SELF-BLAME IN PARENTS OF CHILDREN WITH AUTISM SPECTRUM DISORDER AND CHILDREN WITH PHYSICAL DISABILITIES: THE ROLE OF A CHILD'S PROBLEM BEHAVIOR AND PERSONALITY TRAITS

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Little is known about self-blame in parents of children with disabilities despite previous findings of negative effect of self-blame on well-being. Thus, the aim of the present research was to explore self-blame among Serbian parents of children with autism spectrum disorder and physical disabilities. In addition, we wanted to examine the effect of children's problem behavior, personality traits, perceived and experienced stigma, and sociodemographic characteristics on parental self-blame. The convenient sample included 82 parents from several large cities in the Republic of Serbia. For the purpose of this study, the seven-item Parental Self-Blame Scale was developed. Overall, parents reported a lower level of self-blame. A total of 22% had moderate to high degree of self-blame. Furthermore, self-blame did not differ between two groups of caregivers. Additionally, with an increase in children's emotional problems and a decrease in agreeableness, parents blamed themselves more. No effects of sociodemographic

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variables nor effects of perceived and experienced stigma on self-blame were found. Our results suggest that in supporting families of children with autism spectrum disorder and physical disabilities, clinicians need to take into consideration the variability in their experiences and that the Parental Self-Blame Scale could be used to identify the most vulnerable individuals. Additionally, support should also be provided to the child and thus decrease the child's emotional problems and consequently support the whole family.

Key words: *autism spectrum disorder, personality traits, physical disabilities, problem behavior, self-blame, stigma*

INTRODUCTION

The parents of children with developmental disabilities (DD) and mental health disorders often experience what is called "parent-blame" or "stigma of bad parenting" (Francis, 2012, p. 929). Francis (2012) argues that the stigma of bad parenting is comprised of the public's moral judgment of parents' responsibility for a child's condition. The stigma of bad parenting can lead to self-blame development (Eaton, Ohan, Stritzke, & Corrigan, 2016), although self-blame can emerge even at times when parents were not blamed by others (Ferriter, Huband, & Ferriter, 2003). Nixon (1993) suggests that parents of children with DD rather blame themselves for the development of the child's condition than live without having an explanation as to what caused it.

The parent starts blaming themselves when their subjective judgment of the cause of a negative event, such as the child's disabilities, detaches from objectivity and the recurring feelings of responsibility, criticism, and failure take over. Kaufman (1996) argues that "the essence of the self-blame identity script is the repeated accusation of the self for real or imagined mishaps" (p. 103). It is also possible that self-blame develops rather quickly after a stressful event (e.g., parents can blame themselves immediately after hearing a child's diagnosis) as was evident among Taiwanese mothers of children with cerebral palsy (Huang, Kellett, & St John, 2010). Nixon (1993) identified three kinds of parental self-blame and guilt:

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1. causational (parents believe that somehow they contributed to development of DD at their child); 2. parental role (parents believe that they could do more for their child and that the child's development depends on them); and 3. moral (parents feel that they are punished because of their wrongdoing in the past). Self-blame is often reflected in the parental attitude that they could have done more for their child and helped him more. Hence, it is not surprising that self-blame was linked to poorer well-being, higher levels of depression and burnout, and a damaged self-concept among parents (Huang et al., 2010; Moses, 2010). Similarly, parental self-blame could negatively affect a family relationship, parenting, and caring for themselves (see Nixon, 1993).

Although the researchers treat self-blame as an independent construct (e.g., Ferriter et al., 2003; Moses, 2010; Shaver & Drown, 1986), some authors suggested that self-blame is a part of self-stigma experience (Eaton, Stritzke, Corrigan, & Ohan, 2019). In their validation study, Eaton and colleagues (2019) included self-blame subscales in the Parents' Self-Stigma Scale. A self-blame subscale measured parents' appraisal of responsibility for a child's mental health disorder (e.g., "My child has his/her problem because of me"). Self-stigma is defined as the internalization of stigmatizing attitudes existing in a given culture towards discredited individuals (Corrigan & Watson, 2002a) through the process of awareness, agreement, and application (Corrigan & Watson, 2002b). Thus, for the purpose of this article, self-blame and self-stigma will be viewed as two separate concepts. Moreover, following Moses's (2010) denotation, self-blame in the present paper is defined as "[parents] holding themselves responsible for causing, contributing to, or exacerbating their child's […] disorder with wrongdoings such as passing on 'bad genes', failing to recognize problems earlier or secure effective services sooner" (p. 103-104).

Literature on the self-blame of parents with children with DD is unfortunately scarce and this theme only occasionally emerges through qualitative interviews of some studies, instead

of being the main subject per se (e.g., Huang et al., 2010; Uba & Nwoga, 2016). Although self-blame among parents of children with a mental health disorder has been reported a few times (Fernandez & Arcia, 2004; Ferriter et al., 2003; Moses, 2010), a lack of studies is evident in this area as well. The present research aimed to bridge this gap as we explored self-blame among Serbian parents of children with autism spectrum disorder (ASD) and physical disabilities (PD).

Parents often hold themselves culpable for causing a disorder (Eaton et al., 2016; Ferriter et al., 2003; Moses, 2010; Uba & Nwoga, 2016) or for being a bad parent (Ferriter et al., 2003; Moses, 2010). Huang et al. (2010) reported that all mothers blamed themselves and they believed that cerebral palsy was caused by their neglect of traditional Chinese beliefs and malnutrition during pregnancy. Likewise, Eaton et al. (2016) noted that self-blame as a part of self-stigma creates a lot of negative emotions in mothers, such as sadness. Moses (2010) identified four topics during her qualitative interview, which manifested as parental self-blame: bad parenting, ineffective parental oversight of the child's condition, hereditary transmission, and negative family environment.

