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Research article

The Impact of Parental Personality Traits and Parenting Behavior in Assessing the Development of Executive Functions in Preschoolers

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Abstract. Executive functions (EFs) in preschool age are significant predictors of cognitive development with long-term effects in adulthood; they are influenced by several factors, including personality traits and socioeconomic status. Recent studies highlight the significant parental influence, especially as parent-reported questionnaires have gained importance in assessing children's EFs. The aim of this study was to examine the role of parental personality traits and parenting behaviors in assessing the development of EFs in preschool children. The study involved 526 mothers of preschoolers (aged 24–55, $M = 36.74$, $SD = 4.91$). The participants completed a survey based on Russian-language versions of the Childhood Executive Functioning Inventory (CHEXI), the Ten-Item Personality Inventory (TIPI-RU) and an item-reduced version of the Comprehensive General Parenting Questionnaire (CGPQ). The study revealed significant associations of parental personality traits and parenting behaviors with assessments of children's EFs. The parents who rated their children's EFs more positively demonstrated higher levels of extraversion, conscientiousness and openness, as well as structured and caring parenting, while negative ratings correlated with neuroticism and controlling behaviors. Structured parenting showed a positive association with conscientiousness, extraversion, agreeableness, and openness to experience, but a negative correlation with neuroticism. Caring parenting similarly correlated with conscientiousness and extraversion, while controlling behaviors showed minimal associations with personality traits. These findings highlight the relationship of parental perceptions with personality traits and behaviors, suggesting the need to critically interpret parent-reported assessments of children's EFs in clinical and educational contexts, emphasizing the value of integrating multiple assessment methods and developing improved instruments that account for parental perception biases.

Keywords: preschoolers, executive functions, assessment of preschoolers' development, the Childhood Executive Functioning Inventory, parental personality traits, parenting behavior

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Introduction

Numerous studies show that the level of development of executive functions (EFs) in preschool age is a significant predictor of successful adaptation to school education and academic achievement (Willoughby et al., 2012; Yeniad et al., 2013), as well as the development of language and mathematical abilities (David, 2012; Gagne, 2017). Moreover, according to longitudinal studies, EFs continue to influence the trajectory of personal development even in later life (Józsa & Barrett, 2018).

Recent studies have found that the development of EFs in children depends on a combination of various factors. For example, several authors emphasize the role of individual child characteristics (Veraksa et al., 2020), including biological and temperamental traits (Friedman et al., 2008), family sociodemographic parameters (Lawson et al., 2017), family characteristics such as sibling position (Almazova & Mostinets, 2023), and various environmental factors (Zelazo et al., 2016). Among these, of particular interest are various structural characteristics of the environment (material resources, spatial security) and environmental factors, since they are potentially modifiable and can be deliberately used in development programs.

In addition, the environmental factors also include the child's relationships and interactions with significant adults. As a matter of fact, the significant adults, primarily parents, act as the main agents of child development, exerting a multifaceted influence on cognitive, emotional and social domains (Koşkulu-Sancar et al., 2023; Yakupova et al., 2023; Zelazo, 2016). A growing number of studies confirms the critical role of parental factors in child developmental outcomes, such as IQ level, speech development, mathematical abilities, academic achievement, and social skills (Fantuzzo et al., 2004; Manolitsis et al., 2013; Schmitt et al., 2011; Sénéchal & LeFevre, 2002; Votruba-Drzal, 2003). However, with regard to EFs, the current psychological literature presents limited and inconsistent results on their association with parental personality traits and parenting behaviors, and this important area requires further research.

Parental personality traits and parenting behavior

Traditionally, in the scientific literature, parental personality has not been considered a significant factor predicting the development of EFs. Indeed, it seems counterintuitive that specific parental personality traits could directly influence a child's cognitive development. However, parenting behavior — including patterns of interaction with the child, provision of support, play interactions, behavior regulation strategies, and environmental organization — are fundamentally linked to the parent's personality traits. This relationship between the Big Five traits and parenting behavior has been consistently demonstrated in empirical studies (Browne et al., 2012).

