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PERSONALITY FACTORS AND POST-TRAUMATIC GROWTH IN FATHERS OF CHILDREN WITH AUTISM SPECTRUM DISORDERS

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CZYNNIKI OSOBOWOŚCIOWE A ROZWÓJ POTRAUMATYCZNY U OJCÓW DZIECI Z ZABURZENIAMI ZE SPEKTRUM AUTYZMU

Streszczenie: Celem badań była identyfikacja predyktorów potraumatycznego wzrostu (PTG) u ojców dzieci z zaburzeniami ze spektrum autyzmu (ASD) oraz porównanie uzyskanych wyników z wynikami matek dzieci z ASD. W badaniu wzięło udział 52 ojców dzieci z ASD. Wykorzystano następujące narzędzia badawcze: NEO-FFI Costy i McCrae; PSS-10 Cohena Kamarcka i Mermelstein; Mini-COPE Carvera; Skalę Orientacji Pozytywnej Caprara i in.; Kwestionariusz do badania wdzięczności GQ-6 McCullougha, Emmons i Tsang; Inwentarz PTGI Tedeschiego i Calhouna. Kontrolowano czas, jaki upłynął od diagnozy ASD u dziecka. Ojców dzieci z ASD, w porównaniu z matkami, cechował podobny poziom PTG, wyższy poziom neurotyczności, otwartości oraz niższy ekstrawersji, bardziej dojrzałe strategie radzenia sobie ze stresem. Najwięcej zależności u ojców zanotowano w skali otwartości na doświadczenie. Niektórzy ojcowie dzieci z ASD podejmowali działania prowadzące do PTG. Sugeruje się, po diagnozie dziecka, tworzenie programów adaptacyjnych dla ojców, w formie warsztatów uczących umiejętności radzenia sobie ze stresem, nabywania umiejętności, pracy nad traumą lub terapii własnej.

Słowa kluczowe: ojcowie dzieci z ASD, cechy osobowości, strategie radzenia sobie ze stresem, potraumatyczny wzrost (PTG)

Abstract: The aim of the study was to identify predictors of post-traumatic growth (PTG) in fathers of children with autism spectrum disorders (ASD) and to compare the results with those of mothers of children with ASD. Fifty-two fathers of children with ASD participated in the study. The following measures were applied: NEO-FFI by Costa, and McCrae; PSS-10 by Cohen, Kamarck and Mermelstein; Brief-COPE by Carver; Positive Orientation Scale by Caprara et al.; The Gratitude Questionnaire GQ-6 by McCullough, Emmons and Tsang; PTGI Inventory by Tedeschi and Calhoun. Time since a child's ASD diagnosis was controlled. Compared to mothers, fathers of children with ASD demonstrated similar levels of PTG, higher levels of neuroticism and openness, and lower levels of extraversion, along with more mature strategies for coping with stress. The largest number of correlations for fathers was noted in the scale openness to experience. Some fathers of children with ASD took active measures that led to PTG. It is suggested that, following the child's ASD diagnosis, adaptation programmes for fathers be designed: workshops in stress management skills, skill acquisition, trauma therapy or self-therapy.

Keywords: Fathers of children with ASD, personality traits, coping strategies, post-traumatic growth (PTG)

Introduction

Personality is counted among factors that, on the one hand, facilitate the emergence of PTSD, but at the same time, help protect an individual against it (Weinberg, Gil, 2016). Many parents' experience of the fact that their child is diagnosed with an autism spectrum disorder (ASD) represents a traumatic event (Giovagnoli

et al., 2015). Various research indicates that being a parent of a child with ASD is a serious psychological burden for parents (Hong et al., 2020; Naheed, 2020) and constitutes one of the key drivers for mood and anxiety disorders (Machado, 2016). On the other hand, raising a child with ASD can to a large extent be a source of positive experience through learning to accept otherness, a challenge that inspires active coping, empowers active participation in child therapy, enhances one's sense of self-efficacy or personality enrichment and leads to personal development (Luque et al., 2017). This latter research trajectory indicates that after a time and after undertaking activities, actions and self-work, some parents of children with ASD are likely to experience post-traumatic growth (PTG), which Tedeschi and Calhoun (2004) describe as a set of positive changes that occur when a person actively approaches life crises and challenges. They distinguish five dimensions of post-traumatic growth: recognition of new life possibilities and paths, changes in interpersonal relationships, a paradoxical impression that one has become stronger, but at the same time even more vulnerable to harm, a greater appreciation of life, and changes in the spiritual and existential dimensions.

