the Multidimensional Perfectionism Scale and the sub-dimensions and total score of the Stuttering Self-Assessment Scale-Turkish version. In addition, regression analysis was conducted to examine the predictors of adults with stuttering's self-assessment of their stuttering and their multidimensional perfectionism. **Results:** The findings of the study show that there is a moderate positive correlation ( $r=0.304$ ) and significant ( $p=0.011<0.05$ ) relationship between multidimensional perfectionism levels and stuttering self-assessment of adults who stutter. This finding shows that as the multidimensional perfectionism scores of adults who stutter increase, their stuttering self-assessment scores also increase. **Conclusion:** Finding a relationship between perfectionism and stuttering self-assessment in the study, addressing perfectionist characteristics in the therapies of adults who stutter and developing effective intervention programs may be effective in changing their perspectives on stuttering.

**Keywords:** Stuttering; perfectionism; self-assessment; adults

**ÖZET Amaç:** Bu çalışmanın amacı, kekemeliği olan yetişkin bireylerin çok boyutlu mükemmeliyetçilikleri ile kekemeliklerini öz değerlendirme-leri arasındaki ilişkiyi incelemektir. **Gereç ve Yöntemler:** Bu çalışmada, kesitsel araştırma yöntemi kullanılmıştır. Kekemeliği olan yetişkin bireylerin çok boyutlu mükemmeliyetçilik ile kekemelik öz değerlendirmeleri arasında bir ilişki olup olmadığı araştırılmıştır. Araştırmaya, 19-45 yaş aralığında 69 kekeme birey katılmıştır. Çalışmaya dâhil edilen katılımcılara kekemelik öz yardım gruplarının sosyal medya hesapları aracılığıyla ulaşılmıştır. Katılımcılara ulaşılırken dâhil edilme kriterleri göz önünde bulundurulmuştur. Veri toplamak amacıyla Kişisel Bilgi Formu, Çok Boyutlu Mükemmeliyetçilik Ölçeği ve Kekemelik Öz Değerlendirme Ölçeği Türkçe Versiyonu yüz yüze ve çevrim içi olarak toplanmıştır. Çalışmanın verileri normal dağılım gösterdiği için parametrik istatistiksel testler kullanılmıştır. Çok Boyutlu Mükemmeliyetçilik Ölçeği ile Kekemelik Öz Değerlendirme Ölçeği-Türkçe versiyonu alt boyutları ve genel toplam puanı arasındaki ilişki için Pearson korelasyon analizi yapılmıştır. Ayrıca kekemeliği olan yetişkinlerin kekemeliklerine ilişkin öz değerlendirmeleri, çok boyutlu mükemmeliyetçiliklerine göre yordayıcılarını incelemek amacıyla regresyon analizi yapılmıştır. **Bulgular:** Çalışmanın bulguları, kekemeliği olan yetişkin bireylerin çok boyutlu mükemmeliyetçilik düzeyleri ile kekemeliği öz değerlendirmeleri arasında orta düzeyde pozitif ( $r=0.304$ ) ve anlamlı ( $p=0.011<0.05$ ) bir ilişki olduğunu göstermektedir. Bu bulgu, kekemeliği olan yetişkin bireylerin çok boyutlu mükemmeliyetçilik puanları arttıkça kekemelik öz değerlendirme puanlarının da arttığını göstermektedir. **Sonuç:** Çalışmada mükemmeliyetçilik ile kekemelik öz değerlendirmesi arasında ilişki bulunması, kekemeliği olan bireylerin terapilerinde mükemmeliyetçi özelliklerinin ele alınması ve etkili müdahale programlarının geliştirilmesi, kekemeliğe ilişkin bakış açılarının değiştirilmesinde etkili olabilir.