Parents with adaptive personality traits, such as high agreeableness and extraversion, tend to exhibit warm, responsive parenting consistent with authoritative styles characterized by balanced demands and emotional support (Huver et al., 2010; Sahithya & Raman, 2021). These traits promote positive parent-child

interactions: agreeableness reduces coercive control (Losoya et al., 1997) while extraversion increases maternal sensitivity and involvement (Belsky & Barends, 2002). The combination of high extraversion and agreeableness appears to be particularly conductive to authoritative parenting, creating an atmosphere of emotional connection and structured guidance (Huver et al., 2010). Parents who combine agreeableness, conscientiousness and emotional expressiveness also tend to be more inclined to structure their child's daily life and provide care (Kornienko & Rudnova, 2023).

In contrast, parents with high neuroticism or emotional instability often exhibit less sensitive and more punitive parenting behavior (Smith, 2010). Low emotional stability is associated with harsher discipline and more frequent use of power-based strategies (Vafaeenejad et al., 2019), and reduced emotional attunement to children's needs. Similarly, non-adaptive traits marked by poor rhythmicity and low sociability are associated with less optimal parenting approaches, including authoritative or permissive styles (Sahithya & Raman, 2021).

While agreeableness and extraversion show robust associations with supportive parenting, the effects of conscientiousness and openness appear less consistent (Belsky & Barends, 2002). Some evidence suggests that conscientiousness may buffer stress-related parenting difficulties, whereas openness to experience shows weaker, but still significant, associations with parenting behavior. Importantly, extreme levels of even adaptive traits, such as very high agreeableness, can paradoxically lead to parenting difficulties, particularly in setting appropriate boundaries (Browne et al., 2012).

Parenting behavior and children's executive functions

According to research, parenting behavior significantly predict the development of EFs in early childhood (Valcan et al., 2017). Parenting behavior are typically categorized into three main types: (1) positive, (2) negative, and (3) cognitive support. The positive behavior, characterized by key interpersonal qualities, including emotional warmth, responsiveness and support, are associated with stronger EFs development (Baker & Kuhn, 2018; Bosquet Enlow et al., 2019; Holochwost et al., 2016).

The negative behavior characterized by punishment, strict control and disciplinary practices are associated with poorer EF outcomes (Gueron-Sela et al., 2018; Meuwissen & Carlson, 2018). The association between lower levels of parental control and higher EF scores has been also demonstrated in longitudinal studies (Bindman et al., 2015).

The cognitive support behavior, characterized by cognitive stimulation, guided learning through scaffolding and displaying autonomy support, are also positively correlated with the development of EFs, especially in early childhood, indicating a sensitive period for environmental effects on the maturation of EFs (Berkes et al., 2019; Yu et al., 2020). These findings are generally consistent with the results of systematic reviews and meta-analyses examining the relationship between parenting behavior and the development of EFs (Valcan et al., 2017).

However, there are also a number of studies, the results of which either fail to reveal the aforementioned significant associations or even contradict them. For example, a study by Vandenbroucke and colleagues found a negative correlation between parental support and EFs among children with negative relationships with parents and no significant correlation between these components among children with positive relationships with adults (Vandenbroucke et al., 2017). In addition, neither parental inconsistency, as one characteristic of negative parenting behavior, nor cognitive stimulation, as an important component of cognitive behavior, showed a significant association with the development of EFs (Hughes & Devine, 2019; Kamza et al., 2016).

Furthermore, the heterogeneity of results may be due to methodological variability in EF assessing approaches. Current studies use both objective performance-based measures (e.g., the Developmental Neuropsychological Assessment, NEPSY) and parent-reported questionnaires (e.g., the Childhood Executive Functioning Inventory (CHEXI), the Behavior Rating Inventory of Executive Function (BRIEF)). Importantly, the parent-reported instruments primarily reflect parents' perceptions of their children's cognitive development. Existing research has demonstrated associations of these parental assessments with sociodemographic factors (Camerota et al., 2016), children's academic achievement (Ameis, 2022) and age-related EF trajectories (Huizinga & Smidts, 2011). Comparative analyses have also examined the convergence between parent reports and other assessment methods.

When examining the relationship between parental characteristics and children's EF development levels, it is essential to consider how parents perceive and assess their children's cognitive development. On the one hand, this assessment is linked to the actual development of EFS in children, which is why parent-reported measures assessing EF levels (such as CHEXI, BRIEF) have become increasingly widespread in recent years. On the other hand, some studies have found no significant correlation between parents' reports of their children's EF development and the results of individual EF test scores (Camerota et al., 2016; Vriezen & Pigott, 2002), suggesting that other factors, both external and internal (including, but not limited to, personality traits), may also influence this assessment.

