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## Comparison of Personality Characteristics between Parents of Stuttering and Nonstuttering Children

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### ABSTRACT

**Objective** The objective of this study is to conduct a comparative analysis of the personality characteristics exhibited by parents of stuttering and nonstuttering children, utilizing the five major personality dimensions (neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness).

**Methods:** This investigation was executed through a descriptive causal-comparative method. A total of 54 participants were selected as the sample, comprising 27 individuals from the cohort of parents with children who stutter and 27 individuals from the cohort of parents with children who do not stutter. The requisite data were gathered employing the NEO Five-Factor Inventory questionnaire. The hypotheses posited in this investigation were evaluated utilizing multivariate analysis of variance (MANOVA) and the SPSS26 statistical software package.

**Results:** The results indicated a statistically significant disparity between parents of stuttering and nonstuttering children across the five major NEO personality factors ( $p < 0.01$ ). Based on the mean differences observed between the two groups, it can be asserted that the personality traits of neuroticism and openness to experience were more pronounced among parents of stuttering children. Conversely, the scores of extraversion, conscientiousness, and agreeableness were found to be higher in parents of nonstuttering children ( $p < 0.01$ ).

**Conclusions:** The implications of these findings may prove beneficial in providing guidance to parents of children who stutter and in the formulation of effective interventions aimed at enhancing their mental well-being.

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## Introduction

Various forces and factors significantly influence the development of individual personalities and play a crucial role in the manifestation of personality traits. Personality is inherently dynamic and malleable, capable of transformation in response to varying circumstances ([Heslin et al., 2019](#)). The characteristics that define our identity are shaped by the abilities, temperaments, and backgrounds we inherit, as well as the contextual factors of our environment. A significant determinant in the expression of personality traits is the manner in which individuals engage with others, with language serving as a fundamental instrument of this interaction; the absence or inadequacy of language can be particularly impactful on the emergence of personality traits ([AliRezai Motlaq & Asadi, 2009](#)). The dynamics of the parent-child relationship have long been a focal point of inquiry among experts and educational professionals. The family unit serves as the primary foundation for establishing a connection between the child and their surrounding context ([Salimi, 2023](#)). Within this familial setting, children acquire foundational concepts about the world, modes of communication, and essential behavioral norms, thereby shaping their attitudes, morals, and overall socialization process. Furthermore, the personality traits of parents have consistently been a subject of interest among researchers due to their significant influence on child development ([Sahraeean & Samavi, 2022](#)).

Thompson posits that the educational strategies employed by parents exert enduring effects on their children's behaviors, performance, expectations, and ultimately, their future personalities. Empirical studies have indicated that children who stutter exhibit more pronounced emotional responses, diminished emotional regulation, and reduced attentional capacities compared to their non-stuttering peers. Additionally, stuttering has been shown to adversely affect the quality of life, belief systems, emotional states, and educational experiences of these individuals ([Craig et al., 2009](#); [Smith et al., 2014](#)). The etiology of stuttering remains inadequately understood; however, various hypotheses have been proposed regarding its origins ([Junuzovic-Zunic et al., 2021](#)). The presence of this disorder often elicits responses characterized by isolation and feelings of inferiority, which in turn exacerbate the individual's discomfort and the severity of the disorder over time. Speech disorders can serve as a precursor to the development of distinctive personality traits. The heightened expectations of certain parents can impose considerable stress on children who stutter ([Smith & Weber, 2017](#)).

As previously indicated, stuttering, recognized as one of the most significant speech disorders, frequently manifests during childhood, particularly during critical phases of speech and language acquisition. Research indicates that 75% of those affected by stuttering exhibit symptoms prior to the age of five ([Freud et al., 2017](#)). Stuttering is characterized by an irregularity in the natural and fluent progression of speech, often resulting in abrupt and unnatural interruptions manifested through repetitions, elongations, and the involuntary insertion of sounds and words, which may also involve the freezing of speech articulators, occasionally accompanied by secondary behaviors ([Yairi & Ambrose, 2013](#)). Interactions among individuals, including casual conversations, telephonic discussions, public speaking engagements, and other communicative contexts, are designed to facilitate the exchange of information, yielding outcomes such as the conveyance of knowledge, expression of emotions, task completion, relationship formation, social connections, influence, motivation, encouragement, and mutual recognition among diverse individuals.

