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Aspects of Mental Health among Parents of Children with Developmental Disorders

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Abstract

The purpose of this study is firstly to examine the mental health status among parents of children with developmental disorders in relation to certain family and demographic factors and, secondly, to determine the predictor role of parental self-efficacy in relation to mental health of parents of children with developmental disorders.
Forty-six people participated in the study, ages 23-49, M = 37.46, SD = 6.51, parents of children with ASD or other developmental disorders, children ages ranges between 3 and 15, M = 6.50, SD = 2.77.
The questionnaires used were DASS21R for anxiety and depression, and Parenting Sense of Competence Scale was used for parenting self-efficacy. Results showed that mothers of children with developmental disorders have higher levels of anxiety than their fathers, that age is a positive predictor of depression and anxiety in parents of children with developmental disorders, and that self-efficacy is a negative predictor of mental health disorders.
Keywords: developmental disorders, anxiety, depression, mental health.

Introduction

In Romania, there is little data on the mental health impact on families raising and caring for children with developmental disorders (autism spectrum disorder, ADHD), as well as on the quality of parenting in families with at least one child with ASD or ADHD. One of the basic resources of parents is parental self-efficacy. Parents with higher levels of parental self-efficacy have a much better relationship with their children, with or without developmental disorders, and also, treatments and the level of recovery is much more visible in their children. Self-efficacy keeps motivation and hope high, sometimes being the only support for a parent going through a difficult time created by a child with a developmental disorder.

Most of the Romanian parents of children with developmental disorders (DD) do not go to a psychologist, which would be indicated, because they do not think they would need psychological counselling and also because of the social stigma. The mothers of DD children feel it the most when they blame themselves for having given birth to such a child, therefore they have failed to be a good mother.

Thus, the purpose of the present study is to investigate the mental health of parents of children with DD. This investigation is important, because the psychological state of the parent influences the parent-child relationship, but also the child development and evolution itself. When parents are anxious/sad/depressed, their children will observe and learn these habits as well, making it harder for them to deal with their developmental disorder. Parents with poor mental health are less willing to engage in the treatment of children, which again will make the treatment of children more difficult.

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Autism Spectrum Disorder (ASD)

Autism spectrum disorder (ASD) is a pervasive developmental disorder. The term pervasive refers to the fact that the child's development is affected in its entirety. Child development takes place in a disorganized, disorderly manner. That is why, in children with autism, there are often large differences among the areas of development (the motor area, which refers to movement and the way the child uses his body; the cognitive area refers to thinking; the language area refers to communication through verbal and non-verbal language -verbal; socialization area - the way the child interacts with others; autonomy area - aspects related to the child's independence in everyday activities). The child may recite commercials, songs, but not be able to play with toys as they should or play with another child. Or he can defecate in diapers even if he is 5-6 years old and knows the alphabet.

The child with autism spectrum disorder has little or no interest in other children. He doesn't play with them, he doesn't interact with them. He is much more interested in various objects around him, but which he does not use for the purpose for which they were created. He prefers to put them in his mouth, smell them, spin them, feel them, place them in a certain order, turn them over repeatedly, or prefers to focus only on a certain part of that object (continuous spinning the wheel of a car; takes out the hands of the dolls, places them on the edge of the sofa and looks at them for minutes, etc.).

The disorder can be identified in the second year of life, 12-24 months, but if the delay is severe, signs of the condition can be seen earlier or even after 24 months if the delay is not so great. The first signs of the disease are observed in the sphere of early development, manifesting in the loss of social or language skills (DSM-5, APA, 2013). The most common are losses in the social sphere, increased attention to objects and their use in an unusual way, as can also be seen from the diagnostic classifications in DSM-5 and ICD-11. Maintaining eye contact is at a much lower level than in normal children, imitating adults' grimaces, less feedback in games (e.g. cucu bau), they laugh and cry less, even when they hit each other they have no expression or response to what happened.

It is difficult to say whether there are common gene variants of autism because the done studies in this regard have had a weak effect size. However, there is a set of traits called the broader autism phenotype, BAP. BAP describes a group of social disorders below the threshold of communication skills and traits, an unusual personality, and unusual personality traits that are frequently found in relatives of individuals with autism, these being milder manifestations of autism (Constantino et al., 2006; Rutter, 2000). The studies done on this variable are important to determine which aspects of BAP should be analyzed in genetic studies for ASD. In the BAP studies done in recent years on younger siblings of children diagnosed with autism spectrum disorder, it emerged that they had higher results in traits, language delay and social deficits, such as: atypical way of changing gaze, behavior of request/request, the initiation of attention demand and the response to joint attention (Elsabbagh et al., 2009; Merin et al., 2007).