The present study

Our study aims to fill a significant gap in research examining the influence of parental characteristics in assessing the development of EFs in children. Previous studies have generally ignored the role of parents in assessing their children's cognitive development. ***The purpose of present study*** is to identify the role of parental factors associated with this assessment. In addition, we examined whether parental personality traits have an impact on parenting behavior. The objectives of this research are outlined below:

1) To identify the role of parental personality traits in assessing the development of EFs in children;

2) To ascertain the role of parenting behavior in assessing the development of EFs in children;

3) To identify differences in the severity of personality traits and parenting behavior indicators across groups of parents who assess the development of EFs in their children differently.

Methods

Participants

The study involved 526 mothers aged 24–55 (M = 36.74, SD = 4.91). The children were 4 to 6 years (M = 5.86, SD = 0.31, boys = 52.5%), all of them attended preschool institutions in regions of Central Russia. Most mothers (84%) had higher education, and 83.2% were married.

Procedure

Data were collected online in May and June 2024. The preschool administration distributed a link to the survey to all the parents. All the participants gave written informed consent before completing the questionnaires. The study materials were provided in the official language of Russia, and all the procedures complied with the ethical principles of the Russian Psychological Society.

Measures

To assess the development of EFs in children, the Childhood Executive Functioning Inventory (CHEXI) was used (Catale et al., 2015). Its Russian translation was done by Metreveli and Drobinskaya in 2021: it is available on the Executive Functioning Inventory official website (https://chexi.se/onewebmedia/Russian_CHEXI_ColourCoded%20.pdf). Russia version of CHEXI consists of 24 items divided into two factors: 'working memory' and 'inhibition'. The parents rated each item on a 5-point Likert scale, ranging from 1 ("absolutely wrong") to 5 ("absolutely right"). Higher scores indicated higher levels of working memory or inhibition development. The factor structure test demonstrated that the method was acceptable: ($\chi^2(276) = 5562.49, p < 0.001$; CFI = 0.853; TLI = 0.839; SRMR = 0.055; RMSEA = 0.074, 95% CI [0.07, 0.079]). Cronbach's alpha in this study was 0.88 for the 'working memory' factor and 0.85 for the 'inhibition' factor.

The Russian-language version of the Ten-Item Personality Inventory (TIPI-RU) was used to assess parents' personality traits (Gosling et al., 2003; Sergeeva et al., 2016). This short form consists of 10 items measuring five dimensions: (1) extraversion, (2) agreeableness, (3) conscientiousness, (4) neuroticism, and (5) openness (two items for each dimension). The respondents rated each item on a 5-point Likert scale, ranging from 1 ("strongly disagree") to 5 ("strongly agree"). Cronbach's alpha in this study was 0.62 for extraversion, 0.60 for conscientiousness, 0.46 for neuroticism, 0.05 for agreeableness, and 0.23 for openness. Although some personality scales in the Inventory demonstrated questionable reliability coefficients, most of them showed Cronbach's alpha values consistent with the results of previous studies and meta-analyses (Gnambs, 2014; Oshio et al., 2014).

Parenting behavior indicators were assessed using the item-reduced version of the Comprehensive General Parenting Questionnaire (CGPQ) (Ray et al., 2022;

Sleddens et al., 2016). The study used the Russian-language version of the Questionnaire adapted by Kornienko (Kornienko & Rudnova, 2023). It consists of 13 items divided into three scales: (1) 'structure', (2) 'care', and (3) 'control'. The participants were asked to rate each item on a 5-point Likert scale, ranging from 1 ("absolutely wrong") to 5 ("absolutely right"). Cronbach's alpha in this study was 0.65 for the 'structure' scale, 0.69 for the 'care' scale and 0.59 for the 'control' scale. The 'structure' scale characterizes how parents organize their children's environment by setting boundaries and rules, as well as helping them achieve certain goals. The 'care' scale shows the degree to which parents are involved in interactions with their children, providing them with support and responding to their needs. The 'control' scale reflects authoritarian controlling attitudes aimed at constant obedience, as well as adherence to norms and rules, which imply an expectation of a higher level of self-control from the child.

