



RESEARCH ARTICLE / ARAŞTIRMA YAZISI

The Interrelations Between Parenting Style, Personality and Exam Anxiety among University Students

Öğrencilerde Sınav Kaygısının Yordayıcısı Olarak Kişilik Özellikleri ve Ebeveynlik Stilleri

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Abstract:

Examination anxiety is a key factor influencing academic performance as well as future trajectories of students. This study aimed to examine the relationship between personality traits, parenting styles, and examination anxiety among students. A sample of 400 students was surveyed from Igbariam Nigeria with the convenience sampling technique. Three instruments were used in the study namely; the personality inventory scale, parenting style inventory, and examination anxiety scale. The results show that both parenting styles and personality traits predict exam anxiety. Lower openness to experience and conscientiousness as well as higher extraversion, agreeableness, and neuroticism predict increased test anxiety. Openness to experience and conscientiousness are associated with creativity, adaptability, self-discipline, and efficiency which are likely to increase exam preparedness and test-wiseness. On the other hand, parenting styles with elevated parental responsiveness and demandingness; and lower autonomy granting predicted higher exam anxiety. Access to course material and the utilization of external learning resources were linked to reduced exam anxiety. Parenting styles and the personality traits of the offspring were revealed to have a reciprocal causal relationship. The study suggests that learning should be more student-focused to foster more student engagement which is linked to less exam anxiety and better academic performance.

Keywords: Test anxiety, parenting behavior, parent-child relations, personality traits, academic performance, university students.

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Öz:

Sınav endişesi öğrencilerin akademik performansını ve gelecekteki yollarını etkileyen önemli bir faktördür. Bu çalışmanın amacı, kişilik özellikleri, ebeveynlik tarzları ve öğrencilerin sınav endişeleri arasındaki ilişkiyi incelemektir. İğbariam Nijerya'dan 400 öğrenciye uygunluk örnekleme tekniği kullanılarak anket yapıldı. Çalışmada üç alet kullanıldı; Kişilik inventörü ölçeği, ebeveynlik tarzı inventörlüğü ve muayene anksiyete ölçeğidir. Sonuçlar, hem ebeveynlik tarzlarının hem de kişilik özelliklerinin sınav endişesini öngördüğünü gösteriyor. Daha düşük deneyim açılımı ve vicdanlılık yanı sıra daha yüksek ekstrasversyon, hoşgörü ve nörotizm, test endişesinin artmasını öngörüyor. Tecrübeye açıklık ve vicdanlılık, yaratıcılık uyarılabilirliği, kendi disiplini ve verimliliği ile ilişkilidir. Bu da sınav hazırlığı ve sınav bilgisini artırır. Diğer taraftan, yüksek ebeveyn tepki ve talep gücü olan ebeveyni tarzları; ve daha düşük bağımsızlık vererek daha yüksek sınav endişesi öngörüldü. Ders malzemelerine erişim ve dış öğrenme kaynaklarının kullanımı, sınav endişelerini azaltmakla ilişkilendirildi. Ebeveynlik tarzları ve çocukların kişilik özellikleri karşılıklı bir sebep ilişkisi olduğu ortaya çıktı. Çalışma, öğrenmenin daha fazla öğrenci odaklı olmasının, daha az sınav endişesi ve daha iyi akademik performansla bağlantılı olan öğrenci katılımını artırması gerektiğini öne sürüyor.

Anahtar Kelimeler: sınav kaygısı, kişilik özellikleri, ebeveyn-çocuk ilişkileri, ebeveynlik stilleri, akademik performans, üniversite öğrencileri.

Introduction

Examination anxiety, a type of pervasive psychological phenomenon, has been a subject of growing concern in educational settings around the world. As students progress through their academic endeavors, the pressure that is placed on examinations often manifests as heightened stress and anxiety (Gramstad et al., 2020). This particular phenomenon is not only seen as detrimental to the overall mental well-being of individuals but also has the potential to negatively impact student performance or hinder the learning process. A careful understanding of the multi-dimensional nature of examination anxiety involves looking into its underlying symptoms in the psychological, cognitive, and physiological dimensions (Sawka-Miller, 2011; Cavanagh et al., 2017). Exam anxiety has effects that can be seen before, during, and after the examination (Badrian et al., 2022). Examination anxiety can hinder cognitive functioning leading to reduced academic performance and can cause severe distress.