A person who presents with stuttering often exhibits a sense of weakness or confusion in the aforementioned contexts, whereas an individual without such speech impediments tends to experience positive emotions and enhanced self-esteem through participation in the same situations ([Adriaensens et al., 2015](#)). Individuals who stutter frequently grapple with frustration stemming from perceived inadequacies in their communicative competence, which engenders negative emotional responses and a diminished sense of self-worth ([Boyle et al., 2018](#)).

Individuals afflicted by stuttering display unique cognitive perspectives and negative verbal experiences that may foreshadow the onset of their speech difficulties. These individuals often exhibit relatively disrupted emotional states and engage in stereotypical, introverted, sensitive, and skeptical behaviors, which correlate with heightened levels of stress and tension, as well as negative emotional experiences directly associated with their speech disorders ([Alm, 2014](#); [Iverach & Rapee, 2014](#)). The presence of detrimental attitudes and emotions in individuals with severe stuttering necessitates considerable care and attention; thus, it is imperative that psychological sciences and counseling are integrated alongside traditional stuttering therapies. Therapeutic interventions targeting stuttering must not overlook the emotional landscape, opinions, and experiences of the patient, as an expansive therapeutic strategy is warranted ([Laiho et al., 2022](#)). Early identification and intervention, complemented by psychological methodologies, can yield a

holistic treatment paradigm, thereby equipping both the family and the individual who stutters to navigate various scenarios encountered in daily life ([Onslow & Kelly, 2020](#)).

Throughout childhood and into adolescence, children often allocate a significant portion of their time under the influence of their parents, resulting in the shaping of their character, behavior, and personality. Diverse child-rearing styles and methodologies lead to varied behaviors among children, with such behaviors being profoundly impacted by the parenting strategies employed within the family unit. Moreover, these parenting modalities are significantly informed by the parents' own personality traits ([Huver et al., 2010](#)). In a broader context, stuttering should be approached from a systemic and multidimensional perspective, encompassing at least six interrelated components: behaviors, emotions, perceptions, beliefs, objectives, and physiological responses. Consequently, the psychology of speech is intrinsically linked to personality factors such as beliefs, emotions, behaviors, and attitudes, which are particularly shaped by familial contexts and the distinctive personality traits of parents ([Rubin & Chung, 2013](#)).

Stuttering in children is classified as a communication disorder that frequently impacts not only the affected child but also the familial dynamics, particularly affecting parental attitudes and behaviors. Investigations into the influence of personality traits among parents of children who stutter are somewhat scarce; however, gaining insight into these traits could significantly influence parental reactions and intervention strategies. The current study is designed to fill this void by undertaking a comparative examination of the personality characteristics of parents of children who stutter in contrast to those of children who do not stutter. Utilizing the NEO Five-Factor Inventory, this inquiry aims to ascertain whether specific personality dimensions, including neuroticism or extraversion, are disproportionately represented among the two parent groups. Recognizing these distinctions is of paramount importance, as they may carry substantial implications for the formulation of psychological support and intervention strategies that can assist parents in managing the challenges associated with their child's stuttering.