Data analysis

All the statistical analyses were performed using JASP (version 0.19.1.0). The Shapiro-Wilk test revealed significant deviations from a normal distribution ($p < 0.05$), which prompted the use of nonparametric methods. The Spearman correlation analysis was used to assess the relationships between parental personality traits, parenting behavior, and children's EF assessments. Linear regression analysis was performed to identify predictors of children's EF assessments. To identify differences in the manifestation of personality traits and parenting behavior indicators in groups of parents who differently assess the development of EFs in their children, we used neighborhood-based cluster analysis and one-way analysis of variance (ANOVA).

Results

Descriptive statistics provide an overview of the expression of study variables. Table 1 displays that the mothers tend to structure parenting, while their caring and controlling tendencies are lower. Among personality traits, conscientiousness and extraversion are highest, while neuroticism is lowest. Moreover, the mothers assess their children's working memory higher than inhibitory control.

To examine the relationships between parental personality traits, parenting behavior, and children's EF assessments, Spearman correlation analyses were conducted. The results revealed several significant correlations, detailed below. Structured parenting showed significant positive correlations with both working memory and inhibition in children. Caring parenting demonstrated similar positive correlations with both EF assessments. In contrast to other parenting behavior, controlling parenting showed small negative correlations with both working memory and inhibition. Further details are presented in Table 2.

As shown in Table 3, both working memory and inhibition scores showed positive relationships with extraversion, conscientiousness, openness, and agreeableness of the parents and negative associations with neuroticism.

Table 1

Descriptive statistics for parenting behavior, parental personality traits and children's executive functions

Variables / Scales	*M*	*SD*
Comprehensive General Parenting Questionnaire		
Structure	4.318	0.451
Care	3.457	0.688
Control	3.527	0.638
Ten-Item Personality Inventory		
Extraversion	10.816	2.270
Agreeableness	9.761	1.947
Conscientiousness	11.692	1.987
Neuroticism	6.857	2.425
Openness	9.555	2.275
Childhood Executive Functioning Inventory		
Working memory	75.718	0.609
Inhibition	63.264	0.661

Table 2

Results of the Spearman correlation analysis of parenting behavior and children's executive functions

Variables / Scales	Structure	Care	Control	Working memory	Inhibition
Structure	—				
Care	0.458***	—			
Control	0.278***	0.287***	—		
Working memory	0.166***	0.156***	–0.089*	—	
Inhibition	0.114**	0.177***	–0.125**	0.741***	—

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Table 3

Results of the Spearman correlation analysis of parental personality traits and children's executive functions

Variables / Scales	Extraversion	Agreeableness	Conscientiousness	Neuroticism	Openness	Working memory	Inhibition
Extraversion	—						
Agreeableness	0.115**	—					
Conscientiousness	0.309***	0.144***	—				
Neuroticism	–0.254***	–0.207***	–0.143***	—			
Openness	0.313***	0.051	0.132**	–0.059	—		
Working memory	0.244***	0.086	0.267***	–0.245***	0.184***	—	
Inhibition	0.218***	0.091*	0.239***	–0.248***	0.136**	0.741***	—

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Structured parenting was most strongly associated with conscientiousness and also positively correlated with extraversion, agreeableness and openness, but negatively with neuroticism. Caring parenting had weaker but significant correlations with conscientiousness, agreeableness and extraversion, and a nonsignificant negative correlations with neuroticism. Controlling parenting was uniquely unrelated to most personality traits, with the exception of conscientiousness. More details are presented in Table 4.

Table 4

Results of the Spearman correlation analysis of parental personality traits and parenting behavior

Variables / Scales	Extraversion	Agreeableness	Conscientiousness	Neuroticism	Openness	Structure	Care	Control
Extraversion	—							
Agreeableness	0.115**	—						
Conscientiousness	0.309***	0.144***	—					
Neuroticism	–0.254***	–0.207***	–0.143***	—				
Openness	0.313***	0.051	0.132**	–0.059	—			
Structure	0.186***	0.179***	0.334***	– 0.169***	0.135**	—		
Care	0.169***	0.113**	0.198***	–0.098*	0.044	0.458***	—	
Control	–0.034	–0.011	0.143***	0.045	–0.066	0.278***	0.287***	—

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

The linear regression analysis revealed several significant predictors of working memory and inhibition scores. For working memory, parental personality traits together explained 15.2% of the variance, and adding parenting behavior increased the explained variance to 18.4% (see Table 5).