Studies have been conducted on PTG predictors in groups of parents of children experiencing serious health problems (Nakayama et al., 2017; Ogińska-Bulik, 2017) or parents of children with special needs (Laufer, Isman, 2022). There is also research indicating that mothers raising children diagnosed with ASD, struggling with life difficulties and challenges, experience PTG (Safe et al., 2012). Predictors of post-traumatic growth in a group of mothers of children with ASD were found to be social support and quiet ego (Alon, 2019; Wayment et al., 2019). PTG can be anticipated in parents of children with ASD based on their problem-solving skills (the problem-solving dimension of family function) and the strength dimension in the concept of resilience (the strength dimension of mental resilience) (Qin et al., 2021). Among 88 mothers of children with ASD, the occurrence of PTG was associated with recognised social support and resilience. PTG may act as a protective factor for the mental health of caregivers of children with ASD (Chan et al., 2020). In the course of the study conducted by the authors of this article, two key PTG predictors were identified in a group of 80 mothers of children with ASD (mean age=37.11; SD=5.51) – gratitude and use of emotional support (Gosztyła et al., 2020).

The Big Five Personality Traits model (Costa, McCrae, 1992) was used to study post-traumatic growth. Extraversion and a sense of satisfaction with life were found to be the most important correlates of PTG in a group of 470 people with HIV (Rzeszutek et al., 2019), while extraversion, agreeableness, conscientiousness and openness positively related to PTG in a group of 90 post-myocardial infarction (MI) patients. PTG positively correlated with recognised social support, with problem-solving competence and active emotional coping style, while it negatively correlated with negative emotional coping with stress. In addition, openness to experience and

high levels of recognised social support were predictors of PTG (Javed, Davood, 2016).

Positive Orientation (PO) is a dimension of personality representing a common higher-order factor combining the qualities of self-esteem, life satisfaction and optimism. P. Oleś and T. Jankowski (2018) expanded the positive orientation model to include a fourth aspect – the dimension of purpose in life. When people look upon their lives and paths with greater confidence and optimism, they are usually ready to confront life challenges, regardless of whether or how much failure and suffering they have experienced so far. PO in mothers of children with cystic fibrosis positively correlated with PTG. Problem-focused coping strategies and seeking emotional support were mediators between PO and all the dimensions of PTG (Byra et al., 2021).

Gratitude is defined as the tendency to appreciate positive events in one's life, the occurrence of which is partly attributed to other people (Vernon et al., 2009), or as an individual's emotional response arising due to a person's recognition and/or appreciation of receiving intrinsic psychological benefits or extrinsic support (Van Dusen, 2015). In an interesting study conducted by Skalski and Pochwatko (2020), significantly higher scores on the gratitude scale were obtained by women. Gratitude affects the development of PTG in the case of mothers of children with ASD (Gosztyła et al., 2020) and people affected by the Covid-19 pandemic (Miragall et al., 2021).

Among studies on the role of coping strategies in the development of PTG is research indicating that positive coping strategies affect PTG in parents of children with ASD (Gosztyła et al., 2019). These strategies include emotional and instrumental support, reframing, acceptance, humour, active coping and religion.

The research objective of the study was to identify predictors of PTG in a group of fathers of children with ASD and to compare the results with those of mothers of children with ASD. The research design included the following variables: personality traits (the five-factor model), positive orientation, gratitude, stress coping strategies and post-traumatic growth. Also controlled was time since child's diagnosis and the stress currently experienced by participants.

Methods

Participants and procedure

The study gathered 52 fathers of children with ASD and, as a comparison group, 85 mothers of ASD diagnosed children. Fathers' age bracket ranged from 25 to 51 ($M = 39.76$; $SD = 5.25$), and mothers' between 22 and 50 ($M = 37.06$; $SD = 5.42$). The largest group was made up of parents who had obtained a child's diagnosis

2 to 5 years before taking part in the study. Overall, just over 85% of parents had received a diagnosis at least a year before research.