The parents of children with ASD are exposed to criticism because their children often physically appear similar as their typically developing peers and thus the cause of the problem behavior is attributed to bad parenting rather than to the condition itself even more frequently than seen towards the parents of children with PD (Francis, 2012; Gray, 2002). If parents of children with ASD internalized these stigmatized attitudes, one would expect to see a higher degree of self-blame in comparison to parents of children with PD. On the other hand, if blame has different locus of control (e.g., parents rather contribute the child's behavior to the condition itself; Hartley, Schaidle, & Burnson, 2013), these two groups of parents should not differ on reported self-blame. Therefore, one of the aims of the present study is to examine these hypotheses.

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Additionally, it seems that there is an ambiguity regarding factors affecting self-blame such as experienced and perceived stigma. While some researchers showed that parental self-blame can develop even in the absence of blame from others (Ferriter et al., 2003), others showed that self-blame was related to stigma (Eaton et al., 2016; Mak & Kwok, 2010). Perceived stigma was a positive predictor of parental self-blame (Mak & Kwok, 2010). Thus, we will explore if self-blame can be predicted by experienced and perceived stigma in a sample of parents of children with ASD and children with PD.

As described earlier, the parents very often blame themselves for not devoting enough time to their child, which, they believe, consequently had a negative impact on the child's development and behavior. Similarly, guilt, manifested through a feeling of responsibility for "not doing as much for a child as [they] feel they should be doing", negatively contributed to the self-efficacy of mothers of children with ASD (Kuhn & Carter, 2006; p. 574). Thus, we were interested in exploring if a child's behavioral difficulties would predict parental self-blame, and if so, which form of the behavior was the most significant (e.g., challenging behavior, emotional problems, etc.).

Lastly, our aim was to examine if any of the personality traits correlate with parental self-blame. For example, it has been shown that people who are high on neuroticism and low on agreeableness more often employ self-blame coping strategies (Lee-Baggley, Preece, & DeLongis, 2005). Some research showed that mothers who are high in agreeableness better cope with the child's difficulties and engage in more productive interactions (Bradley & Corwyn, 2019). Therefore, agreeableness can contribute to a lower degree of self-blame. To our best knowledge, no research has explored the role of personality traits in parental self-blame. Thus, the present study aimed to fill the gap.

METHODS

Participants

A convenient sample of 82 participants was recruited from several cities in the Republic of Serbia; 42 parents had a child with a PD and 40 had a child with ASD. Inclusion criteria for the sample was that parents had a child with primary diagnosis that could be considered ASD or a child with PD. In the present study we defined PD as limitations of fine and gross motor abilities; therefore, the parents whose child had functional motor limitation fit the inclusion criteria. The types of motor impairments included in the study were: cerebral palsy, quadriparesis, hemiparesis, scoliosis, Duchenne muscular dystrophy, paralysis plexus brachialis, paraplegia, Freeman-Sheldon syndrome, multiple disabilities/Rett syndrome, and hypotonia. The following diagnosis were reported for ASD: F 84, F 84.9, F 84.1, pervasive developmental disorder, and atypical psychosis with elements of autism. We also included parents whose child had a dual diagnosis only if a primary diagnosis was either ASD or PD. On the other hand, if a child did not have ASD or PD diagnosis, their parents were excluded from the sample.

Although the authors of the study did not have access to the child's official diagnosis, to ensure that only parents of the children with ASD and with PD were included in the study, we performed three-way process of a diagnosis confirmation: 1) based on a child's diagnosis, the parents received either ASD or PD package (see Study design and procedure section for more information regarding recruiting process) and an invitation letter stating that study was intended only for parents whose child had either ASD or PD, 2) in sociodemographic questionnaire, the parents were asked to confirm whether diagnosis of ASD or PD was given by medical staff, 3) parents were asked what diagnosis the specialist had given to the child. If all three responses were consistent, those parents were included in the final sample.

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The majority of the sample were mothers (90.2%) and the caregivers mostly had male children (70.7%). The age of the caregiver samples ranged from 32 to 71 years (M=45.96; SD=8.89), while their children were 4 to 48 years of age (M=16.83, SD=9.75). The demographic characteristics of the sample are presented in Table 1.

Table 1 – Demographics of the sample (n=82)

Demographics	PD	ASD
	M (SD)	M (SD)
Age – parent	46.78 (9.16)	45.13 (8.63)
Age – child	18.52 (10.39)	15.1 (8.84)
Total number of family members	4.21 (1.55)	3.9 (1.14)
Total number of children	2.09 (0.82)	1.92 (0.69)
Years of treatment	12.11 (7.04)	8.58 (5.75)
	Frequency (%)	Frequency (%)
Gender – parent (Female)	39 (92.9)	35 (87.5)
Gender – child (Male)	24 (57.1)	34 (85.0)
Educational level		
High school	28 (68.3)	17 (42.5)
College/Graduate degree	13 (31.7)	23 (57.5)
Marital status		
Married, live with a partner	28 (68.3)	30 (75)
*Does not live with a partner**	13 (31.7)	10 (25)
Monthly income**		
High	4 (9.8)	12 (30)
Average	17 (41.5)	18 (45)
Low	20 (48.8)	10 (25)
Co-morbidity – Yes	16 (38.1)	8 (20.0)

Note. M – mean, SD – standard deviation. *Three groups were merged (single, divorced, widowed) because of the small sample in each group. **As we were unsure if participants would be comfortable sharing monthly salary amount, they were asked to choose if their monthly incomes were high, average, or low, without giving an exact information regarding their earnings.