For inhibition, personality traits explained 14.2% of the variance, and adding parenting behavior increased the explained variance to 18.9% (see Table 6). The analysis revealed distinct personality and parenting predictors for each EF component. For working memory, extraversion, conscientiousness, openness, and caring parenting were positive predictors, whereas neuroticism and controlling parenting showed negative impact. Similarly, for inhibition, conscientiousness and caring parenting again emerged as positive predictors, while neuroticism and controlling parenting remained negative predictors.

Using neighborhood-based clustering, we identified three groups of parents based on their assessments of their children's EFs (working memory and inhibition). The optimal number of clusters was determined by evaluating the silhouette index, likelihood-based information criteria (Akaike information criterion and Bayesian information criterion) and elbow method. A three-cluster solution was selected as the most appropriate, explaining 69.8% of the total variation in the data.

Table 5

Results of the regression analysis for children's working memory

Variables	Unstandardized Beta	Standard Error	Standardized Beta	*t*	*p*
Model 1: $R^2 = 0.152$, $R^2_{adj} = 0.144$, $F = 18.270$, $p < 0.001$					
(Intercept)	2.790	0.252		11.051	< .001
Extraversion	0.030	0.012	0.113	2.499	0.013
Agreeableness	0.005	0.013	0.014	0.344	0.731
Neuroticism	–0.053	0.011	–0.209	–4.843	< 0.001
Conscientiousness	0.059	0.013	0.190	4.440	< 0.001
Openness	0.025	0.012	0.092	2.139	0.033
Model 2: $R^2 = 0.184$, $R^2_{adj} = 0.171$, $F = 14.226$, $p < 0.001$					
(Intercept)	2.988	0.323		9.236	< 0.001
Extraversion	0.025	0.012	0.093	2.061	0.040
Agreeableness	–0.002	0.013	–0.007	–0.167	0.867
Neuroticism	–0.050	0.011	–0.198	–4.640	< 0.001
Conscientiousness	0.060	0.014	0.193	4.397	< 0.001
Openness	0.022	0.012	0.083	1.938	0.053
Care	0.092	0.040	0.107	2.298	0.022
Structure	0.046	0.065	0.033	0.697	0.486
Control	–0.169	0.041	–0.182	–4.151	< 0.001

Table 6

Results of the regression analysis for children's inhibition

Variables	Unstandardized Beta	Standard Error	Standardized Beta	*t*	*p*
Model 1: $R^2 = 0.142$, $R^2_{adj} = 0.134$, $F = 16.850$, $p < 0.001$					
(Intercept)	2.442	0.274		8.910	< 0.001
Extraversion	0.024	0.013	0.083	1.824	0.069
Agreeableness	0.007	0.014	0.022	0.524	0.601
Conscientiousness	0.065	0.014	0.192	4.471	< 0.001
Neuroticism	–0.062	0.012	–0.227	–5.217	< 0.001
Openness	0.017	0.013	0.060	1.382	0.168
Model 2: $R^2 = 0.189$, $R^2_{adj} = 0.176$, $F = 14.759$, $p < 0.001$					
(Intercept)	2.903	0.348		8.343	< 0.001
Extraversion	0.016	0.013	0.056	1.240	0.215
Agreeableness	$8.881\ 10^{-4}$	0.014	0.003	0.063	0.950
Conscientiousness	0.069	0.015	0.204	4.676	< 0.001
Neuroticism	–0.059	0.012	–0.217	–5.112	< 0.001
Openness	0.016	0.012	0.056	1.329	0.184
Structure	–0.054	0.070	–0.037	–0.771	0.441
Care	0.165	0.043	0.177	3.822	< 0.001
Control	–0.200	0.044	–0.199	–4.556	< 0.001

Cluster 1 showed the lowest scores on both variables ($M = 2.97$, $SD = 0.491$ for working memory and $M = 2.442$, $SD = 0.419$ for inhibition), hence Cluster 1 includes parents who rated their children's EFs as the lowest. In contrast, Cluster 3 showed the highest scores on both variables ($M = 4.355$, $SD = 0.327$ for working memory and $M = 4.002$, $SD = 0.330$ for inhibition), and this cluster included parents who assessed their children's EFs as the highest. Cluster 2 included parents who gave moderate ratings of their children's EFs ($M = 3.741$, $SD = 0.268$ for working memory and $M = 3.270$, $SD = 0.302$ for inhibition) (see Figure 1).