**Anahtar Kelimeler:** Kekemelik; mükemmeliyetçilik; öz değerlendirme; yetişkinler

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Stuttering, one of the speech disorders that significantly limits interpersonal communication, is a disorder characterized by frequent prolongation and repetition of sounds, syllables or words or blocks that disrupt the rhythmic flow of speech according to the International Classification of Diseases- 10.<sup>1</sup> According to the definition of the American Speech-Language-Hearing Association (ASHA), this speech disorder is characterized by the interruption of the flow of speech by the repetition of sounds/syllables/words and/or phrases at a different rate and rhythm than expected.<sup>2</sup> In addition to these problems, some behaviors such as escape and/or avoidance may also accompany the disorder.<sup>3</sup>

Stuttering is a very complex disorder and its causes are not yet fully understood.<sup>4</sup> Although the etiology is not fully known, many factors such as genetic predisposition, behavior and temperament characteristics of the individual, language skills, cognitive capacity, intrinsic and extrinsic factors are thought to be effective.<sup>5</sup> Since the communication of adults who stutter can be affected, they often encounter some emotional, psychological, social and functional effects.<sup>6</sup>

When the studies on the subject are examined, it is seen that characteristic features and psychological factors differ between adults who stutter and adults who do not stutter.<sup>7</sup> It is stated that a psychological factor related to this aspect of stuttering may be the concept of perfectionism.<sup>8</sup> Perfectionism can be defined as the tendency to set excessively high standards for oneself and to critically evaluate one's performance in an overly harsh manner.<sup>9</sup> According to the literature, some researchers state that there may be a connection between stuttering and perfectionism.<sup>8,10,11</sup> Moreover, in a study examining the effects of personality traits on stuttering perception, it was stated that stutterers with perfectionist attitudes may have different perceptual approaches toward their own stuttering.<sup>12</sup> Research exploring personality traits and self-perception among adults who stutter indicates that perfectionism may influence how individuals assess and interpret their own stuttering experiences.<sup>13</sup>

In this study, we aimed to examine the relationship between perfectionism and stuttering self-as-

essment in adults who stutter in Türkiye. There are studies examining the relationship between stuttering and perfectionism in different cultures.<sup>8,10,11</sup> It is thought that the relationship between stuttering and perfectionism may differ according to the cultures' language use, social norms and pressures on individuals. When the literature in Türkiye is examined, it is seen that studies on perfectionism in individuals who stutter are limited. Existing studies primarily address the concept of multidimensional perfectionism in children and adolescents who stutter and in families of children who stutter.

In a study, perfectionism levels of adolescents with and without stuttering were compared and it was seen that general perfectionism scores of adolescents with stuttering were higher than those without stuttering.<sup>14</sup> In a study with children with stuttering, the relationship between perfectionism, self-compassion, mindfulness, self-esteem and perceived severity of stuttering was examined.<sup>15</sup> In another study, the effects of perfectionism levels of parents of children with and without stuttering on children's stuttering were investigated.<sup>16</sup> There are no studies examining multidimensional perfectionism in adults who stutter. This study may also provide important findings in terms of understanding how adults with stuttering in Türkiye evaluate their stuttering (self-assessment) and how the link between perfectionism and stuttering is shaped by cultural influences. In addition, investigating the relationship between perfectionism and stuttering self-assessment may be important in terms of better understanding the role of perfectionism in stuttering therapies and including it in the therapy process.

The research questions addressed in this study are as follows;

1. Is there a significant relationship between multidimensional perfectionism and stuttering self-assessments of adults who stutter?
2. To what extent does multidimensional perfectionism predict self-assessment outcomes related to stuttering in adults?

## MATERIAL AND METHODS

In this study, a cross-sectional research method was used. It was investigated whether there is a relation-

ship between multidimensional perfectionism and stuttering self-assessment of adults who stutter. Scores from the Multidimensional Perfectionism Scale (MDMS) (total and subscales) and the Turkish version of the Self-Assessment Scale for Stuttering [the Wright and Ayre Stuttering Self-Rating Profile (WASSP)] (total and subscales) were compared.<sup>17,18</sup> In addition, the effect of perfectionism on stuttering self-assessment was examined.

## PARTICIPANTS

The participants included in the study were reached through social media accounts of stuttering self-help groups. Each participant who indicated that they wanted to participate was informed about the study in detail. Inclusion criteria were taken into consideration while reaching the participants. The inclusion criteria were: having chronic stuttering, being over 18 years of age, having no additional disabilities, and providing informed consent for voluntary participation.

A total of 69 individuals who stutter participated in the study. Their ages ranged from 19 to 45 years, with a mean age of 26.84. Other demographic characteristics of the participants (gender, education level and employment status) are given in Table 1.