Study design and procedure

The present study was a part of larger research carried out in the Republic of Serbia over a period of six months in 2018. The ethical board of the University of Belgrade and the Faculty of Special Education and Rehabilitation approved the research. In the first step, we contacted special education schools and

parental support associations in several large cities. To nine of them (seven associations and two schools; 8% response rate) who agreed to participate, we emailed a link to an online version of the questionnaires or mailed a packet with a self-addressed, postage-paid envelope. As the mission of each associations was to support families whose member had ASD or PD, the printed packages or online link were sent for that specific group (e.g., the organization that supports individuals with ASD and their families received ASD packages or link to an online version of ASD questionnaires). The first author also visited several schools and organizations. Six out of seven visited organizations/schools (85.7%) agreed to participate in the study ("Cerebral Palsy Society Kragujevac", "Association for Assistance to Persons with Autism Kragujevac", "Association 'EGAL'", "Institute for Psychophysiological Disorders and Speech Pathology 'Prof. Dr. Cvetko Brajović'" (Belgrade), "Kindergarten 'Venčić'" (Belgrade), and "Preschool Institution 'Children's Days'" (Belgrade). The first author also contacted the associations by calling the phone number available on their website. Ten calls were made and four (40%) associations ("Association of Individuals with Cerebral Palsy Zaječar", "Society for Cerebral Palsy Municipality of Apatin", "Association 'Children at Heart'" (Aranđelovac), "Cerebral Palsy Society Kraljevo") agreed to participate in the study. Out of 196 distributed printed versions of the questionnaires, 57 were completed (29.1% response rate). Unfortunately, it is unclear how many links to the online questionnaires were distributed to the parents as authors did not have a direct contact with the participants; therefore, the rate of online responding is unknown.

The participants were informed in detail about the study's aim and that their participation was voluntary and that they could terminate it at any given moment. The participants also could enter the draw for 10 monetary incentives by providing their email address. Parents who were recruited through the "Institute for Psychophysiological Disorders and Speech Pathology 'Prof. Dr. Cvetko Brajović'" were not offered monetary incentives, as per decision of their ethical committee.

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Measures

The Parental Self-Blame Scale (PSBS) was developed to measure self-blame in parents using existing literature on this topic (Huang et al., 2010; Moses, 2010). Specifically, by analyzing qualitative findings from Moses's (2010) study, we phrased items to cover each discussed topic (bad parenting, ineffective parental oversight of a child's condition, hereditary transmission, and negative family environment). As 50% of the sample did not respond to the item "Perhaps the use of harmful substances before/during pregnancy (alcohol, narcotics, cigarettes) may have caused my child to have a PD/ASD," this item was removed from the scale and thus no statements related to negative family environment were included in the final scale. Additionally, we followed Nixon's (1993) classification of parental self-blame and guilt (causational, parental role, and moral) and developed items to reflect each of these constructs.

The PSBS (see Appendix 1) is a five-point Likert-type scale and a higher score indicates a greater degree of self-blame. After conducting explanatory factor analysis with a Promax rotation and principal component extraction we did not find distinctive factors but rather a unidimensional construct. Therefore, a total of 32% of the variance was explained by a single factor in unrotated matrix. In the next step we conducted a confirmatory factor analysis with the estimation method of the maximum likelihood on a sample as a whole. We excluded one item due to low factor loading and the final scale contained seven items. The PSBS is a unidimensional scale and explores the degree to which parents blame themselves because of the child's condition and maladaptive behaviors. Cronbach's alpha shows acceptable internal consistency (0.62) and the model demonstrates a good fit with the following fit indices: (χ^2(df)= 15.313(13), χ^2/df=1.178, p=0.288, TLI=0.927, CFI=0.955, RMSEA [95% CI]=0.047 and PCLOSE=0.470.

The Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) is a 25-item behavioral screening questionnaire

assessing emotional and behavioral problems and strengths in children 4-17 years of age (Goodman & Goodman, 2009). The Serbian version of the SDQ is freely available online. The SDQ consists of five subscales: the emotional problems subscale (e.g., "Often unhappy, depressed or tearful"), conduct problems subscale (e.g., "Often fights with other children or bullies them"), hyperactivity subscale (e.g., "Restless, overactive, cannot stay still for long"), peer problems subscale (e.g., "Generally liked by other children"), and the prosocial subscale (e.g., "Kind to younger children"). Respondents are asked to rate a degree of agreement with each statement, rating from 1 (not true) to 3 (certainly true). A total difficulty score is generated by adding scores from four subscales: the emotional problems subscale, conduct problems subscale, hyperactivity subscale, and peer problems subscale. A higher score indicates a greater degree of problem behaviors except for the prosocial subscale, where a higher score means better skills. Additionally, three items were removed as their wording did not seem adequate to reflect the behavior of each child with PD or ASD because of the limitation in their cognitive or communicative skills (e.g.," Often lies or cheats"). The previous findings (for a review see Kersten et al., 2016) show good internal reliability for a total difficulties score (0.76) but poor to acceptable for the subscales (ranging from 0.49 to 0.69). In the present study, on a sample of the parents whose children were 4-17 years of age, the following values of the Cronbach's alpha were obtained: 0.82 for the total difficulty score, 0.80 for the prosocial subscale, 0.74 for the hyperactivity subscale, 0.64 for the emotional problems subscale, 0.68 for the peer problems subscale, and 0.38 for the conduct problems subscale.

The Big Five Inventory (BFI; John & Srivastava, 1999) is a 44-item questionnaire freely available online, developed to measure personality traits. The participants rated each statement, ranging from 1 (strongly disagree) to 5 (strongly agree). The previous research showed good internal consistency for each trait (from 0.79 to 0.88; John & Srivastava, 1999). In the present research, the internal consistency is slightly lower than previously reported: 0.72 for neuroticism, 0.71 for extraversion,

0.71 for conscientiousness, 0.69 for agreeableness, and 0.68 for openness.

The Experienced Stigma Scale was developed for the purpose of the larger research study. The EFA and CFA showed that the eight-item solution was the best, clustered into two factors: 1. the personal stigma experience (e.g., "The friends do not invite me to the celebrations because I have a child with PD/ASD") and 2. professional support (e.g., "The medical staff almost always respond to my questions related to health and nutrition of my child with PD/ASD"). It is a five-point Likert scale where a higher score represents a greater degree of experienced stigma. The internal consistency represented via Cronbach's alpha for the total scale was 0.80, and 0.86 and 0.76 for the personal stigma experience and professional support, respectively.