The research project has received a positive opinion from the Research Ethics Committee of the Faculty of Pedagogy and Psychology of the Maria Curie-Skłodowska University in Lublin. The individual research sets were put into envelopes, which contained written instructions outlining the purpose of the study. The respondents could at any time use an option to unconditionally withdraw from research. Fathers of children diagnosed with ASD (similarly to mothers) were invited to participate in the research by institutions supporting their children's development (foundations, associations, schools and kindergartens), located in the Lubelskie and Podkarpackie provinces in Poland.

Measures

The following measures were used in the study:

1. PSS-10 – Perceived Stress Scale (Cohen et al., 1983) in Polish adaptation by Z. Juczyński and N. Ogińska-Bulik (2009). The PSS-10 scale consists of 10 questions relating to various subjective feelings about personal problems and events, behaviours and ways of coping. Internal consistency was checked against a pool of 120 adults, which yielded Cronbach's alpha index of 0.86. Reliability reached 0.90. A consequent measurement taken after four weeks yielded 0.72.
2. Brief-COPE – Inventory for the assessment of coping with stress (Carver, 1997), adapted into Polish by Z. Juczyński and N. Ogińska-Bulik (2009) (under the heading Mini-COPE). It consists of 28 items, 2 per each of the 14 stress coping strategies outlined. In general, Brief-COPE is used to measure dispositional coping with stress, that is, to assess typical ways of reacting and feeling when experiencing severe stress. The internal consistency of the Polish Brief-COPE was calculated based on a research held on a group of 200 participants aged 25-60. The split-half reliability was 0.86 (with Guttman index = 0.87).
3. Positive Orientation Scale (Caprara et al., 2010) in Polish adaptation by M. Łaguna, P. Oleś and D. Filipiuk (2011). The psychometric properties of the scale were tested on a sample of 905 people. The scale has a univariate structure and reveals sufficient internal consistency (Cronbach's alpha between 0.77 and 0.84), constancy ($r_{tt}=0.84$) and has attested convergent validity.
4. The Gratitude Questionnaire (GQ-6) (McCullough et al., 2002) in Polish adaptation (Kossakowska, Kwiatek, 2014). This questionnaire is used to diagnose gratitude as a disposition, and it consists of 6 items to be addressed with a seven-point Likert scale. The higher the score, the higher the respondent's level of gratitude. As with the original version, factor

analysis performed on the 6 items showed a one-factor solution that explained 48% of the variance. The value of Cronbach's alpha in a group of individuals with diseases reached 0.760, which proves the questionnaire's consistency. With the group of non-dysfunctional respondents, this value was 0.722.

5. NEO-FFI Personality Inventory by P.T. Costa, R.R. McCrae, in Polish adaptation by B. Zawadzki, J. Strelau, P. Szczepaniak and M. Śliwińska (1998). This inventory is used to diagnose personality traits included in the Big Five Personality Traits model. NEO-FFI demonstrates satisfactory internal consistency. Validity was determined based on the relationship between the results of the Inventory and the observers' assessments of the respondents, the heritability of the measured traits and their correlation with other dimensions of personality and temperament.
6. Post Traumatic Growth Inventory (PTGI) (Tedeschi, Calhoun, 2004), adapted into Polish by N. Ogińska-Bulik and Z. Juczyński (2010). PTGI is used to assess post-traumatic growth. The Polish version of PTGI has satisfactory psychometric properties: Cronbach's alpha coefficient is 0.93, internal stability (test-retest assessment) is 0.74. Applying factor analysis allowed identification of a four-factor scale: a) Changes in self-concept, b) Changes in relationships with others, c) Greater appreciation of life and d) Spiritual changes.
7. The survey questionnaire, which included questions about the gender of the participants and time since the ASD diagnosis of a child.