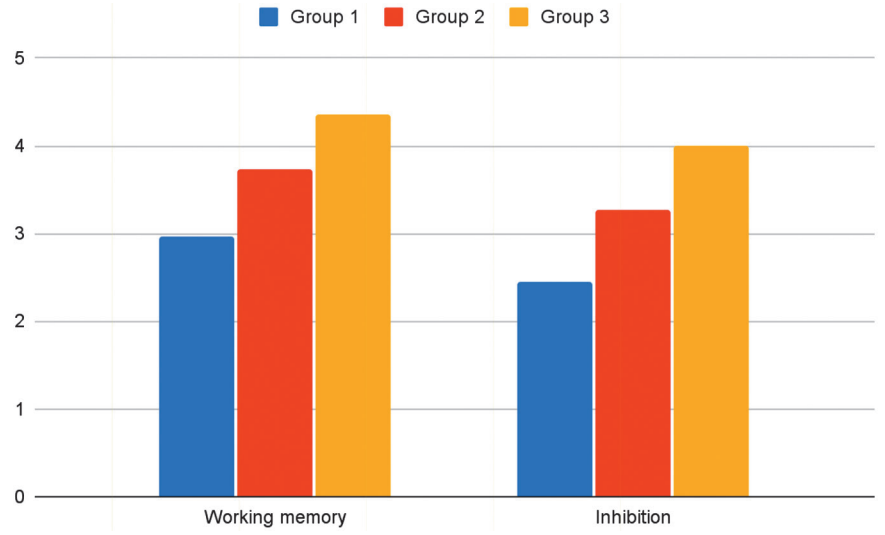

Figure 1. Results of the cluster analysis on the parental assessments of preschoolers' executive functions
Source: created by Zhamilia N. Dzhansaidova using Microsoft Excel

A one-way ANOVA was used to assess differences in parenting behavior and personality traits among the three groups. Table 7 and Figure 2 present the mean index values for each group.

Table 7

Means for personality traits and parenting behavior, and ANOVA results for the groups of parents with different assessments of their children's executive functions

Variables	Group 1	Group 2	Group 3	*F*	*p*
Personality traits					
Extraversion	10.008	10.729	11.552	16.64	< 0.001
Agreeableness	9.419	9.906	9.866	3.11	0.05
Conscientiousness	11.153	11.637	12.490	17.88	< 0.001
Neuroticism	7.968	6.832	6.238	19.27	< 0.001
Openness	9.065	9.376	10.155	9.13	< 0.001
Parenting behavior					
Structure	4.283	4.281	4.445	7.42	< 0.001
Care	3.324	3.425	3.628	6.96	< 0.001
Control	3.704	3.441	3.492	7.32	< 0.001

According to the results, the parents who rated their children's EFs as the lowest demonstrated more controlling behavior compared to the others ($F(2\ 519) = 7.32$, $p < 0.001$). Conversely, the parents who rated their children's EFs as the highest demonstrated greater caring ($F(2\ 519) = 6.96$, $p < 0.001$) and adopted more structured parenting practices ($F(2\ 519) = 7.42$, $p < 0.001$).

Regarding personality traits, the higher the parents in the group rated their children's EFs, the higher were the scores on extraversion ($F(2\ 519) = 16.64$, $p < 0.001$), conscientiousness ($F(2\ 519) = 17.88$, $p < 0.001$) and openness to experience ($F(2\ 519) = 9.13$, $p < 0.001$), but the lower was the score on neuroticism ($F(2\ 519) = 19.27$, $p < 0.001$).

Discussion

Subjective Assessments of Children's Executive Functions and Parental Personality Traits

Previous research has shown that parental assessments of children's cognitive development do not always correspond to objective test results (Camerota et al., 2016; Vriezen, Pigott, 2002). Our study identified specific factors influencing these assessments, demonstrating significant relationships between parental personality traits and assessments of children's EFs. Higher levels of extraversion, conscientiousness and openness to experience were associated with more positive ratings of children's cognitive development, while neuroticism correlated with more negative assessments. This pattern suggests that emotionally stable, sociable, disciplined, and flexible parents tend to rate their children's cognitive abilities more favorably (Camerota et al., 2016).