The Parental Perceptions of Public Attitudes Scale (Čolić & Milačić Vidojević, manuscript under review) was constructed based on the findings from the current literature (Čolić, 2016; Kinnear, Link, Ballan, & Fischbach, 2016). It is a five-point Likert-type scale, where a higher score suggests a greater degree of perceived stigma. The scale consists of nine items clustered in two factors: 1) parental blame (e.g., "I think the people in society have negative attitudes towards me and my family because of a family member with a PD/ASD") and 2) child characteristics and causes of the disorder (e.g., "I believe other people think bad parental genes are causes of PD/ASD"). The scale showed to have a good internal consistency ($\alpha=0.87$), as well as the subscales (0.85 – parental blame, 0.83 – child characteristics and causes of the disorder).

Sociodemographic variables of parents and children questionnaires were developed to collect the following information: the parents' and the child's age and gender, the educational level, the marital status, the number of children per household, the number of family members, the family income, the child co-morbidity, and the number and year of treatments the child has been receiving.

RESULTS

Descriptive statistics for the Parental Self-Blame Scale

A total of 9.8% of respondents did not blame themselves for the child's condition, 69.5% had a low level of self-blame (1.01 - 2.50), 20.7% had a moderate degree of self-blame (2.50 - 3.50), and 1.2% had a high extent of self-blame (≥3.50). Table 2 shows that, on average, caregivers reported a relatively low level of self-blame (M=1.84), below the mid-point of the scale.

Table 2 shows the mean values for each item separately for the parents of children with ASD and PD. In this section, we presented descriptive statistics for all nine items, two of which (items 6 and 7) were not included in the final scale as described in the Method section. In accordance with the relatively low level of self-blame, the caregivers were mostly in agreement with two positive statements. Therefore, the majority of them believed that they did the best for their child and that the child's problems and difficulties were not a result of their parenting style. On the other hand, the caregivers agreed the least with the statements related to the cause of the disorder (bad genes and substance abuse). Table 4 (see Appendix 1) presents the percentages for each item divided into three groups based on the level of agreement: do not agree (the categories completely disagree and somewhat disagree were collapsed), neither agree/disagree, and agree (the categories somewhat agree and completely agree were collapsed). The biggest difference among parents is evident in the item "I think that my child would have behaved better if I had raised him more strictly"; 26.2% of the parents of children with PD agreed in comparison to 7.5% of the parents of the children with ASD.

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Table 2 – Mean and standard deviation for the Parental Self-Blame Scale items separately for the parents of children with PD and children with ASD, and for the whole sample

	PD			ASD			Whole sample	
	N	M	SD	N	M	SD	M	SD
1. I believe that I have always done what is in the best interest of my child.*	42	4.57	0.74	40	4.38	1.03	4.48	0.89
6. I believe that the problems and difficulties my child has are not caused by my behavior and the way I educate my child.**	42	4.38	1.25	40	4.33	1.27	4.35	1.25
5. My child depends a lot on me because I have not given him the opportunity to learn to do some simple daily activities.	41	2.24	1.32	40	2.35	1.27	2.30	1.29
4. I think that my child would have behaved better if I had raised him more strictly.	42	2.26	1.49	40	1.68	0.97	1.98	1.29
3. I feel my child is misbehaving because I have not devoted enough time to him.	42	1.60	1.11	40	2.10	1.32	1.84	1.23
9. If I had fought more for my child, now he would have a much better school and greater knowledge.	42	1.83	1.23	40	1.75	1.13	1.79	1.17
8. My child would be much better off now if I had taken him to a doctor and a therapist earlier.	42	1.69	1.09	40	1.85	1.21	1.77	1.15
2. My bad genes have contributed to my child having a PD/ASD.	42	1.64	1.36	40	1.75	1.10	1.70	1.23
7. Perhaps the use of harmful substances before/during pregnancy (alcohol, narcotics, cigarettes) may have caused my child to have a PD/ASD.**	21	1.71	1.06	21	1.57	1.03	1.64	1.03
Total score	42	1.81	0.10	40	1.86	0.10	1.84	0.07

Note. N – number of the participants, M – mean, SD – standard deviation. *Reverse scored item.
**Excluded items from the final Parental Self-Blame Scale.

The relationship between sociodemographic characteristics and parental self-blame

Parent and child demographic characteristics along with the number and year of treatments the child had been receiving were not significantly correlated with self-blame. Additionally, a four-way analysis of variance did not reveal the effects of the

main factors (diagnostic category, monthly income, marital status, and education) nor effects of their interactions. Similarly, a three-way analysis of variance did not show effects of the child variables (gender, age divided into 3 groups [4 – 8, 9 – 18, 18+], and co-morbidity) or effects of their interactions.

The relationship between self-blame and experienced and perceived stigma

The results showed that self-blame was not related to the experienced stigma while a positive relationship was found with perceived stigma (r=0.219, p<0.05). In the second step, we conducted a linear regression analysis, including both perceived and experienced stigma as the predictors. Although experienced stigma was not correlated with self-blame, Pandey and Elliott (2010) argued that all relevant independent variables should be included in the model, even if the bivariate association with the dependent was not significant. Therefore, we wanted to explore the predictive strength of experienced stigma on self-blame, taking into consideration that there is currently ambiguity in the literature regarding its effect. Our model was not significant indicating that both perceived and experienced stigma were not predictors of self-blame.

The association of self-blame with personality traits and problem behavior

As the SDQ measures problem behaviors in children 4-17 years of age, for the subsequent inferential statistical analysis, we selected 50 questionnaires of the participants whose children were 17 years old and younger. First, we calculated Pearson's correlation coefficient to determine the relationship between self-blame, problem behavior, and personality traits. Self-blame was in a negative relationship with extraversion (r=-0.29, p<0.05) and agreeableness (r=-0.45, p<0.01). On the other hand, a positive

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relationship was found with neuroticism (r=0.33, p<0.05), the emotional problems subscale (r=0.55, p<0.00), the conduct problems subscale (r=0.37, p<0.01), the hyperactivity subscale (r=0.30, p<0.05), and a total difficulty score (r=0.51, p<0.00). Thus, these variables were included in a hierarchical linear regression. Relationships between openness, conscientiousness, the remaining SDQ subscales, and self-blame were not found.