Results

The Post-Traumatic Growth Inventory (PTGI) survey had a mean score of 25.17 (SD = 9.84) in the mothers' group and 25.06 (SD = 10.23) in the fathers' group. There were no statistically significant differences in the total score or individual subscales of the PTGI between the participants in either group. Mothers experienced higher stress intensity than fathers (PSS-10; mothers – M = 21.29; SD = 6.19; fathers – M = 18.21; SD = 5.89; $t = 2.882$; $p < 0.001$). No statistically significant differences were found between mothers and fathers on the Positive Orientation scale and the two subscales of the NEO-FFI (agreeableness, conscientiousness). Fathers demonstrated higher levels of neuroticism (mothers – M = 34.18; SD = 3.66; fathers – M = 36.21; SD = 3.83; $t = -3.103$; $p < 0.01$) and openness (mothers – M = 36.98; SD = 3.64; fathers – M = 38.69; SD = 3.43; $t = -2.736$; $p < 0.01$), and mothers – higher extraversion (mothers – M = 35.21; SD = 5.45; fathers – M = 33.29; SD = 5.61; $t = 1.982$; $p < 0.05$).

The group of fathers was divided into 3 subgroups according to time since a child's ASD diagnosis. Three subgroups were established: up to 2 years $n_1 = 13$, between 2 and 5 years $n_2 = 24$, and over 5 years $n_3 = 15$. The subgroups were tested as

for differences in the level of the post-traumatic growth. No significant differences in PTG levels either in the total score of PTGI or in any of the scales were detected.

In the group of fathers, strongest positive correlations of post-traumatic growth scales (PTGI) covered: changes in relationships with others correlated with emotional support ($r = 0.44$; $p < 0.001$), while spiritual changes correlated with religion ($r = 0.52$; $p < 0.001$). The following were the strongest correlations of the Big Five Personality traits: extraversion correlated with stress intensity ($r = 0.62$; $p < 0.001$), positive orientation (negative correlation) ($r = -0.61$; $p < 0.001$); openness correlated with stress intensity ($r = 0.39$; $p < 0.001$), gratitude (negative correlation) ($r = -0.45$; $p < 0.001$), positive orientation (negative correlation) ($r = -0.54$; $p < 0.001$) and emotional support (negative correlation) ($r = -0.49$; $p < 0.001$); conscientiousness with planning ($r = 0.44$; $p < 0.001$). Moreover, gratitude correlated with positive orientation ($r = 0.59$; $p < 0.01$) and emotional support ($r = 0.46$; $p < 0.001$); positive orientation with stress intensity (negative correlation) ($r = -0.71$; $p < 0.001$), active coping ($r = 0.45$; $p < 0.01$) and planning ($r = 0.52$; $p < 0.01$).

Table 1 presents regression analysis of personality traits with stress intensity, gratitude, positive orientation, coping strategies and post-traumatic growth with the moderating role of parental gender.

The Hayes' Process macro was applied to determine whether parental gender was a moderator of the relationship between personality traits from the Big Five Personality model and stress intensity, gratitude, positive orientation, coping strategies and post-traumatic growth. The moderating role of parental gender in the relationship between openness, gratitude and positive orientation was confirmed. In the former case, a poor model's goodness-of-fit model was obtained, capable of explaining 9.7% of the variance in gratitude. Regression of openness and positive orientation yielded models considerable goodness-of-fit to explain 14.5% of the variance in positive orientation. The interaction of parent gender and gratitude was statistically significant ($B = -0.658$; $t = -2.356$; $p = 0.020$; change $R^2 = 0.038$), as was the case when the dependent variable was positive orientation ($B = -0.666$; $t = -2.903$; $p = 0.004$; R^2 change = 0.054). A detailed analysis showed that the relationship between openness, gratitude and positive orientation was noticeable only among fathers: when openness increases, the intensity of gratitude ($r = -0.463$; $p < 0.001$) and positive orientation ($r = -0.541$; $p < 0.001$) decreases.

Among coping styles, parental gender is a moderator of the relationships between openness and emotional support. Model's goodness-of-fit explained 13.8% of the search for use of emotional support. The correlation of parental gender with emotional support was statistically significant at a trend level ($B = -0.130$; $t = -1.901$; $p = 0.059$; R^2 change = 0.023). A detailed analysis showed that the relationship between openness and emotional support was evident only among fathers: as openness, the intensity of use of emotional support decreases ($r = -0.494$; $p < 0.001$).