## DATA COLLECTION TOOLS

### Participant Information Form

The participant information form was developed by the researcher in order to have detailed information about the individuals participating in the study. There are questions for the participants. There are questions about age, gender, employment status, education level, chronic disease status and additional disability status.

## Stuttering Self-Assessment Scale

The WASSP is used to assess the dimensions of thought, emotion, behavior, avoidance and disadvantage in adults with stuttering.<sup>19</sup> The adaptation study of WASSP into Turkish was conducted by Uysal and Köse.<sup>18</sup> The WASSP-Turkish version (WASSP-TR) consists of 5 subscales and a total of 24 items. Participants rate each item on a 7-point Likert-type scale (1=none, 7=very severe), according to how well the statement reflects their experience. The items are; behaviors (8 items), thoughts (3 items), feelings (5 items), avoidance (4 items) and disadvantage (5 items). The Cronbach's alpha values of the scale were found to be between 0.858-0.949; the values obtained in the test-retest analysis were 0.765-0.992; and the item-total correlation coefficients were between 0.352-0.825. These findings indicate that the WASSP-TR is a valid and reliable instrument.<sup>18</sup> The WASSP-TR can be used for adults and can be completed in as little as 5-7 minutes.

## Multidimensional Perfectionism Scale

MDMS was developed by Hewitt et al. to assess perfectionism in 3 dimensions.<sup>17</sup> These 3 dimensions are self-oriented perfectionism, perfectionism towards others and socially expected perfectionism. The total number of items on the scale is 45. The scale was developed by applying it to university students. The scale is a 7-point Likert-type scale. There is a seven-point scoring table between disagree and agree variables. There are 15 items for each sub-dimension in the scale. Self-oriented perfectionism items are 1-6-8-12-14-15-17-20-20-23-28-32-34-36-40 and 42. Perfectionism towards others items are 2-3-4-7-7-10-16-19-22-24-26-27-29-38-43 and 45. Socially expected perfectionism items are 5-9-11-13-18-21-25-30-31-33-35-37-39-41 and 44. The scale was adapted by Oral, as the scores obtained from the scale increase, the perfectionism of the person becomes more apparent.<sup>20</sup>

In the original scale, Cronbach's alpha values were 0.86 for self-oriented perfectionism sub-dimension, 0.82 for others-oriented perfectionism sub-dimension and 0.87 for socially expected perfectionism sub-dimension. In Oral's study, the Cronbach's alpha values of the sub-dimensions were found to be 0.91,

**TABLE 1:** Demographic characteristics of the participants

		n	%
Sex	Male	39	56.5
	Female	30	43.5
Education level	High school degree	19	27.5
	Bachelor degree	42	60.9
	Master's degree	8	11.6
Employment status	Working	34	49.3
	Not working	35	50.7

0.73, 0.80, respectively.<sup>20</sup> Based on the analyses, it was determined that MDMS is a valid and reliable measurement tool.

## ETHICAL CONSIDERATIONS

All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000. Informed consent was obtained from all patients to be included in the study. Ethics committee permission dated December 28, 2022 and numbered 61351342/December 2022-04 of Üsküdar University Ethics Committee was obtained for the realization of this study.

## DATA ANALYSIS

SPSS 22.0 program was used for statistical analysis of the study. Shapiro-Wilk test, histogram, Skewness and Kurtosis values were analyzed to determine whether the data were normally distributed. Since the data showed normal distribution, parametric statistical tests were used.

Pearson correlation analysis was performed for the relationship between MDMS and WASSP-TR scale sub-dimensions and overall total score. The correlation coefficient, as an absolute value, between 0.70-1.00 can be defined as a high-level relationship, between 0.70-0.30 as a medium-level relationship, and between 0.30-0.00 as a low-level relationship.<sup>21</sup> Regression analysis was applied to find the effect of multidimensional perfectionism of adults with stuttering on their self-assessment of their stuttering. According to Cohen, in regression analysis,  $0.02 \leq R^2 < 0.13$  indicates a small effect,  $0.13 \leq$

$R^2 < 0.26$  indicates a medium effect and  $0.26 \leq R^2$  values indicate a large effect.<sup>22</sup>

## RESULTS

The results of the Pearson correlation analysis conducted to examine the relationships between the total and sub-dimensions of the MDMS and the WASSP-TR are given in Table 2. A moderate positive correlation was found between the total scores of the MDMS and the WASSP-TR ( $r=0.304$ ,  $p=0.011$ ), indicating a statistically significant relationship. In addition, a weak but statistically significant positive correlation was found between the “Self-Oriented Perfectionism” subscale of the MDMS and the “feelings” subscale of the WASSP-TR scale ( $r=0.289$ ;  $p=0.016 < 0.05$ ).