The study design does not allow us to draw conclusions about whether parents with certain personality traits systematically overestimate or underestimate their children's actual abilities. However, given the increasing reliance on parental ratings in research on child cognition, understanding potential biases in these assessments becomes crucial. Future research should examine these potential biases and the factors that influence them. Our regression model using the Big Five personality traits as predictors explained only 14–15% of the variance in parental ratings, indicating the importance of other factors, such as child characteristics, situational variables and the quality of parent-child interactions.

Subjective Assessment of Children's Executive Functions and Parenting Behavior

The results of this study demonstrate a significant relationship between the parents' assessments of their children's EFs and their own parenting behavior. The children's actual difficulties with EFs influence their parents' perceptions, which in turn affect parenting behavior and, subsequently, the child's ongoing development of executive abilities. This reciprocal pattern creates a potentially self-reinforcing cycle that requires attention. For example, consistent with previous research, excessive parental control has been found to negatively impact children's cognitive and emotional development, suggesting a bidirectional relationship (Bindman et al., 2015).

Furthermore, the parents who rated their children's working memory and inhibition as relatively underdeveloped reported using more controlling parenting strategies than the other parents. This finding is consistent with cognitive models suggesting that subjective assessments influence emotional and behavioral responses (Beck, 1967).

In contrast, the parents who rated their children's EFs more positively tended to emphasize structured and caring parenting strategies. This pattern suggests two complementary interpretations: first, that structured and caring approaches may represent particularly adaptive parenting behavior that promote cognitive development; and second, that parents who perceive their children as capable of

self-regulation may find it easier to employ autonomy-supportive strategies. These findings are consistent with transactional models of parent-child interactions (Belsky et al., 1984).

Notably, when the parenting components (structure, care and control) were added to the regression models predicting EFs, they increased the explained variance by only 2.7% for working memory and 4.2% for and inhibition compared to the models using only parental personality traits as predictors. This modest increase suggested the existence of other, potentially more influential factors that should be explored in future research.

Parental Personality Traits and Parenting Behavior

The study revealed significant associations between parental personality traits and parenting behavior. Structured parenting — characterized by consistency, predictability and autonomy support — showed the strongest association with conscientiousness. This finding was consistent with the expectation that organized and disciplined individuals would tend to create more structured environments for their children. Positive correlations with extraversion, agreeableness and openness to experience, along with negative correlations with neuroticism, suggested that emotionally stable, sociable and flexible parents would be more likely to create orderly and supportive environments for their children's development. Care was similarly correlated with conscientiousness and extraversion, generally confirming previous research findings (Sahithya & Raman, 2021), while controlling behavior showed minimal associations with personality traits, with the exception of a positive association with conscientiousness. This pattern suggested that control might represent a response to specific child characteristics or situational factors, rather than a consequence of stable parental personality traits.

The findings of this study may have a number of ***practical implications*** for education programs, clinical practice and future research. Given the demonstrated relationship between parents' subjective assessments of their children's EF abilities and their subsequent parenting behavior, psychoeducational programs should consider parental perceptions in interventions aimed at improving children's EF development. For example, they could inform parents about normative trajectories of cognitive development at different ages.

Particular attention should be paid to parents with high levels of neuroticism, as our data suggest they may be prone to overestimating their children's EF difficulties and, consequently, adopting excessively controlling parenting styles. This group may benefit particularly from cognitive-behavioral interventions aimed at anxiety management and cognitive restructuring techniques.

Limitations. The results of our study should be interpreted with several limitations. First, the research focused exclusively on mothers as primary caregivers, potentially limiting the generalizability of the results to other caregiving figures, including fathers, grandparents or other guardians. Future investigations would benefit from including a more diverse sample of caregivers to better reflect the complexity of family caregiving systems.

Besides that, the study relied exclusively on parent reports for both parenting behavior and the development of EFs in children. While parental assessments provide valuable insights, they may be subject to reporting biases or perceptual inaccuracies. In addition, all the children attended preschool institutions, whereas in home-based settings, the influence of parental characteristics might have been different. To increase the reliability of future results, researchers could consider using multiple assessment methods and expanding the sample.