The moderating role of the parent's gender was attested in the relationship between agreeableness and stress coping strategies: acceptance, self-distraction,

Table 1. Regression analysis of personality traits with stress intensity, gratitude, positive orientation, coping strategies and post-traumatic growth with the moderating role of parental gender

Personality traits – moderated regression	Explained variable	Model		Moderation effect			Mothers			Fathers				
		F(3,133)	p	R ²	B	t	p	ΔR ²	B	t	p	B	t	p
OP	GQ	4.776	0.097	0.10	-0.685	-2.356	0.020	0.04	-0.165	-0.962	0.338	-0.851	-3.626	<0.001
OP	PO	7.495	<0.001	0.15	-0.666	-2.903	0.004	0.05	-0.13	-0.962	0.338	-0.796	-4.306	<0.001
OP	SE	7.117	<0.001	0.14	-0.130	-1.901	0.059	0.02	-0.087	-2.154	0.333	-0.217	-3.937	<0.001
AG	PR	2.649	0.052	0.06	-0.107	-2.083	0.039	0.03	0.088	2.647	0.009	-0.019	-0.487	0.627
AG	AP	2.897	0.038	0.06	-0.121	-2.725	0.007	0.05	0.065	2.256	0.026	-0.056	-1.660	0.099
AG	H	3.458	0.018	0.07	-0.085	-1.799	0.074	0.02	0.095	3.112	0.002	0.010	0.281	0.779
AG	ES	3.396	0.020	0.07	-0.096	-1.687	0.094	0.02	0.110	2.993	0.003	0.014	0.326	0.745
AG	IS	6.532	<0.001	0.13	-0.112	-2.013	0.046	0.03	0.141	3.893	<0.001	0.028	0.662	0.509
AG	SD	4.636	0.004	0.10	-0.131	-2.658	0.009	0.05	0.088	2.775	0.006	-0.042	-1.132	0.260
AG	PTG_I	8.144	<0.001	0.16	-1.389	-3.693	<0.001	0.09	1.186	4.876	<0.001	-0.203	-0.707	0.481
AG	PTG_II	3.540	0.017	0.07	-0.677	-1.931	0.056	0.03	0.736	3.245	0.001	0.059	0.221	0.826
AG	PTG_III	4.743	0.004	0.10	-0.485	-3.123	0.002	0.07	0.341	3.394	0.001	-0.144	-1.216	0.226

Comments: OP – Openness; GQ – Gratitude; PO – Positive orientation; ES – emotional support; AG – Agreeableness; PR – Positive reframing; A – Acceptance; H – Humour; IS – instrumental support; SD – Self-distraction; PTG_I – Changes in self-concept; PTG_II – Changes in relationships with others; PTG_III – Greater appreciation of life; F – model fit test; p – model fit test; R² – variance explained by the model; B – non-standardized regression coefficient; t – effect test; ΔR² – change in explained variance.

positive reframing, use of instrumental support, and – at the level suggestive of a trend – with humour and use of emotional support. Model's goodness-of-fit explaining between 12.8% (instrumental support) and 5.6% (positive reframing) of the variance in the dependent variable were obtained. The interaction coefficient of parental gender and acceptance was the highest to be recorded ($B = -0.121$; $t = -2.752$; $p = 0.007$; R^2 change = 0.052). It was slightly lower when the dependent variable was self-distraction ($B = -0.131$; $t = -2.658$; $p = 0.009$; R^2 change = 0.048). The lower degrees of goodness-of-fit were recorded for the interaction of parental gender and positive reframing ($B = -0.107$; $t = -2.083$; $p = 0.039$; R^2 change = 0.031) and instrumental support ($B = -0.112$; $t = -2.013$; $p = 0.046$; R^2 change = 0.027). Trend-level correlation effects occurred when the dependent variable was humour ($B = -0.085$; $t = -1.799$; $p = 0.074$; R^2 change = 0.023) and use of emotional support ($B = -0.096$; $t = -1.687$; $p = 0.094$; R^2 change = 0.020). A detailed analysis showed that the relationship between agreeableness and the aforementioned coping strategies was found only in the group of mothers – as agreeableness increased, so did acceptance ($r = 0.236$; $p = 0.030$), self-distraction ($r = 0.286$; $p = 0.008$), positive re-framing ($r = 0.282$; $p = 0.009$), use of instrumental support ($r = 0.425$; $p < 0.001$), humour ($r = 0.323$; $p = 0.003$) and use of emotional support ($r = 0.328$; $p = 0.002$).