When Table 2 is examined, there was a low positive correlation between the “socially expected perfectionism” subscale of the MDMS and the “thoughts” subscale of the WASSP-TR scale ( $r=0.262$ ;  $p=0.030 < 0.05$ ). There was a low positive correlation between the “socially expected perfectionism” subscale of the MDMS and the “disadvantage” subscale of the WASSP-TR scale ( $r=0.277$ ;  $p=0.021 < 0.05$ ).

There was a moderate positive correlation between the “socially expected perfectionism” subscale of the MDMS and the “feelings” subscale of the WASSP-TR scale ( $r=0.325$ ;  $p=0.006 < 0.05$ ). There was a moderate positive correlation between the “socially expected perfectionism” subscale of the MDMS and the “avoidance” subscale of the WASSP-TR scale ( $r=0.378$ ;  $p=0.001 < 0.05$ ). There was a moderate positive correlation between the “socially

**TABLE 2:** Total and subscale correlation analysis of MDMS, WASSP-TR scales

Scales	Behaviors		Thoughts		Feelings		Avoidance		Disadvantage		WASSP-TR total	
	p value	r value	p value	r value	p value	r value	p value	r value	p value	r value	p value	r value
MDMS self-oriented	0.345	0.115	0.106	0.196	0.016	<b>0.289*</b>	0.069	0.220	0.114	0.192	0.053	0.234
MDMS for other	0.444	0.094	0.211	0.152	0.098	0.201	0.302	0.126	0.347	0.115	0.190	0.160
MDMS socially expected	0.176	0.165	0.030	<b>0.262*</b>	0.006	<b>0.325**</b>	0.001	<b>0.378**</b>	0.021	<b>0.277*</b>	0.007	<b>0.320**</b>
MDMS total	0.197	0.157	0.033	<b>0.257*</b>	0.004	<b>0.346**</b>	0.009	<b>0.313**</b>	0.037	<b>0.251*</b>	0.011	<b>0.304*</b>

\* $p < 0.05$ ; \*\* $p < 0.001$ . WASSP-TR: Wright and Ayre Stuttering Self-Rating Profile; MDMS: Multidimensional Perfectionism Scale



expected perfectionism” subscale of the MDMS and the “total score” of the WASSP-TR scale ( $r=0.320$ ;  $p=0.007<0.05$ ).

There is a low-level positive correlation between MDMS “total scores” and the “thoughts” subscale of the WASSP-TR scale ( $r=0.257$ ;  $p=0.033<0.05$ ). There is a moderate positive correlation between MDMS “total scores” and the “feelings” subscale of the WASSP-TR scale ( $r=0.346$ ;  $p=0.004<0.05$ ). There is a moderate positive correlation between the “total scores” of the MDMS and the “avoidance” subscale of the WASSP-TR scale ( $r=0.313$ ;  $p=0.009<0.05$ ). There is a low-level positive correlation between the “total scores” of the GMMS and the “disadvantage” subscale of the WASSP-TR scale ( $r=0.251$ ;  $p=0.037<0.05$ ).

The effect of MDMS scores on WASSP-TR scores was examined. The effect of participants’ multidimensional perfectionism levels on their self-assessment of stuttering was tested with regression analysis. The statistics the predictors of stuttering perceptions of adults who stutter in terms of multidimensional perfectionism, which is one of the main objectives of the study, are given in Table 3.

Table 3 shows that the regression model is significant ( $p=0.011<0.05$ ). In the analysis in which MDMS scores were included as an independent variable in the model, it was determined that it had a significant effect on the dependent variable WASSP-TR scores ( $F: 6.829$ ;  $p=0.011<0.05$ ). Multidimensional perfectionism accounted for 9.2% of the variance in stuttering self-assessment scores ( $R^2=0.092$ ), which corresponds to a small effect size according to Cohen’s criteria ( $R^2<0.13$ ) on stuttering self-assessment.<sup>22</sup> Considering these findings, it can be said that as the multidimensional perfectionism scores of adults who stutter increase, stuttering self-assessment scores may also increase accordingly.