There are also limitations related to the specific measurement tools used. Their psychometric properties demonstrated only moderate reliability, which may have weakened the observed effect sizes. Although these reliability coefficients are consistent with previous studies using similar scales, they nevertheless suggest that the results should be interpreted with caution. Furthermore, it should be noted that Cronbach's alpha may not be an optimal reliability indicator for short scales, as it is particularly sensitive to scale length and often underestimates the reliability of short measures (Revelle, Zinbarg, 2009). Future investigations would benefit from employing measures with proven high reliability or increasing sample sizes to increase statistical power.

Regarding analytical limitations, the correlation and regression analyses yielded relatively modest effect sizes, indicating that the examined variables explained only part of the variance in parental assessments and children's EFs.

Future research should use more comprehensive models that incorporate these additional variables and examine their potential interactive effects. This approach would provide a more complete understanding of the factors that determine the development of EFs and related parental perceptions. Furthermore, longitudinal designs could help clarify the temporal dynamics and potential bidirectional relationships among these factors. These methodological improvements would address the limitations of the current study, relying upon its foundational findings.

Conclusion

Findings of present study support the integration of parental personality and perception assessments into early childhood screening programs. Such integration could help identify families at risk for suboptimal parenting practices and enable targeted preventive interventions. School programs could also benefit from incorporating psychoeducational components to help parents understand typical EFs development and effective support strategies, thereby reducing the discrepancy between parents' expectations and their children's actual abilities. Ultimately, by considering both cognitive and behavioral aspects of parenting within the framework of individual personality differences, we can develop more effective approaches to supporting the development of EFs in children across diverse family contexts.

Regarding assessments, our findings highlight the need for caution when interpreting parent-reported measures of children's EFs, particularly when making clinical or educational decisions. Practitioners should be aware that the CHEXI and similar instruments reflect not only children's actual abilities but also parents' cognitive assessments influenced by their personality traits. Whenever possible,

parent reports should be supplemented with performance-based measures and teacher ratings to provide a more comprehensive assessment. Future development of parent report instruments might consider incorporating correction factors to account for parental personality characteristics or including validity scales to detect potential response biases.

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Исследовательская статья

Особенности личностных черт и родительского поведения как факторы оценки родителями регуляторных функций дошкольников

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Аннотация. Регуляторные (исполнительные) функции в дошкольном возрасте являются важными предикторами когнитивного развития не только в детстве, но и во взрослой жизни. В свою очередь, на развитие регуляторных функций влияет множество факторов, включая личностные и средовые. В современных исследованиях также подчеркивается значимость родительского влияния, особенно с учетом того, что в последнее время в диагностике регуляторных функций детей широкое распространение получили методы, основанные на оценках родителей. Цель исследования — изучение вклада личностных черт и родительского поведения в оценку развития регуляторных функций у их детей. В исследовании приняли участие 526 матерей дошкольников (возраст — от 24 до 55 лет, M = 36,74, SD = 4,91). Для диагностики использовались русскоязычные версии следующих методик: Опросник про исполнительные функции у детей (CHEXI) для родителей и педагогов, Краткий пятифакторный опросник личности (TIPI-RU), Краткий опросник обобщенных характеристик родительского отношения (CGPQ). Выявлены значимые связи между личностными чертами родителей, родительским поведением и оценками регуляторных функций у их детей. Матери, которые более позитивно оценивали развитие регуляторных функций у своих детей, демонстрировали более высокую экстраверсию, добросовестность и открытость, а также более структурированное и заботливое воспитание, в то время как негативные оценки развития регуляторных функций детей коррелировали с нейротизмом и контролирующим поведением матерей. Структурированность родительского поведения положительно связана с добросовестностью, экстраверсией, доброжелательностью и открытостью опыту, и отрицательно — с нейротизмом. Забота в родительском поведении аналогичным образом коррелировала с добросовестностью и экстраверсией, в то время как контролирующее родительское поведение показало минимальные связи с личностными чертами. Результаты исследования подтверждают тесные взаимосвязи восприятия и оценивания детей родителями с особенностями родительского поведения и личностных черт, что подчеркивает необходимость критической интерпретации полученных от родителей оценок регуляторных функций детей в клинических и образовательных условиях, а также ценность интеграции нескольких

методов оценки при дальнейшей разработке усовершенствованных инструментов, учитывающих предвзятость родительского восприятия.

Ключевые слова: дошкольный возраст, регуляторные функции, оценка развития дошкольников, Опросник исполнительных функций у детей для родителей и педагогов, личностные черты родителей, родительское поведение

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