We assessed multicollinearity by examining the variance inflation factor (VIF) for each independent variable. The VIF ranged from 1.22 to 2.06, suggesting that multicollinearity was not present (Hair, Black, Babin, Anderson, & Tatham, 2006). Results of the linear regression indicate that the set of predictors explained 44% of the total variance in self-blame. As shown in Table 3, the two variables that predicted self-blame were the child's emotional problems and agreeableness; the more the child had emotional problems, the greater the degree of self-blame while a higher score on agreeableness predicted a lower level of self-blame.

Table 3 – Summary of hierarchical regression analysis for parental
self-blame (n=50)

	R^2adj	ΔR^2	F for ΔR^2	B	SE B	β
Step 1	0.32	0.36	8.550***			
Emotional problems				0.16	0.04	0.49***
Conduct problems subscale				0.13	0.08	0.25
Hyperactivity subscale				0.00	0.04	0.00
Step 2	0.44	0.15	4.248**			
Emotional problems				0.17	0.04	0.51***
Conduct problems subscale				0.10	0.07	0.18
Hyperactivity subscale				-0.06	0.04	-0.20
Extraversion				0.02	0.12	0.02
Agreeableness				-0.37	0.12	-0.36**
Neuroticism				0.17	0.12	0.19

Note. R^2adj=adjusted R square, ΔR^2=R change, F for ΔR^2=F statistic for R change, B=unstandardized beta coefficient, SE=standard error, β=standardized beta coefficient. *** p<0.001. ** p<0.01.

DISCUSSION

The present research was carried out to explore: 1. the level of self-blame in Serbian parents of children with ASD and children with PD; 2. if self-blame differed between parents of children with ASD and children with PD; 3. if the parents' personality traits and the child's problem behavior predict parental self-blame; 4. if experienced stigma and perceived stigma predict parental self-blame; and 5. if demographic characteristics are related to self-blame. The PSBS was developed for the purposes of the present study and the model fit indices showed that the seven-item solution best depicts parental self-blame.

Regarding our first aim, we can conclude that caregivers overall reported a lower level of self-blame. Specifically, 10% of the sample did not blame themselves while 90% of the sample experienced low-to-high degree of a self-blame (two-thirds of the participants reported low degree of self-blame, 21% of the caregivers had moderate levels, and 1% had high levels of self-blame), suggesting that parental blaming attitudes are diverse and that in developing interventions, we need to take into consideration this variability. As the majority of parents had a low level of self-blame, it could be that parents indeed did not blame themselves for the child's condition. Another explanation could be seen through the cultural premise – as Serbian people see themselves as a very proud and brave nation (Popadić & Biro, 1999), parents might not share their true feelings to avoid showing their vulnerability. Alternatively, as the nature of the research involves the questionnaires only, it could be that parents did not feel comfortable sharing intimate thoughts.

The parents agreed, for the most part, with positively worded items that were related to their belief that they always did the best for their child and that the difficulties their child had were not related to the upbringing style. When analyzing the level of agreement with the negatively worded items, the parents reported a moderate degree of agreement with the statements that "the child depends a lot on them because they

did not give him enough opportunities to be on his own" and "if they raised him more strictly he would behave better." Similarly, the mothers of children with cerebral palsy from Taiwan also questioned whether they did everything for the child and whether overprotection seemed detrimental because it did not allow the child to develop skills to his full potentials (Huang et al., 2010). Additionally, the parents of children with mental health disorders blamed themselves for poor upbringing (Moses, 2010). Our results showed that most parents disagreed with the items regarding the cause of the disorder, which included their bad genes, as well as the use of harmful substances before and during pregnancy. Also, the majority of the caregivers did not agree that their child would be better if they brought him to the doctor or therapist earlier. It seems that the attitudes regarding the causes of the disorder in our sample in Serbia were less blaming than those of Taiwanese and US parents who held themselves culpable for their child being born with cerebral palsy or mental health disorder (Huang et al., 2010; Moses, 2010). Possible differences could be because of a different methodological approach. Thus, during a qualitative interview, parents might be more open with the interviewer and share their intimate feelings.

The findings did not support the hypothesis of a higher level of self-blame in parents of children with ASD compared to parents of children with PD, suggesting that both groups of parents mainly attribute the child's characteristics to the condition itself (Hartley et al., 2013). The biggest gaps in the self-blame between these two groups were observed at whether the child would benefit more based on their upbringing and if they fought more for him (a greater blame in the parents of children with PD) and if they devoted more time to him (more self-blame in the parents of children with ASD). It seems that parents of children with ASD put more time in a battle for services, which is not surprising as 21% had to travel more than 100 km to meet a diagnostic clinician (Pejovic-Milovancevic et al., 2018) and they faced different service barriers (see Čolić, Dababnah, Garbarino, & Betz, 2019).

The regression analysis showed that personality traits and maladaptive behaviors explained 40% of the total variance of self-blame. The emotional problems subscale was a strong predictor while conduct problems and hyperactivity did not explain variance in self-blame, which was expected as the parents of children with ASD attributed problem behaviors to the condition itself rather than to themselves (Hartley et al., 2013; Whittingham, Sofronoff, Sheffield, & Sanders, 2008). The emotional problem subscales examined if a child is worried, unhappy, nervous, and easily frightened, and the parents could perceive these symptoms as something changeable through their actions. Therefore, they might have blamed themselves more often for the difficulties which were not easily explained by the condition. Interestingly, in the sample of mothers of children with DD, guilt was a negative predictor of their happiness (Findler, Jacoby, & Gabis, 2016). Future research could explore if self-blame is a mediator between children's emotional problems and parents' happiness.