In older siblings and parents of children diagnosed with ASD, deficits in pragmatic language skills, social responsiveness, and domains of reciprocal social interaction were found. At the cognitive level, low results were found in social cognition, for example, from recognizing a complex mental state, to recognizing basic emotions and processing facial emotions. As personality traits in BAP were found: distant, rigid and hypersensitive, as well as psychiatric conditions such as anxiety and depression (Mosconi et al., 2010; Takarae et al. 2004). Thus, we can realize that there are links

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between children with ASD, their parents, and siblings, both genetic and environmental, parents being the primary children's developmental models.

Attention Deficit/Hyperactivity Disorder (ADHD)

Attention deficit/hyperactivity disorder is a condition that has an impact on the entire bio-psycho-social organism, of the human individual. Attention deficit/hyperactivity disorder (ADHD) is the most common neurodevelopmental disorder in childhood and is also widespread in adults (Polanczyk, 2014). Over the past 30 years, this complex and heterogeneous disorder with clearly delineated neurobiological substrates has been conceptualized as a chronic multifactorial disorder characterized by symptoms of inattention, hyperactivity, and impulsivity. Over time what today is known as ADHD has had several definitions, such as: minimal brain damage, minimal brain dysfunction, minimal brain disorder, hyperkinesis or simply hyperactive child syndrome. Also, DSM-III (APA, 1980) introduced the term Attention Deficit Disorder with or without hyperactivity, the contemporary term ADHD being relatively new. The other major diagnostic system, namely the International Statistical Classification of Diseases and Related Health Problems in the current 10th revision (ICD-10), relies on the term hyperkinetic disorders to refer to a group of disorders with early onset and characterized by disturbances in activity and attention with or without conduct disorder. Partly due to the different terminology used to coin this disorder which refers to various entities, but also due to the fact that for decades there has been no unified conceptualization of the disorder, there has been great controversy in the understanding and even acceptance of this disorder.

It is a neurological mental disorder, in which certain important circuits of the brain do not develop and the interference with the conditions necessary for the healthy development of the prefrontal cortex, explains almost all cases of ADHD. ADHD is defined by three major characteristics, any two of which are sufficient for diagnosis: poor concentration, poor impulse control, and hyperactivity. The hallmark of attention deficit disorder is an automatic, unwanted disconnection, a frustrating state of non-presence of mind (Gabor, 2013). As the name of the disorder describes, it is characterized by inattention and/or hyperactivity-impulsivity. Inattention is identified by the inability to stay focused on a particular stimulus, to be organized, as well as deviating from tasks and lack of consistency. Specific to this disorder is the fact that these conditions are not due to defiance or misunderstanding of the task, but to the fact that in children with ADHD there is an inability to focus attention. Hyperactivity is characterized by excessive, constant motor activity (always having to move hands or feet, running around, etc.) in inappropriate situations. The child with ADHD is very restless, talks too much, is constantly scrolling and cannot have moments of complete rest, always must do something. Impulsivity is characterized by taking hasty actions in the immediate moment because there is an inability to be patient. The respective actions are not thought, the individual acting instinctively. Sometimes these actions can result in the child's self-harm, the preservation instinct being eliminated (DSM-5) (APA, 2013).

The psychopathology of the parent is important not only from the genetic point of view, but also from the parenting point of view, a topic that has been discussed a lot in recent years. The signs of the disorder can be lessened or disappear altogether in adulthood (but this needs to be worked on adequately) if the individual receives frequent rewards when: he/she behaves appropriately, is under close supervision a good amount of time, is in a new environment, is engaged in an extraordinarily interesting activity, has good external stimulation, or when interacting face-to-face with teachers, parents, and therapists (DSM-5) (APA, 2013). Thus, it is very important how the

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child is raised because it can aggravate or diminish his symptoms. But this is difficult because, as studies show, a large proportion of parents of children with ADHD also have this disorder in one form or another, and this makes it difficult for them to perform well in raising their children.
The poor performance of those with ADHD has nothing to do with low intelligence quotient (IQ) levels. Learning difficulties are due to the inability to maintain attention for a long period of time. Language and developmental delays are only associated with ADHD (DSM-5). Indeed, children with ADHD scored lower on standardized IQ tests, especially on subscales involving verbal skills (Dykman & Ackerman, 1991; Korkman & Pesonen, 1994). Thus, those suffering from ADHD may have an intelligence level somewhere between gifted and mentally disabled (Barkley, 1998).