### **Material and Methods**

The methodological framework of this investigation is characterized as a descriptive-causal-comparative design, within which a comparative analysis was conducted between the parents of children exhibiting stuttering and those of children devoid of stuttering, specifically focusing on

variations in personality traits. The statistical population for the current inquiry comprised the parents of children ranging in age from 6 years and 11 months to 15 years and 11 months who were referred for stuttering treatment at a speech therapy and rehabilitation center located in Alborz province in 2022, as facilitated by the subjects' families, speech therapy professionals, psychiatrists, and other relevant practitioners associated with the researcher's targeted rehabilitation facility. To mitigate the potential for sample spillover, a cohort of 27 individuals was established for each group (total 54 participants). In this investigation, an accessible sampling technique was employed to select the cohort of parents whose children exhibited stuttering, owing to clinical constraints regarding participant sampling in both spatial and temporal dimensions. Conversely, a random sampling method was utilized for the cohort of parents of children without stuttering. To uphold ethical standards, all participants provided their informed consent prior to engaging with the questionnaires.

For the purpose of data acquisition, the five-factor personality questionnaire developed by [McCrae and Costa Jr \(1997\)](#) was utilized. The NEO personality inventory, conceptualized by [Costa and McCrae \(1980\)](#), serves as the foundation for this questionnaire. Comprising 240 items, this instrument is available in two formats: Form S (self-assessment) and Form R (assessment by others). The five-factor personality questionnaire evaluates five distinct characteristics within each dimension, thereby facilitating a holistic appraisal of an individual's personality. This instrument is suitable for individuals aged 17 years and above, having been translated, standardized, and implemented within the Iranian context by Garoussi (2010) ([Azkhosh & Asgari, 2014](#)). The 60-item version employed in this study is utilized when research duration is constrained and a general overview of personality attributes suffices. The NEO Personality Inventory-60 (NEO-PI-60) represents a condensed iteration of the NEO Personality Inventory-Revised (NEO-PI-R), meticulously crafted to evaluate the quintet of principal personality dimensions, collectively referred to as the Five-Factor Model (FFM). These dimensions encompass Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. The 60-item iteration was conceived for contexts necessitating a more expedited assessment, whilst concurrently preserving a commendable level of accuracy. It furnishes a comprehensive overview of personality, with 12 items apportioned to each of the five personality factors. The NEO-PI-60 is quantitatively assessed utilizing a 5-point Likert scale, which ranges from 1 (Strongly Disagree)

to 5 (Strongly Agree). Each of the five domains—Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness—consists of 12 items, with individual scores aggregated for each respective domain. Elevated scores signify more pronounced traits pertaining to the corresponding personality dimension. The assessment may be self-administered or conducted by an observer who possesses a thorough understanding of the subject. The NEO-PI-60 has exhibited satisfactory internal consistency in relation to the five principal personality traits. Empirical research has documented Cronbach's alpha coefficients for the NEO-PI-60, which typically oscillate between 0.70 and 0.85 across the five domains, thereby suggesting a moderate to high degree of internal reliability ([McCrae et al., 2005](#)).

## Results

The descriptive statistics of the variables, encompassing mean, standard deviation, skewness, and kurtosis, are delineated in Table 1. The analysis of the data was executed utilizing Multivariable MANOVA. Consequently, prior to the application of MANOVA, its underlying assumptions, which include the normal distribution of the data, the linear relationship among the dependent variables, and the extent of the regression slope, were meticulously assessed and verified.

**Table 1.** Descriptive indices of variables

| Group                             | Variable          | Mean  | SD   | Skewness | Kurtosis |
|-----------------------------------|-------------------|-------|------|----------|----------|
| Parents of nonstuttering children | Neuroticism       | 32.78 | 2.54 | 0.91     | 0.98     |
|                                   | Extraversion      | 31.58 | 3.11 | 0.58     | 1.02     |
|                                   | Openness          | 36.54 | 2.91 | 0.88     | 1.21     |
|                                   | Agreeableness     | 28.95 | 1.98 | 1.03     | 0.99     |
|                                   | Conscientiousness | 33.24 | 2.22 | 0.92     | 0.86     |
| Parents of stuttering children    | Neuroticism       | 34.21 | 2.31 | 0.97     | 1.08     |
|                                   | Extraversion      | 28.32 | 2.81 | 0.59     | 0.98     |
|                                   | Openness          | 37.62 | 2.71 | 1.88     | 1.25     |
|                                   | Agreeableness     | 26.38 | 2.08 | 1.13     | 0.79     |
|                                   | Conscientiousness | 30.91 | 2.51 | 1.42     | 1.26     |

In Table 2, the findings from the four tests of Multivariate Analysis of Variance (MANOVA) are delineated.