Furthermore, a lower level of self-blame was seen with an increase in agreeableness, which is in line with the research that people who are high on agreeableness are more likely to solve a problem when they encounter it and accept responsibility for their mistakes (Lee-Baggley et al., 2005) and less often use emotional coping strategies such as self-blame (Hooker, Frazier, & Monahan, 1994). Agreeableness has also been shown to be a negative predictor of self-blame as a form of coping strategy (Lee-Baggley et al., 2005). Given that mothers who are high on agreeableness fostered a positive parenting style, even in challenging financial circumstances, and easier manage behavioral difficulties (Bradley & Corwyn, 2019), it is expected that these parents also have a lower level of self-blame as they are more proactive and devoted to their child. Bradley and Corwyn (2019) further suggested that mothers who are high on agreeableness find ways to cope with a child who has a difficult temperament more easily than the ones who are low on agreeableness, and, consequently, they feel less stressed. As we explored parental self-blame in relation to their responsibility

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for the child's disability and their behaviors and devotion towards the child, one would assume that the caregivers who are high in agreeableness assign a causal attribution to the characteristics of the disorder than to themselves.

Although the positive association between neuroticism and self-blame was confirmed in the present study (Gunthert, Cohen, & Armeli, 1999; Lee-Baggley et al., 2005), neuroticism did not have a unique contribution in the regression model. This is an unexpected finding given that people who are high in neuroticism often perceive situations as more stressful and they are more self-critical (Watson, Clark, & Harkness, 1994). Future research could explore this relationship more closely.

The present study did not confirm the predictive power of experienced and perceived stigma on self-blame (Mak & Kwok, 2010). Moreover, we can agree with Ferriter et al.'s (2003) observation that self-blame appears even when blaming by others is not experienced in everyday life. Similarly, Nixon (1993) proposed that parents start blaming themselves because they need to find some meaning in the child's DD, and very often automatic negative thoughts lacking in awareness are accompanied by cognitive distortions and negative schema. Therefore, Nixon (1993) argues that self-blame rather develops in a search to maintain a predictable and controllable world and that many parents think over and over about their past actions and if some actions could contribute to their child's DD.

Lastly, in regard to the sociodemographic variables, our results did not show associations or their effects on self-blame. These findings are partly in agreement with Moses's (2010) study, which also did not confirm a relationship between these variables except that parents who had a daughter expressed a higher level of self-blame. Furthermore, Latino mothers with a lower level of education blamed themselves more in comparison to the more educated mothers (Fernandez & Arcia, 2004). The lack of the effect of the sociodemographic characteristic could suggests that self-blame develops beyond demographics characteristic. Alternatively, as the present study used a scale

to explore self-blame, a difference between results could be contributed to the methodological dissimilarity.

LIMITATIONS OF THE STUDY

Despite the discussed strengths of the present study, we also need to acknowledge several limitations. First, the sample in the study was convenient; thus, we cannot generalize results to all parents of children with ASD and with PD in Serbia. Second, we were able to approach organizations and associations only in the large cities, mostly via email, which most definitely narrowed down the sample variability. For example, a little less than 50% of the parents had a college or postgraduate degree, which is significantly above the percentage of university degrees in Serbia (Republički zavod za statistiku, 2019). Therefore, those parents could have had better resources to support their child and, consequently, mitigated self-blaming attitudes. Third, as we had small sample across groups, we did not perform a replication analysis or a measurement invariance analysis; therefore, a future research could validate a scale on a larger sample. Lastly, although we used three steps to confirm a diagnosis, it was still based only on the parental report; thus, it is possible that parents of children with other types of disabilities were included in the study.

CONCLUSION

The present study showed that a child's emotional symptoms were a risk factor for parental self-blame while high agreeableness can serve as a protective factor with parents of children with ASD and children with PD. To our best knowledge, this is the first study that explored a relationship between personality traits and a child's behavioral difficulties in the sample of the parents of children with ASD and children with PD. Although the degree of self-blame was overall lower than

the midpoint, 22% of the parents expressed a moderate to high level of self-blame. Despite a high percentage of caregivers with a low level of self-blame, it would be dangerous to conclude that, in the present sample, the self-blaming attitudes are negligible, and thus, disregard the ones who demonstrated a higher score of self-blame. Hence, an intervention should be tailored to support each caregiver based on the present type of parental self-blame, as very often it is seen that parents reflect blaming attitudes in all three categories (causational, parental role, and moral). Additionally, self-blame developed because of the child's diagnosis should be addressed during a group support program (see Krstić, Mihić, Rajić, & Branković, 2017). Therefore, the higher scores on the PSBS could identify the caregivers who would benefit from the cognitive-behavioral intervention, which include targeting specific negative automatic thoughts related to self-blame, based on an in-depth interview (Nixon, 1993). Additionally, support should be aimed to decrease children's emotional problems, via individual and group therapies.

REFERENCES

1. Bradley, R. H., & Corwyn, R. F. (2019). Agreeable mothers: How they manage adverse circumstances and difficult children. *Journal of Research in Personality*, *79*, 109-118. doi: 10.1016/j.jrp.2019.03.002

2. Čolić, M. (2016). Stavovi dece tipičnog razvoja prema vršnjacima sa razvojnom ometenošću. U I. Milačić-Vidojević, N. Dragojević, & M. Čolić (Ur.), *Ometenost i mentalna bolest: stavovi, stigma, diskriminacija*. (str. 249-325). Beograd: Univerzitet u Beogradu – Fakultet za specijalnu edukaciju i rehabilitaciju

3. Čolić, M., Dababnah, S., Garbarino, N., & Betz, G. (2019). Parental experiences raising children with autism spectrum disorder in Eastern Europe: a scoping review. *International Journal of Developmental Disabilities*, 1-13. doi: 10.1080/20473869.2019.1688931

4. Corrigan, P. W., & Watson, A. C. (2002a). The paradox of self-stigma and mental illness. *Clinical Psychology: Science and Practice*, *9*(1), 35-53. doi: 10.1093/clipsy.9.1.35

5. Corrigan, P. W., & Watson, A. C. (2002b). Understanding the impact of stigma on people with mental illness. *World psychiatry*, *1*(1), 16-20.