Anxiety disorders

Anxiety is a complex system of cognitive, affective, physiological, and behavioral reactions, which is activated when anticipated or considered particularly aversive events or circumstances are perceived as unpredictable, uncontrollable events that may threaten the vital interests of an individual. Anxiety disorders occur frequently in the general population, are characterized by an early age of onset and by a frequent comorbidity with each other, as well as with other mental disorders (Kessler, 2009).
Anxiety disorders are characterized by almost constant rumination, like a spiral of thoughts that find no solution. The human individual focuses so much on thoughts, on details, on the possibility of something bad happening, that he has great difficulty seeing the big picture, or relating to the everyday reality of his life (Clark & Beck, 2010). Anxiety is a cognitive aversion oriented towards the future and manifests as a state of fear, following feedback provided by the body at aversive moments. Anxiety is characterized by a state of fear, even when the aversive stimulus is no longer present. But in addition to fear, anxiety disorders contain strongly perceived averseness, uncontrollability, uncertainty, vulnerability, helplessness, and the inability to achieve desired outcomes. Recalling a stressor, anticipating a threat or danger, can create a state of panic, whether it is really needed or not, the onset of the state of panic. Anxiety is correlated with persistence over time, being considered a false alarm, when the person feels fear and/or panic, even if the stimulus is not seen. This is due to hypersensitivity to stimuli, the slightest stimulus reminding of the whole danger. For example, a person can see a small dog, and instantly panic, even if this small animal is not the big dog that scared him in the past (Clark & Beck, 2010). This disorder has been shown to arise from a false assumption, an assumption that involves an erroneous assessment of danger and is inconsistent with reality.
Studies show a rate of 25-30% for at least one anxiety disorder, as one of the most prevalent psychological disorders (Clark & Beck, 2010; Kessler, 2009). The onset is usually much earlier than that of other classes of disorders, such as mental, mood, behavioural, or substance abuse (Kessler, 2009), and yet anxiety symptoms are found more frequent among the adult population, being found more often among the female population and young people.

Depressive disorders

Major depressive disorder is an emotional state characterized by low self-esteem and a reduced ability to experience the joy of life. People suffering from depression experience: frequent and prolonged feelings of sadness, hopelessness, and pessimism, drop self-esteem and strongly self-deprecate, lose the ability to feel pleasure and energy with reduced vitality, slowness in thinking and actions, lack of appetite food, disturbed sleep or insomnia (Leahy & Holland, 2000).

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According to several studies, the rate for major depressive disorder is 10-25%, for women, and 5-12%, for men, i.e., approximately a 2 to 1 ratio, and the risk of women suffering from this disorder at least once in their life is 70% (Kessler et al., 2005; Weissman et al., 1996; Weissman & Olfson 1995). The age at which depression has the highest rate is between 18 and 44, and the lowest risk is in people over 65. The rate of suicide attempts is higher in women, while in men, the rate of successful suicide is higher. This can be explained by the fact that men choose a lethal method to do this. Single people without a partner fall into the highest rates of suffering from depression, following divorce or the death of a life partner, while the lowest risk is found among married people or who are in a relationship marital relationship (Leahy & Holland, 2000).

Anxiety and depressive disorders in parents of children with DD

As we have shown above, the causes of anxiety and depression have their roots in several spheres of social life, including family life and parenting, especially the parenting for children with DD (Cramm & Nieboer, 2011; Khamis, 2007; Saloviita, Itaalinna, & Leinonen, 2003). The lack of social adaptation of children with DD and sometimes their aggressive behavior are factors that causes high levels of anxiety, depression, and daily stress in parenting (Busch 2009; De Meyer, 1979; Harris, 1984). The relationships that develop between parents and DD children are usually unsatisfactory for parents (Busch, 2009), due to the children's high interest in surrounding objects, and the manifestation of maladaptive externalizing behaviors (Macintosh & Dissanayake 2006). Behavioral problems of children with DD have been identified in other studies as the main predictor of parental mental disorders (Fiske 2009; Gray 2003; Lecavalier et al., 2005; Tomanik et al., 2004). It has been identified that parents of children with DD who exhibit aggressive behaviors are more prone to mental disorders than parents of children with DD who do not exhibit aggressive behaviors (Falk et al., 2014).