**Table 2.** MANOVA results

| Effect |                    | Value  | F    | Hypothesis DF | Error DF | P     |
|--------|--------------------|--------|------|---------------|----------|-------|
| Group  | Pillai's Trace     | .987   | 7.54 | 5             | 48       | 0.001 |
|        | Wilks' Lambda      | .013   | 7.54 | 5             | 48       | 0.001 |
|        | Hotelling's Trace  | 78.559 | 7.54 | 5             | 48       | 0.001 |
|        | Roy's Largest Root | 78.559 | 7.54 | 5             | 48       | 0.001 |

As indicated in Table 2, all four tests yield significant results, thereby suggesting a significant difference between the two groups concerning at least one of the dependent variables. To precisely elucidate the differences between the two groups regarding the dependent variables, a one-way analysis of variance was conducted within the MANOVA framework, with the results exhibited in Table 3.

**Table 3.** The results of ANOVA embedded in MANOVA

| Effect | Dependent Variable | SS    | DF | MS    | F     | P     |
|--------|--------------------|-------|----|-------|-------|-------|
| Group  | Neuroticism        | 42.08 | 1  | 42.08 | 6.933 | 0.001 |
|        | Extraversion       | 58.52 | 1  | 58.52 | 7.264 | 0.001 |
|        | Openness           | 18.93 | 1  | 18.93 | 5.65  | 0.001 |
|        | Agreeableness      | 19.45 | 1  | 19.45 | 6.32  | 0.001 |
|        | Conscientiousness  | 81.32 | 1  | 81.32 | 9.65  | 0.001 |

According to the data presented in Table 3, a significant differentiation exists between the two groups across all five personality traits. Based on the observed mean differences between the two groups, it can be concluded that the personality attributes of neuroticism and openness to experience were more pronounced among parents of children who stutter. In contrast, the scores for extraversion, conscientiousness, and agreeableness were determined to be elevated in parents of children who do not stutter ( $p < 0.01$ ).

## Discussion

The current investigation demonstrated a statistically significant disparity between the parents of children exhibiting stuttering and those of children devoid of stuttering concerning personality traits, wherein the metrics for the personality traits of neuroticism and openness to experience were notably elevated among the parents of children with stuttering relative to the parents of children without such speech impediments. Conversely, the traits of extroversion, conscientiousness

(responsibility), and agreeableness were found to be more pronounced in the parents of children who do not stutter.

Neuroticism, delineated by emotional volatility and a proclivity for anxiety and apprehension, was observed to be more pronounced among parents of children who stutter. This observation aligns with prior empirical studies that propose a correlation between elevated stress, anxiety, and the complexities associated with parenting a child experiencing developmental or speech impairments ([Smith & Weber, 2017](#)). It is conceivable that the emotional burden of managing their offspring's stuttering exacerbates neurotic characteristics in these parents. Moreover, parents may endure heightened levels of self-awareness and anxiety stemming from apprehensions regarding their child's social engagements, potentially engendering a cyclical pattern of intensified emotional reactions that could adversely affect both the parent and child ([Craig et al., 2009](#)).

Conversely, parents of children who do not stutter exhibited elevated scores in extraversion, conscientiousness, and agreeableness. Extraversion, which is correlated with sociability and positive affectivity, may facilitate the development of more effective social support networks, thereby alleviating parental stress. Research conducted by [Humeniuk and Tarkowski \(2016\)](#) emphasizes that parents who maintain stronger social connections and robust support systems are more adept at navigating parenting challenges, including those associated with their children's developmental needs. Conscientiousness, which pertains to organization, accountability, and reliability, may signify the capacity of these parents to adeptly manage daily parenting responsibilities and furnish consistent, structured environments for their children. Elevated levels of agreeableness, characterized by empathy, trust, and collaboration, could engender more constructive parent-child interactions, thereby enhancing the emotional well-being of both the child and the parent.