The moderating role of parental gender in the relationship between agreeableness and post-traumatic growth scales was confirmed: changes in self-concept, changes in relationships with others and greater appreciation of life. Models' goodness-of-fit explained between 15.5% (changes in self-concept) and 7.4% (changes in relationships with others) of the variance in the dependent variable. The interaction coefficient of parental gender and changes in self-concept was the highest recorded ($B = -1.389$; $t = -3.693$; $p < 0.001$; R^2 change = 0.087), which was slightly lower when the dependent variable was greater appreciation of life ($B = -0.485$; $t = -3.123$; $p = 0.002$; R^2 change = 0.066). An interaction effect at a trend level occurred when the dependent variable was changes in relationships with others ($B = -0.677$; $t = -1.931$; $p = 0.056$; R^2 change = 0.026). A detailed analysis showed that the relationship between agreeableness and the aforementioned scales of post-traumatic growth was found only in the group of mothers: along with an increase in agreeableness, the level of change in self-concept grew ($r = 0.500$; $p < 0.001$), so did greater appreciation of life ($r = 0.337$; $p = 0.002$) and changes in relationships with others ($r = 0.340$; $p = 0.001$). Table 2 presents regression analysis of stress intensity, gratitude, positive orientation with coping strategies with moderating role of parental gender.

Table 2. Regression analysis of stress intensity, gratitude, positive orientation with coping strategies with moderating role of parental gender

Moderated regression	Model		Moderation effect				Mothers			Fathers			
	$F(3,133)$	p	R^2	B	t	p	ΔR^2	B	t	p	B	t	p
GQ → BD	2.620	0.053	0.06	0.052	1.661	0.099	0.02	-0.051	-2.531	0.013	0.001	0.035	0.973
PO → PL	6.542	<0.001	0.13	0.077	1.865	0.064	0.02	0.050	1.866	0.064	0.127	4.009	<0.001
PO → AP	5.829	0.001	0.12	-0.091	-2.354	0.020	0.04	0.101	4.058	<0.001	0.010	0.340	0.734
PO → SB	10.572	<0.001	0.19	0.083	1.731	0.086	0.02	-0.148	-4.788	<0.001	-0.065	-1.768	0.079

Comments: GQ – Gratitude; BD – Behavioral disengagement; PO – Positive orientation; PL – Planning; AP – Acceptance; SB – Self-blame; F – goodness-of-fit test; p – significance level; R^2 – variance explained by the model; B – unstandardized regression coefficient; t – effect test; ΔR^2 – change in explained variance.

The Hayes' Process macro was used to determine whether parental gender was a moderator of the relationship between stress intensity, gratitude, positive orientation, and coping strategies. No moderating function of parental gender was found when stress intensity was the independent variable.

The gender of the parent was found to be a moderator of relations between gratitude and behavioral disengagement. A moderate goodness-of-fit was obtained to explain 5.6% of behavioral disengagement. The interaction of parental gender and behavioral disengagement was statistically significant at a trend level ($B = 0.052$; $t = 1.661$; $p = 0.099$; change $R^2 = 0.020$). A detailed analysis showed that the relationship between gratitude and behavioral disengagement is noticeable only among mothers: as gratitude increases, disengagement decreases ($r = -0.255$; $p = 0.019$).

The moderating role of parental gender was confirmed in the relationship between positive orientation and the coping strategies: acceptance with planning and self-blame oneself at a trend level. Models' goodness-of-fit explained between 19.3% (self-blame) and 11.6% (acceptance) of the variance in the dependent variable. The interaction coefficient was the highest for parental gender and acceptance ($B = -0.091$; $t = -2.354$; $p = 0.020$; R^2 change = 0.037). A trend-level interaction effect occurred when the dependent variable was planning ($B = 0.077$; $t = 1.865$; $p = 0.064$; R^2 change = 0.023) and self-blame ($B = 0.083$; $t = 1.731$; $p = 0.086$; R^2 change = 0.018). A detailed analysis showed that the relationship between positive orientation and self-acceptance and self-blame was found only among mothers: as positive orientation increased, the level of acceptance increased as well ($r = 0.411$; $p < 0.001$), while the level of self-blame decreased ($r = -0.475$; $p < 0.001$). The relationship between positive orientation and planning was found only in the group of fathers: as positive orientation increases, planning increases, too ($r = 0.515$; $p < 0.001$).