Parenting style is the pattern of behavior and the interaction seen in parents and their children, influencing the various aspects of a child's development, including their academic performance and their emotional resilience (Deighton et al., 2018). Parenting behaviors play a very significant and important role in shaping a child's development, consistently impacting various aspects of their lives. Authoritarian parenting is associated with the development of examination anxiety (Hale et al., 2006). Inconsistent and harsh parenting practices have been identified as a major contributing factor to examination anxiety among university students (Evans et al., 2020). Hence, the enduring impact of parental practices, characterized by elements such as harsh discipline, parental disharmony, rejection, and insufficient involvement in the student's activities, can effectively contribute to heightened anxiety levels (Evans et al., 2020). Research studies suggest that significant proportion of university students who experience academic difficulties come from environments lacking normal parental love and care. Parenting styles are associated with academic achievement as well as career path among university students (Zahedani et al., 2016). It is further emphasized that providing the right attention, quality love,

and affectionate warmth plays a substantial role in actually fostering the mental development and adaptation of university students (Holochwost et al., 2020; Moon-Seo et al., 2021). During the early phase in the university, students require parental love, care, warmth, and attention to foster better adjustment to the academic environment. Parents actually play important roles in the adjustment processes of university students such as giving them positive attention and affirmations, showing love and respect for them and fostering a sense of security (Kjeldsen et al., 2021).

According to a study by Cassidy and Johnson (2018), the individual differences manifesting in personality traits and cognitive abilities can influence the susceptibility to examination anxiety. Emotional stability, extraversion and imagination predict test anxiety (Asmali, 2017). The prospect of examination creates an actual sense of fear and anxiety in students in all age groups and this is a common representation for both a physiological and psychological aspect of the human experience. Many students are prone to nervousness and fear in the face of examinations. In academic settings, anxiety is often present in situations where students are being subjected to assessments such as examinations and presentations (Holochwost et al., 2020). Therefore, this type of anxiety is classified mainly as anticipatory anxiety, situational anxiety, or evaluative anxiety.

A mild sense or moderate level of anxiety is associatively characterized as normal and can be equally beneficial in maintaining a positive mental and physical attitude (Holochwost et al., 2020; Theobald et al., 2022). Examination anxiety is the feeling of severe uneasiness about the unknown which is experienced in response to testing situations because of fear of failure (Driscoll, 2007; Theobald et al., 2022; Cavanagh et al., 2017). This phenomenon can cause physiological, cognitive and emotional symptoms before, during or after taking the examination (Sawka-Miller, 2011). Some of these characteristics are; headache, excessive sweating and an intense heartbeat, stress, fearfulness, disappointment, helplessness, negative thinking and difficulty in

remembering and concentrating (Latas et al., 2010; Asghari et al., 2012; Alghamdi, 2016). Examination anxiety can lead to long lasting harmful effects if they are not addressed properly. Hence, these effects can be both physical and psychological effects such as; depression, digestive issues, academic failure, and others (Theobald et al., 2022).

There is a gradual rise in the attention to examination anxiety and given these concerns about fear, worry, depression, academic failures, stress, negative emotions, and all the difficulties associated with the cognitive dissonance of examination anxiety; this study is consistently timely and imperative as it is purposeful in investigating the influence of personality traits and parenting styles on examination anxiety among students. This study aimed to examine the relationship between parenting styles, personality traits, and examination anxiety among students. Previous empirical studies examined the effects of parenting styles on examination anxiety (Boulton & Macaulay, 2022), personality traits on the effects of examination anxiety (Gramstad et al., 2020; Kukso & Kukso, 2022), and the effects of examination anxiety itself (Olanrewaju & Adeoye, 2020). However, few studies examined parenting styles, personality traits, and examination anxiety together. Consequently, the current study attempts to comprehensively examine these variables and establish the relationship between them. The aims is represented in the research questions below:

Research Questions

1. Does personality have a predictive relationship with exam anxiety?
2. Do parenting styles have a predictive relationship with exam anxiety?
3. Are there significant differences in exam anxiety and academic performance according to access to course material?
4. Are there significant differences in exam anxiety and academic performance according to access to external learning material?
5. Are there predictive relationships between parenting style and personality traits?