The observation that openness to experience is more prevalent among parents of children who stutter may indicate a propensity for creativity, inquisitiveness, and adaptability, which could function as a coping mechanism for addressing the uncertainties and unpredictability linked to managing stuttering. Nevertheless, the heightened levels of neuroticism in these parents may impede their capacity to fully exploit these attributes in a constructive manner. Prior research has indicated that openness to experience can serve as a valuable trait for navigating intricate emotional



and psychological challenges; however, when coupled with elevated neuroticism, it may result in excessive rumination and stress ([McCrae & Costa, 2008](#)).

In summation, these findings bear significant implications for therapeutic interventions designed to assist parents of children who stutter. Customized interventions that cater to the emotional and psychological requirements of parents, particularly those aimed at diminishing anxiety and stress, may enhance not only the well-being of the parents but also the child's experiences and management of stuttering. Future investigations could examine whether interventions that bolster emotional regulation and coping strategies in parents of stuttering children might mitigate some of the neurotic tendencies identified in this study ([Smith & Weber, 2017](#)).

In conclusion, this research accentuates the critical need to comprehend parental personality traits in relation to their children's speech development. By acknowledging the distinct psychological profiles of parents of children who stutter, clinicians and educators can furnish more focused support that promotes the mental health of both parents and their children. Further research could explore whether these personality distinctions are prevalent across various developmental or speech disorders and how interventions can be customized to address the specific needs of parents with diverse personality characteristics.

The impact of parental influence extends beyond mere genetic factors; the personality traits of parents can substantially affect the personality, behavior, and even the development of fluency in their offspring. This study endeavored to explore the correlation between the personality attributes of parents and those of children diagnosed with stuttering. Should parents exhibit negative personality traits, such as irritability, excessive extroversion, or a deficiency in the expression of positive emotions, it is plausible that their progeny may inherit and manifest similar traits in their own personality. Conversely, if parents possess favorable personality characteristics, such as agreeableness, responsibility, and openness to experience, it is likely that their children will also exhibit these attributes. Based on these findings, one can underscore the significance of considering the personality characteristics of parents in the upbringing of children who stutter. Parental awareness of their own personality traits, coupled with efforts aimed at self-improvement, may facilitate enhancements in their children's behavioral and personality development. Moreover, parental knowledge and comprehension of their children's personality traits could prove beneficial in offering appropriate support.

Consequently, the management of stuttering in children may necessitate concurrent efforts from both parents and children. By striving to enhance their own personality traits, such as by modeling constructive behaviors and demonstrating responsibility, parents can serve as positive role models, thereby assisting their children in addressing the challenges posed by stuttering. Furthermore, children may facilitate the amelioration of their stuttering by recognizing and comprehending their own personality traits and endeavoring to enhance them.

It is recommended that speech therapy centers within Alborz city largely refrained from collaboration and that the participants or their families exhibited reticence in participating in the research, which led to significant challenges in locating these individuals, this aspect is regarded as one of the principal limitations of the present study. Also, to accurately assess children's speech proficiency and communication capabilities, it is imperative that evaluators are provided with the requisite information during the educational assessment. Additionally, there exists a need for a specialized training program for educators to familiarize themselves with individuals exhibiting symptoms of these disorders.

#### **Data availability statement**

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

#### **Ethics statement**

The studies involving human participants were reviewed and approved by the ethics committee of Kashmar University. The patients/participants provided their written informed consent to participate in this study.

#### **Author contributions**

All authors contributed to the study conception and design, material preparation, data collection, and analysis. All authors contributed to the article and approved the submitted version.

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#### **Conflict of interest**

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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