6. Eaton, K., Ohan, J. L., Stritzke, W. G. K., & Corrigan, P. W. (2016). Failing to meet the good parent ideal: Self-Stigma in parents of children with mental health disorders. *Journal of Child and Family Studies, 25,* 3109-3123. doi: 10.1007/s10826-016-0459-9

7. Eaton, K., Stritzke, W. G., Corrigan, P. W., & Ohan, J. L. (2019). Pathways to self-stigma in parents of children with a mental health disorder. *Journal of Child and Family Studies*, 1-13. doi:10.1007/s10826-019-01579-2. doi: 10.1007/s10826-019-01579-2

8. Fernandez, M. C., & Arcia, E. (2004). Disruptive behaviors and maternal responsibility: a complex portrait of stigma, self-blame, and other reactions. *Hispanic Journal of Behavioral Sciences, 26*, 356-372. doi: 10.1177/0739986304267208

9. Ferriter, M., Huband, N., & Ferriter, N. (2003). Experiences of parents with a son or daughter suffering from schizophrenia. *Journal of Psychiatric and Mental Health Nursing, 10*(5), 552-560. doi: 10.1046/j.1365-2850.2003.00624.x

10. Findler, L., Jacoby, A. K., & Gabis, L. (2016). Subjective happiness among mothers of children with disabilities: The role of stress, attachment, guilt and social support. *Research in Developmental Disabilities*, *55*, 44-54. doi: 10.1016/j.ridd.2016.03.006

11. Francis, A. (2012). Stigma in an era of medicalization and anxious parenting: how proximity and culpability shape middle-class parents' experiences of disgrace. *Sociology of Health & Illness, 34*(6), 927-942. doi: 10.1111/j.1467-9566.2011.01445.x

12. Goodman, A., & Goodman, R. (2009). Strengths and difficulties questionnaire as a dimensional measure of child mental health. *Journal of the American Academy of Child & Adolescent Psychiatry*, *48*(4), 400-403. doi: 10.1097/CHI.0b013e3181985068

13. Goodman, R. (1997). The strengths and difficulties questionnaire: A research note. *Journal of Child Psychology and Psychiatry, 38*(5), 581-586. doi: 10.1111/j.1469-7610.1997.tb01545.x

14. Gray, D. E. (2002). 'Everybody just freezes. Everybody is just embarrassed': felt and enacted stigma among parents of children with high functioning autism. *Sociology of Health & Illness, 24* (6), 734-749. doi: doi.org/10.1111/1467-9566.00316

15. Gunthert, K. C., Cohen, L. H., & Armeli, S. (1999). The role of neuroticism in daily stress and coping. *Journal of Personality and Social Psychology*, *77*(5), 1087-1100.

16. Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis (Vol. 6)*. Harlow, England: Pearson Education Limited.

17. Hartley, S. L., Schaidle, E. M., & Burnson, C. F. (2013). Parental attributions for the behavior problems of children and adolescents with autism spectrum disorders. *Journal of Developmental and Behavioral Pediatrics*, *34*(9), 651-660. doi: 10.1097/01.DBP.0000437725.39459.a0

18. Hooker, K., Frazier, I. D., & Monahan, D. J. (1994). Personality and coping among caregivers of spouses with dementia. *The Gerontologist*, *34*, 386-392. doi: doi.org/10.1093/geront/34.3.386

19. Huang, Y. P., Kellett, U. M., & St John, W. (2010). Cerebral palsy: Experiences of mothers after learning their child's diagnosis. *Journal of Advanced Nursing*, *66*(6), 1213-1221. doi: 10.1111/j.1365-2648.2010.05270.x

20. John, O. P., & Srivastava, S. (1999). The Big-Five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (Vol. 2, pp. 102-138). New York, NY: Guilford Press.

21. Kaufman, G. (1996). *The psychology of shame* (2nd ed.). New York, NY: Springer Publications.

22. Kersten, P., Czuba, K., McPherson, K., Dudley, M., Elder, H., Tauroa, R., & Vandal, A. (2016). A systematic review of evidence for the psychometric properties of the Strengths and Difficulties Questionnaire. *International Journal of Behavioral Development*, *40*(1), 64-75. doi: 10.1177/0165025415570647

23. Kinnear, S. H., Link, B. G., Ballan, M. S., & Fischbach, R. L. (2016). Understanding the experience of stigma for parents of children with autism spectrum disorder and the role stigma plays in families' lives. *Journal of Autism and Developmental Disorders, 46*, 942-953. doi: 10.1007/s10803-015-2637-9

24. Krstić, T., Mihić, I., Rajić, M., & Branković, J. (2017). *Podrška roditeljima dece sa smetnjama u razvoju i hroničnim bolestima*. Novi Sad: Filozofski fakultet.

25. Kuhn, J. C., & Carter, A. S. (2006). Maternal self-efficacy and associated parenting cognitions among mothers of children with autism. *American Journal of Orthopsychiatry*, *76*(4), 564-575. doi: 10.1037/0002-9432.76.4.564

26. Lee-Baggley, D., Preece, M., & DeLongis, A. (2005). Coping with interpersonal stress: Role of Big Five traits. *Journal of Personality*, *73*(5), 1141-1180. doi: 10.1111/j.1467-6494.2005.00345.x

27. Mak, W. W. S., & Kwok, Y. T. Y. (2010). Internalization of stigma for parents of children with autism spectrum disorder in Hong Kong. *Social Science* & *Medicine, 70*, 2045-2051. doi: 10.1016/j.socscimed.2010.02.023

28. Moses, T. (2010). Exploring parents' self-blame in relation to adolescent's mental disorders. *Family Relations: An Interdisciplinary Journal of Applied Family Studies, 59*(2), 103-120. doi: 10.1111/j.1741-3729.2010.00589.x

29. Nixon (1993). Reducing self-blame and guilt in parents of children with severe disabilities. In G. H. S. Singer & L. E. Powers (Eds.), *Families, disability, and empowerment: Active coping skills and strategies for family interventions* (pp. 175-201). Baltimore, MD: Paul H. Brookes Publishing Co.