Methods and Design

The study was carried out using quantitative research methodology and a correlational design.

Sample

The population of this study were Nigerian university students. The sample was selected from the population through convenience sampling. The convenience sampling method is a basic non-probability sampling process where all of the participants are selected according to ease of access (Saunders et al., 2012). The sample size consists of 400 students which were male and female and were chosen from Igbariam in Anambra State. This sample size was selected because the overall number of the population is unknown. The sample size was determined based on the formulae fit sample size for a population that is unknown. Shete et al. (2020) gave the formulae of an unknown population as follows; The sample size $385(s) - equals (Z - score)^2 \times p \times (1-p) / (m)^2$, hence 385(s) is indicated as the sample size for an infinite population, Z is indicated as the Z-score or a confidence interval, p is standard deviation and m is indicating the margin of error.

Instruments

Three Instruments were used for the study and they include; the parenting style inventory, the big five inventory and the examination anxiety scale. In the questionnaires demographics factors such as; age, gender, CGPA, access to course material, use of external learning material, ethnicity and religious group were collected.

Parenting Style Inventory (PSI-II)

It is a 15 item inventory designed to assess the construct of parenting style. The inventory assessed three dimensions of maternal parenting style which are: demandingness, emotional responsiveness and psychological autonomy-granting. The scale followed a 5-point likert format ranging from strongly agree "5" to strongly disagree "1". Darling and Toyokawa (1997) obtained an alpha coefficient reliability of 0.72, 0.74 and 0.75, for demandingness, responsiveness and autonomy granting respectively. The researcher however obtained an alpha coefficient reliability of 0.65, 0.66 and 0.67 for demandingness, responsiveness and autonomy granting respectively.

Big Five Inventory (BFI)

This instrument was developed by John and Srivastava (1999) to measure the big five traits of personality. The instrument has 45 items rated on a five-point Likert scale from strongly disagree =1, disagree a little =2, undecided=3, agree a little= 4 and agree strongly. The instrument has a validity of .90 and Cronbach Alpha of .87 respectively (John & Srivastava, 1999). A Cronbach Alpha of .74 was obtained by the researcher for the scale.

Examination Anxiety Scale (EAS)

Examination anxiety scale developed by Spielberg (1980) was used as a measure of examination anxiety of the participants. It is a twenty (20) item scale, rated on a Likert scale with responses anchored base on four points strongly agreed, agreed, disagreed and strongly disagreed. The scale had Cronbach's alpha of 0.80 on different samples of students at different times (Spielberg, 1980). A score of 41 to 80 indicates high examination anxiety while a score of 0 to 40 indicates low examination anxiety. The instrument reported a Cronbach's alpha of 0.88 and a convergent validity of r 61 with the self efficacy scale (Spielberg, 1980). The researcher obtained an alpha coefficient of 0.50 in the current research.

Procedure

To begin the study, ethical approval was received from the Near East University Social Science Ethical Committee board with the application number (NEU/SS/2023/1698). The data for the research was collected at Igbariam. The participants were informed about the purpose of the research and signed a consent form before data was collected. Pen and paper copies of the study questionnaires were administered to the selected students.

Data analysis

Data was analyzed using SPSS 23. Regression analysis was carried out to estimate the effect of parenting style and personality on exam anxiety. A Kruwal Wallis test was used to analyze the differences in exam anxiety and academic performance according to access to learning material while the Mann-Whitney test was employed to assess the differences in test anxiety according to utilization of external learning resources.

Results

Table 1. Regression of the relationship between personality and exam anxiety.

(R ² =0.227)			
Variable	B	SE	B
Openness to experience	-.297	.088	-.197**
Conscientiousness	-.421	.065	-.365**
Extraversion	.306	.065	.232**
Agreeableness	.296	.097	.149*
Neuroticism	.372	.079	.263**

Table 1 shows that personality accounts for 23% of differences in exam anxiety scores. Exam anxiety is

predicted by lower levels of openness to experience and conscientiousness and higher levels of extraversion, agreeableness, and neuroticism.

Table 2. Regression analysis of the causal relationship between parenting style and exam anxiety.