A regression analysis of stress intensity, gratitude, positive orientation and coping strategies with post-traumatic growth scales with the moderating role of parent gender was conducted. No statistically significant results were recorded.

Discussion

The surveyed group of fathers was characterized by significantly lower levels of currently experienced stress, which may be related to mothers' use of less adaptive coping strategies (self-distraction, denial, venting, self-blaming). This may result from stronger emotional associations displayed by fathers – including more threatening emotions. Fathers were also likely to process emotions openly, to reframe their experiences, to openly seek intrapersonal solutions and supportive clues in the external world, as well as to readily confront their life status quo (higher intensity of neuroticism, openness, lower extraversion). It may well be that less conscious focus on the sources of stress and their acceptance, with the goal of consciously lowering tension and stress levels, actually encourages higher levels

of stress in mothers. This may also indicate a higher level of dissociation, which may still be a consequence of the experienced trauma: an ASD diagnosis of a child.

As for the dimensions of post-traumatic growth, changes in relationships with others were accompanied by a more intense use of emotional support, and therefore, a greater openness to deepening existing interpersonal relationships, along with attempts at expanding the circle of those towards whom more intimate emotions are signalled. The deepening spirituality of the fathers is reflected in an apparent tendency to turn to religion.

Openness empowers participating in different modalities and intensities of emotions, a more positive attitude towards oneself, the world and the future paths (the opposite of the depressive triad), a greater acceptance of one's world as it actually is, an appreciation and enjoyment of working with other people (including professionals) and a willingness to share one's experiences with them, also with an intention of winning emotional support (Abu Raya et al., 2023). However, the higher intensity of openness in fathers of children with ASD was associated with a lower intensity of attributing to other people the causes in good events in life, optimism and satisfaction with life, and hence a lower tendency to seek emotional support from others as well as willingness to share their intimate experiences with them. The increase in the intensity of openness may be related to an increase in the importance of attaching a pragmatic focus to real life events. A higher conscientiousness can also lead to planning specific actions, active coping, focusing on experiencing the present moment (Giluk, 2009). It may well be that other variables come into play here, which failed to be included in the current research perspective.

Gender does not differentiate any of the dimensions of post-traumatic growth. Other interesting correlations were recognised with the group of mothers. As agreeableness increased, so did acceptance, positive reframing, use of instrumental and emotional support, humour and self-distraction. This observation may indicate that these mothers, on the one hand, accepted the reality of life and showed greater psychological maturity, but they may have been under a stronger emotional and cognitive impact of their child's diagnosis, which made them adopt mature coping strategies. Similarly, as agreeableness increased, respondents recognised their greater inner resources, they trusted themselves more, appreciated life more, while changes in relationships with others took a pro-social trajectory, leading to more intimate personal relationships. Recognising positive changes in life, as a consequence of other people's interactions or cooperation, promoted a strategy for coping with stress – behavioral disengagement and applying a more mature mechanism for engaging in meaningful actions. In addition, as self-esteem, optimism, satisfaction with life or a sense of meaning in life increased, the level of acceptance of one's situation increased too, while self-blame decreased. Personality development was accompanied by more mature stress coping mechanisms.

Limitations

The main limitation of the study was its regional nature. The fathers-respondents (as well as mothers) came from only two provinces (voivodships) in Poland (Lubelskie and Podkarpackie). The results and conclusions were based on a study sample that was too small to allow the results to be representative of the total of Polish fathers (and mothers) of children with ASD. A larger number of respondents could allow for a reliable study of the relationship between time since diagnosis and the occurrence of PTG. There occurs an urgent need for further research on a larger sample of fathers from different areas of Poland. The number of measures employed turned out to be another research limitation. Expanding the research framework to include tools to measure depression, PTSD, anxiety severity or resilience could benefit a better-informed exploration of the relationships between the variables.

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