30. Pandey, S., & Elliott, W. (2010). Suppressor variables in social work research: Ways to identify in multiple regression models. *Journal of the Society for Social Work and Research*, *1*(1), 28-40. doi: 10.5243/jsswr.2010.2

31. Pejovic-Milovancevic, M., Stankovic, M., Mitkovic-Voncina, M., Rudic, N., Grujicic, R., Herrera, A. S., ... & Daniels, A. (2018). Perceptions on support, challenges and needs among parents of children with autism: the Serbian experience. *Psychiatria Danubina*, *30*(Suppl 6), 354-364.

32. Popadić, D., & Biro, M. (1999). Autostereotipi i heterostereotipi Srba u Srbiji. *Nova Srpska Politička Misao*, *6*(1-2), 89-109.

33. Shaver, K. G., & Drown, D. (1986). On causality, responsibility, and self-blame: A theoretical note. *Journal of Personality and Social Psychology*, *50*(4), 697-702. doi: 10.1037/0022-3514.50.4.697

34. Republički zavod za statistiku (2019). Visoko obrazovanje 2018/2019. Preuzeto sa: https://publikacije.stat.gov.rs/G2019/Pdf/G20196011.pdf

Čolić, M., Milačić Vidojević, I.: Self-blame in parents of children with
autism spectrum disorder and children with physical disabilities:
the role of a child's problem behavior and personality traits

35. Uba, C. D., & Nwoga, K. A. (2016). Understanding stigma from a sociocultural context: mothers' experience of stigma directed towards children with special educational needs. *International Journal of Inclusive Education, 20*(9), 975-994. doi: 10.1080/13603116.2016.1145259

36. Watson, D., Clark, L. A., & Harkness, A. R. (1994). Structures of personality and their relevance to psychopathology. *Journal of Abnormal Psychology, 103*(1), 18-31.

37. Whittingham, K., Sofronoff, K., Sheffield, J., & Sanders, M. R. (2008). An exploration of parental attributions within the autism spectrum disorders population. *Behaviour Change, 25*(4), 201-214. doi: 10.1375/bech.25.4.201

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SAMOKRIVICA KOD RODITELJA DECE S POREMEĆAJEM IZ SPEKTRA AUTIZMA I MOTORIČKIM POREMEĆAJIMA: ULOGA DETETOVOG PROBLEMATIČNOG PONAŠANJA I CRTA LIČNOSTI

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Rezime

Uprkos prethodnim nalazima koji su pokazali negativan efekat samokrivice na blagostanje, malo se zna o prisustvu samokrivice kod roditelja dece s razvojnom ometenošću. Stoga je cilj ove studije bio da se ispita samokrivica na uzorku roditelja dece s poremećajem iz spektra autizma i motoričkim poremećajima iz Srbije. Dodatno, želeli smo da istražimo efekat detetovog problematičnog ponašanja, crta ličnosti, opažene i doživljene stigme i sociodemografskih karakteristika na roditeljsku samokrivicu. Uzorak je uključio 82 roditelja iz nekoliko većih gradova. Za potrebe ove studije konstruisali smo Skalu roditeljske samokrivice, koja se sastoji od sedam stavki. Generalno roditelji su izvestili o nižem stepenu samokrivice, mada je 22% imalo umeren i visok stepen. Nije dobijena razlika u stepenu samokrivice u odnosu na dijagnozu deteta. Pokazano je da s porastom dečijih emocionalnih simptoma i opadanjem saradljivosti, roditelji više sebe okrivljuju. Sociodemografske karakteristike, opažena i doživljena stigma nisu imale efekat na samokrivicu. Naši rezultati ukazuju da kliničari treba da uzmu u obzir različitost roditeljskih iskustava i stepen samokrivice prilikom razvijanja programa podrške, te da se Skala roditeljske samokrivice može koristiti u identifikovanju ranjivih roditelja. Dodatno, podrška treba da bude usmerena i na dete, kako bi mu se pomoglo da ublaži emocionalne probleme, što će posledično pomoći celoj porodici.

Ključne reči: poremećaj iz spektra autizma, crte ličnosti, motorički poremećaji, problematično ponašanje, samokrivica, stigma

Appendix 1

Table 4 – The percentages for each item from the PSBS, presented separately for each group and for the whole sample

Items	PD			ASD			Whole sample		
	Do not agree	Neither agree/ disagree	Agree	Do not agree	Neither agree/ disagree	Agree	Do not agree	Neither agree/ disagree	Agree
1. I believe that I have always done what is in the best interest of my child.*	2.4	7.1	90.5	10.0	2.5	87.5	6.1	4.9	89.0
6. I believe that the problems and difficulties my child has are not caused by my behavior and the way I educate my child.**	9.5	7.1	83.3	12.5	0	87.5	11.0	3.7	85.4
5. My child depends a lot on me because I have not given him the opportunity to learn to do some simple daily activities.	58.5	19.5	22.0	60.0	12.5	27.5	59.3	16.0	24.7
4. I think that my child would have behaved better if I had raised him more strictly.	61.9	11.9	26.2	80.0	12.5	7.5	70.7	12.2	17.1
3. I feel my child is misbehaving because I have not devoted enough time to him.	8.10	4.8	14.3	62.5	15.0	22.5	72.0	17.1	8.5
9. If I had fought more for my child, now he would have a much better school and greater knowledge.	73.8	9.5	16.7	71.8	20.5	7.7	72.8	14.8	12.3
8. My child would be much better off now if I had taken him to a doctor and a therapist earlier.	71.4	19.0	9.5	76.9	10.3	12.8	74.1	14.8	11.1
2. My bad genes have contributed to my child having a PD/ASD.	81.0	7.1	11.9	67.5	27.5	5.0	74.4	17.1	8.5
7. Perhaps the use of harmful substances before/ during pregnancy (alcohol, narcotics, cigarettes) may have caused my child to have a PD/ASD.**	66.7	28.6	4.8	81.0	9.5	9.5	73.8	19.0	7.1

Note. *reverse scored item. **excluded items from the final Parental Self-Blame Scale