(R ² =0.226)			
Variable	B	SE	B
Responsiveness	.542	.106	.246**
Demandingness	.851	.146	.289**
Autonomy granting	-.867	.130	-.308

Table 2 shows that parenting styles account for 23% of differences in exam anxiety. Exam anxiety is predicted by high parental responsiveness and demandingness and lower autonomy granting

Table 3. Comparison of exam anxiety and CGPA based on access to course materials

Variables	Access to course materials	N	Mean Rank	X ²	Df	P
Exam anxiety	Adequate	172	162.75	42.332	2	0.000**
	Average	168	215.16			
	Poor	60	267.67			
CGPA	Adequate	172	200.73	0.033	2	0.984
	Average	168	201.01			
	Poor	60	198.42			

p ≤ .05* p ≤ .01**

The results of the Kruskal Wallis analysis shown in table 4 reveals that there are significant differences in access to course materials on examination anxiety (p=0.000).

However, the result showed no significant difference in access to course materials on CGPA (academic performance) of the students (p>0.05).

Table 4. Comparison of exam anxiety, and CGPA based on use of external learning materials

Variables	Use of extra learning material	N	Mean Rank	X ²	Df	P
Exam anxiety	Adequate	186	166.61	30.624	1	0.000**
	Average	214	229.96			
CGPA	Adequate	186	189.30	4.535	1	0.033*
	Average	214	210.23			

p ≤ .05* p ≤ .01**

The Mann Whitney analysis in table 4 reveals that there is a significant difference in the use of external learning materials on examination anxiety (p=0.000). The result

also showed a significant difference in the use of external learning materials on CGPA (academic performance) of the students (p<0.05).

Table 5. Regression analysis for the effect of parenting styles on personality traits.

Dependent Variable		B	SE	B	R ²
Openness to experience	Responsiveness	-.463	.074	-.318**	.146**
	Demandingness	-.246	.102	-.126*	
	Autonomy granting	.258	.090	.138*	
Conscientiousness	Responsiveness	-.431	.098	-.226**	.123**
	Demandingness	-.415	.135	-.163*	
	Autonomy granting	-.170	.120	-.070	
Extraversion	Responsiveness	-.321	.090	-.193**	.186*
	Demandingness	.297	.124	.133*	
	Autonomy granting	-.041	.110	-.019	
Agreeableness	Responsiveness	.060	.058	.054	.073**
	Demandingness	.345	.080	.233**	
	Autonomy granting	-.246	.071	-.174**	
Neuroticism	Responsiveness	-.107	.084	-.069	.020
	Demandingness	.304	.116	.146*	
	Autonomy granting	.042	.103	.021	

Table 5 shows that parenting styles have a causal relationship with the personality traits of openness to experience, conscientiousness, extraversion, agreeableness but not neuroticism.

Parenting styles account for almost 15% of differences in openness to experience. Responsiveness, demandingness and autonomy granting all have significant beta values.

Parenting styles account for 12% of variations in conscientiousness. Responsiveness and demandingness have significant beta values.

19% of differences in extraversion are caused by parenting styles. Responsiveness and demandingness have significant beta values.

Only 7% of differences in agreeableness are caused by parenting styles. Demandiness and autonomy granting have significant beta values.

2% of neuroticism is caused by parenting style. Only demandingness has a significant beta value.

Table 6. Regression analysis of the effect of personality on parenting styles.

Dependent Variable		B	SE	B	R ²
Responsiveness	Openness to experience	-.263	.038	-.383**	.296**
	Conscientiousness	-.173	.028	-.329**	
	Extraversion	-.103	.028	-.171**	
	Agreeableness	.295	.042	.327**	
	Neuroticism	.111	.034	.172**	
Demandingness	Openness to experience	-.162	.028	-.315**	.308**
	Conscientiousness	-.146	.021	-.370**	
	Extraversion	.055	.021	.122**	
	Agreeableness	.277	.031	.410**	
	Neuroticism	.188	.025	.390**	
Autonomy granting	Openness to experience	.101	.035	.188*	.235**
	Conscientiousness	-.098	.026	-.240**	
	Extraversion	-.017	.026	-.035	
	Agreeableness	-.049	.038	-.069	
	Neuroticism	.017	.031	.034	

The individual’s personality significantly predicts 30% of differences in parental responsiveness. Openness to experience, consciousness, extraversion, agreeableness and neuroticism all have significant beta values.