## DISCUSSION

In this study, the relationship between multidimensional perfectionism and stuttering self-assessment of adults who stutter was examined and the effect of perfectionism on stuttering self-assessment was investigated. According to the results of the study, a relationship was found between multidimensional perfectionism and stuttering self-assessments of stuttering adults. It was seen that as the level of perfectionism increased, individuals started to perceive their own stuttering more intensely.

There are studies on the relationship between perfectionism and stuttering perception in adults who stutter.<sup>8,23</sup> It has been stated that an individual’s personality traits may affect the perception of stuttering.<sup>12</sup> Considering the relationship between one’s perspective on stuttering and self-assessment of stuttering, it was stated that there may be a relationship between the perfectionism of these individuals and their evaluation of their stuttering.<sup>13</sup> Study findings are showing that as the perfectionism of adults who stutter increases, their negative self-assessment of their stuttering also increases.<sup>24</sup>

In a study conducted on adolescents, reported that adolescents with stuttering had significantly higher scores on the dimensions of general perfectionism and perfectionism; order, suspicion of behavior and excessive attention to mistakes compared to adolescents without stuttering.<sup>14</sup> These findings suggest that perfectionism may be a prominent personality trait in adults who stutter not only in adulthood but also in adolescence. It can be predicted that these characteristics in adolescence have reflections on the self-assessment of stuttering in adulthood. In our study findings, the relationships between perfectionism and self-assessment of stuttering in adults who stutter support these predictions. In this context,

**TABLE 3:** The effect of multidimensional perfectionism on stuttering self-assessment

Independent variable	Dependent variable	$\beta$	Standart error	Standart $\beta$	t value	F	p value	$R^2$
MDMS	WASSP- TR	42.841	0.114	0.304	1.872	6.829	0.011*	0.092

\* $p<0.05$ . MDMS: Multidimensional Perfectionism Scale; WASSP- TR: Wright and Ayre Stuttering Self-Rating Profile

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perfectionism is thought to be a psychological factor that may affect the perception and experience of stuttering in the developmental process.

In a study examining the relationship between self-esteem, perfectionism and perceived severity of stuttering in children with stuttering, it was found that as the level of socially expected perfectionism increased in children, the perceived severity of stuttering also increased.<sup>15</sup> In our study, a similar trend was observed between socially expected perfectionism and stuttering self-assessment scores in adults with stuttering. It is predicted that perfectionist attitudes of the social environment may indirectly shape the stuttering self-assessment of the individual. This suggests that socially perfectionist individuals may tend to evaluate their own stuttering in a more critical, sensitive and exaggerated way. In addition to these studies, there are also study findings showing that perfectionism levels of parents of children with stuttering influence children's perception of stuttering.<sup>16</sup> In this study, it was found that the perfectionism toward other sub-dimension of perfectionism in parents played a determinant role in the perception of stuttering.<sup>16</sup> This finding suggests that perfectionist attitudes of the social environment create pressure and this may have negative reflections on children with stuttering. In our study findings, it is seen that socially expected perfectionism is associated with self-assessment of stuttering.

Studies in the literature show that adults who stutter are often prone to perfectionist thinking, which can create negative attitudes towards speaking, have difficulty in communicating with others, and as a result of these situations, they may exhibit avoidance behaviors to avoid negative reactions.<sup>10,25</sup> In this study, the finding that perfectionism is associated with avoidance sub-dimension in self-assessment of stuttering supports the findings of this study in the literature. According to some research, perfectionism may also be linked to higher levels of worry about making mistakes and more negative self-assessment in moments of disfluency.<sup>8</sup> Considering that increased anxiety is both an emotional response and a cognitive process, it is consistent with the literature that the thought and emotion subscales of the stuttering Self-Assessment Scale in this study are related to perfec-

tionism. In another study, it was stated that adults who stutter generally show less tolerance to errors in their speech and therefore they are more anxious during speech and their reactions to disfluencies in their speech may be more negative.<sup>10</sup>

Adriaenssens et al. reported that perfectionism and negative communication attitudes in stuttering may also have negative effects on self-esteem.<sup>13</sup> The same researchers, who also examined communication attitudes, perfectionism, and behaviors that prevent stuttering from occurring in adults who stutter, stated that these concepts may be related to self-assessment of stuttering and self-esteem. Another prediction of this study is that negative attitudes towards communication and perfectionism may affect the self-assessment of stuttering of individuals who are ambivalent about their speech attempts.