Personality caused 31% of differences in parental demandingness. All big five traits have significant beta values.

Personality is a significant predictor of 24% of parental autonomy granting. Only openness to experience and conscientiousness have significant beta values.

Discussion

The findings of this study reveal that personality traits are a significant predictor of exam anxiety. Lower openness to experience and conscientiousness and high extraversion, agreeableness and neuroticism and associated with increased examination These results are somewhat similar to the findings of Soomro et al. (2023) which show that there was a significant negative relationship between openness, conscientiousness, and examination anxiety. Openness to experience is associated with being imaginative, creative, more adaptable, flexible, and seeking out new experiences which may reduce test anxiety. Conscientious people are highly meticulous, organized, efficient, and self-disciplined (Asmali, 2016). These characteristics are associated with better preparedness for exams and test wise-ness which reduce test anxiety.

Consistent with the results of this research literature shows a positive correlation between exam anxiety and neuroticism (Asmali, 2016; Shin et al., 2023). Neuroticism is associated with being insecure, self-conscious and anxious (Dornyei, 2005). The correlation between extraversion and exam anxiety seen in the current study is similar to the study on mathematic anxiety by Azizah and Suhendra (2020). While introverted students may experience anxiety in the social environment of the class and being called on by the teacher, they are calm and feel at ease in testing situations. However, other studies suggest that extroverts are less likely than introverts to experience high levels of examination anxiety (Costa & McCrae, 2012).

The results show that agreeableness is significantly positively correlated with exam anxiety. However, the results are in contrast with Soomro et al. (2023) who found that agreeableness reduces test anxiety. Agreeableness may increase social capital and positive evaluation by others which in turn increases self-esteem (van Schie et al., 2023). The relationship between agreeableness and test anxiety may be linked to the benefits of cooperation versus competition. Competition among test takers increases test anxiety (Lim & Ortiz-Bance, 2013). Therefore when there is a competitive culture as opposed to a cooperative culture among students, individuals high in agreeableness experience increased test anxiety.

Parenting style was found to predict exam anxiety among university students. Increased parental responsiveness and demandingness along with lower autonomy granting

predict elevated exam anxiety. Similarly, parental overinvolvement was believed to increase test anxiety among university students (Shadach & Ganor-Miller, 2012). High demandingness can be considered a type of parental pressure by the offspring. According to Soysa and Weiss (2014), parental pressure is associated with increased test anxiety. These perceived controlling behaviors are linked to goal avoidance and maladaptive perfectionism among college students (Turner & Turner, 2011). University students are considered adults and are ready for the responsibilities associated with independent living, parental overinvolvement and poor autonomy granting may communicate distrust of the individual's competence. This negative appraisal may decrease self-esteem and increase test anxiety. The data shows that parenting styles and personality both have a causal relationship with test anxiety.

The findings indicated a significant difference in examination anxiety based on the access to learning material and use of external learning materials. This is supported by literature that shows that preparedness influences test anxiety (Yusefzadeh et al., 2019). Students who utilize external learning materials such as; journals, websites, software, and case studies are likely to be deeply engaged in the learning experience and therefore better prepared for exams. Such engagement is often seen in problem-based learning, open-ended exploration (Merbert et al., 2019) and student-centered learning (Wong, 2021). The differences in engagement may account for the significant differences in academic performance according to the use of external learning material. However, there were no differences in academic performance according to access to learning material. This suggests that access does not equate to utilization and engagement.

The study showed that parenting style and child personality have a reciprocal causal relationship. The family system theory suggests that the functioning of an individual is determined by the systems in which they reside providing boundaries, role definitions, demands, and expectations (Watson, 2012). Members of the family influence each other's behaviors. The results are consistent with research that shows that parenting styles influence the personality of the offspring (Ramesh & Ramana, 2023; Lari, 2023). Research also shows that characteristics of the child also affect parenting styles. Particularly the child's temperament which is believed to be a precursor for personality, also cognitive disability, and anxiety, all affect parenting style (Vafaeenejad et al., 2019). The results suggest that child personality seems to have a greater effect on parenting styles.