Adults who stutter, when their stuttering is learned by others often have negative thoughts about how these people will see them.<sup>26</sup> The incomplete or negative evaluation of individuals by others may also be associated with social perfectionism because individuals with social perfectionism care about what others think about them.<sup>17,27</sup> In this study's findings, multidimensional perfectionism, especially the socially expected perfectionism sub-dimension, was found to be more related to stuttering self-assessment, and these findings are consistent with the results of studies in the literature.

The complex nature of stuttering can affect both the assessment and therapy process. One study suggests that changing negative communication attitudes and perfectionistic thoughts in adults who stutter will increase self-esteem in these individuals.<sup>13</sup> In another study, stuttering modification therapy and cognitive behavioral therapy were found to reduce perfectionism and negative communication attitudes in adults who stutter.<sup>10</sup> Some adults who stutter may evaluate their stuttering more negatively due to their personality traits (e.g. shy, timid, perfectionist thoughts). It is important to consider the personality traits of the individual in the therapy process.<sup>13</sup> According to the ASHA, the task of a speech-language pathologist is to provide a comprehensive intervention by counseling, evaluating, and discussing the client's negative feel-

ings and thoughts about the communication disorder.<sup>28</sup> In addition to addressing the negative feelings and thoughts that may accompany the communication disorder in adults who stutter, it may also be necessary to address their personality traits, attitudes, and negative self-judgments about themselves, because some adults who stutter may be more prone to the negative effects of their stuttering due to their personality traits, and therefore stuttering therapy should be tailored to the client's personality traits.<sup>13</sup>

## LIMITATIONS

Inclusion and exclusion criteria can be adjusted within the limitations of the study. One limitation is that the participants were not questioned about whether they had received therapy before or currently. Another limitation is that some of the participants participated online and some of them participated face-to-face during the data collection process. In addition, the fact that no measurement was made regarding the stuttering severity of adults who stutter while collecting data for the participants can be seen as a limitation of the study, but the Stuttering Severity Instrument 4, which was standardized in Turkish by Mutlu et al. to evaluate stuttering severity, is suitable for evaluating the stuttering severity of individuals between the ages of 6-16, but it is not suitable for the age range of the participants in this study.<sup>29</sup> Since the data were collected both face-to-face and online, it was thought that calculating stuttering frequency as a percentage would not be a reliable method to measure stuttering severity.

Speech-language pathologists can examine the effects of approaches to reduce the perception of perfectionism that can be incorporated into stuttering therapies on the person's perspective of stuttering. In future studies, the number of participants can be expanded to increase the reliability of the results.

## CONCLUSION

In conclusion, the finding of a relationship between perfectionism and stuttering self-assessment in this study suggests that factors such as perfectionism tendencies and other personality traits should be taken into consideration in the therapy process of adults who stutter. Therefore, stuttering therapies should include not only behavioral or fluency-based techniques, but also the individual's belief systems, self-assessment styles, and cognitive distortions. Acceptance and commitment therapies or cognitive-behavioral therapies can increase the effectiveness of therapy by changing the individual's perception of stuttering and strengthen the individual's ability to cope with stuttering.

### Source of Finance

*During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.*

### Conflict of Interest

*No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.*

### Authorship Contributions

**Idea/Concept:** Zübeyir Tutuş; **Design:** Zübeyir Tutuş, Özlem Oğuz; **Control/Supervision:** Özlem Oğuz; **Data Collection and/or Processing:** Zübeyir Tutuş; **Analysis and/or Interpretation:** Zübeyir Tutuş; **Literature Review:** Zübeyir Tutuş; **Writing the Article:** Zübeyir Tutuş; **Critical Review:** Zübeyir Tutuş, Özlem Oğuz; **References and Fundings:** Zübeyir Tutuş, Özlem Oğuz; **Materials:** Zübeyir Tutuş, Özlem Oğuz.

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