Increased autonomy granting and lower responsiveness and demandingness are predictive of openness to experience. Autonomy granting increases the child's control emotional regulation and emotional reactivity. Parental control is associated with increased child anxiety, negative emotions, and poor emotional regulation. Increased parental control increases the child's dependence. Furthermore, controlling parents are overprotective and regulate child behavior and explorative activities (Allen et al., 2015). They are also believed to provide less encouragement of the individual's interest (Iwasaki et al., 2023). This can limit the child's openness to experience. Less responsive and demanding parents increase the explorative behavior by reducing the limitations of expectations.

Less parental responsiveness and demandingness are associated with the development of conscientiousness and extraversion. This suggests that neglectful parenting which is characterized by both less responsiveness and less demandingness (Bi et al., 2018) may predict conscientiousness. This is against research by Iwasaki et al. (2023) who state that parental responsiveness predicts social and cognitive abilities, academic achievement, prosocial behaviors, and creativity (Zhang et al., 2022). However, this may be relevant for younger children, in adulthood reduced parental responsiveness may increase responsibility, industriousness, and self-control. These are linked to conscientiousness. Poor responsiveness and demandingness may force the individual to learn to be self-reliant and create other forms of support, tasks which the individual is ready for. While neglectful parenting is associated with poor emotional expression among child (Zhang, 2023), extraversion may also help the individual create a support system to supplement parental care. Conscientiousness predicts study behavior, work, and health behavior (Gartland et al., 2014; Collado et al., 2018) which are necessary for a university student receiving little family support. Reduced demandingness helps the individual to be open about their interests and individual beliefs.

Agreeableness is associated with increased demandingness and lesser autonomy granting. Agreeableness is often associated with authoritative parenting (Akhter et al., 2020; Huver et al., 2010). This is in contrast to the current research since authoritative parenting is associated with lower responsiveness, demandingness (Wittig & Rodriguez, 2019; Darling & Stenberg, 1993). Furthermore, the results show that parental demandingness was the only factor that significantly predicted neuroticism. Parental demanding practices are associated with negative developmental outcomes. Demanding behaviors such as controlling behaviors, excessive discipline and punishment as well as demands for maturity are linked to internalizing symptoms (Grajo, 2022).

Parental responsiveness is predicted by a child with lower openness to experience, conscientiousness and extraversion but high agreeableness and neuroticism. The parent is likely to be demanding if the child has lower openness to experience and conscientiousness but higher extraversion, agreeableness and neuroticism. While autonomy granting is associated with increased openness to experience and reduced conscientiousness. These relationships seem to be reversals of the causal effects of parenting styles. This suggests the idea of reciprocal determinism in the relationship between parenting style and child personality. The idea was introduced by Bandura (1978) to explain personality development as a product of personal and social factors. Of particular interest is the idea that parenting styles are predicted by the parent's personality (BR & Raman, 2021), this further suggests that both the child's and the mother's personality are concurrently developing or emerging in their interaction.

Conclusion

The study provides an overview of the relationship between personality traits and parenting behaviors. The findings indicate that both personality and parenting styles are significant predictors of exam anxiety. Reduced openness to experience and conscientiousness; increased extraversion, agreeableness, and neuroticism predict high

levels of test anxiety. When analyzing parenting styles: increased responsiveness and demandingness along with lower autonomy granting predict elevated exam anxiety. and perform better academically. Access to course material and the use of external learning resources was associated with reduced test anxiety however only utilization of external learning material produced significant differences in academic performance. Parenting style and personality were also found to be a reciprocal causal relationship.

Recommendations

The current study used a cross-sectional design, future studies should use a longitudinal design to assess how parenting styles and personality influence each other and exam anxiety throughout the academic lifespan.

The study stresses the importance of fostering deep engagement of students in learning material. The study recommends that learning activities should be structured in a more student-centered format to enable students seek out knowledge for themselves.

Since personality is an important determinant of exam anxiety, it is imperative that school based interventions are introduced to give students more control over their interactions with testing situations.

Declarations

Consent for Publication

Not applicable.

Availability of Data and Materials

Data sets used during the study can be obtained by appropriate request.

Competing Interests

There are no competing interests in this manuscript.

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Authors' Contributions

Conceptualization CE, GM; planning CE, GM; literature review EC; data collection EC; writing EC, GM and data analysis EC, GM.

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