States of anxiety, depression and stress are accentuated when parents realize that there is no certain treatment for DD (Liwag, 1989), and that the services dealing with these children are insufficiently treating their symptoms and characteristics (as much as parents would like) (Sharpley, 1997). The marital relationship of the parents is affected by the appearance of the child with DD (Piven et al., 1991; Rogers, 2008), divorce rates being significantly higher for parents of children with DD compared to parents of children without DD (Hartley et al., 2010) which subsequently leads to even more depression, anxiety and stress, as well as to the appearance of a sense of loss in terms of future family development opportunities (Myers, 2009). Thus, the three most stressful factors regarding the upbringing of children with DD are: the permanent character of the disorder, the lack of acceptance for people with DD related primarily to their socially unacceptable behaviors, and the low level of social support (Gray & Holden, 1992; Konstantareas & Homatidis, 1989).

Mothers of DD children have a higher rate of anxiety disorder and major depressive disorder than fathers (Freeman, Perry, & Factor, 1991; Gray & Holden, 1992; Hastings et al. 2005; Sharpley et al., 1997). Other studies have shown that stressful life events cause more psychological distress in women than in men, especially when they are related to family life (Aneshensel, 1992; Thoits, 1991). The age of the child is another factor that shapes stress. Thus, parents of older children are generally more stressed than parents of younger children (Holroyd et al., 1975). The age at which the child was diagnosed has a significant correlation with the level of depression of the parents (Gray & Holden, 1992). Parental age was found to be a significant predictor of parental stress and anxiety only for mothers (Falk et al., 2014).

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Parents reported more psychiatric symptomatology when the child showed a high level of dysfunctionality (Khamis, 2007). Several authors claim that the severe symptoms of children's DD is the main predictor of mental disorders (Duarte et al., 2005; Hastings et al., 2005). In the existing literature it has been clearly demonstrated that parents of children with autism report more mental disorders and physical health problems than parents of children in other clinical diagnoses, clinical and/or non-clinical groups (Benjak 2009; Micali et al., 2004; Singer, 2006). The more pronounced the disorder is and affects the lives of those around, the more the quality of life and the quality of the mental life of the parents is affected. Thus, ADHD itself depreciates less the mental and physical life of those who suffer from this disease, than the mental life of the parents, negatively influencing their mental health.

Parental depression was also a predictor of family disagreements related to ADHD children's problem behavior (Cunningham et al., 1988). However, most studies have showed that in most situations, what affects the mental health of parents of children with ADHD, is not the disorder itself but the comorbidity related to Opposition Disorder and Defiant Behavior (ODD). Several studies have observed positive associations between maternal depression and child problematic behavior, leading to the conclusion that mothers high in depression are more affected by child problem behavior than by ADHD symptoms separate from ODD (Boyle & Pickles, 1997). Therefore, one of the main causes of mental health deterioration in parents of children with DD is caused by the child-parent relationship (Johnston & Mash, 2001), and not by the disorder itself. One literature review indicated that parent-child interactions are more stressful when children have DD. In some situations, depression among mothers is also related to thoughts about their children being socially maladjusted (Bolton et al., 2003; Peris & Baker, 2000; Peris & Hinshaw, 2003).

Considering the above, we formulate the following hypothesis:

H1. Mothers show a higher level of mental health problems than fathers of children with DD.

H1a. Mothers show a higher level of depression than fathers of children with DD.

H1b. Mothers show a higher level of anxiety than fathers of children with DD.

We also want to verify if child’s age is a significant predictor of parental mental health problems, so we formulate the following hypothesis:

H2. The age of the child with DD is a significant positive predictor of mental health problems in parents of children with DD.

H2a. The age of the child with DD is a significant positive predictor of the level of depression in parents of children with DD.

H2b. The age of the child with DD is a significant positive predictor of the level of anxiety in parents of children with DD.

Self-efficacy

Self-efficacy represents one's beliefs about one's own abilities to organize and execute the necessary actions to manage future situations, it is the totality of the beliefs that the person has, as well as his ability to overcome the fears that dominate him (Bandura, 1997). Human individuals have a self-efficacy that allows them to exercise some control over their own thoughts, feelings, motivation, and actions. This system relies on a set of sub-functions for perceiving, regulating and evaluating behavior, which results from the interaction between the system and environmental influences. The task that this system carries out is that of self-regulation, which gives the individual the power of influence over his own cognitive processes and actions. The way people interpret the

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results of their actions alters their own thoughts about themselves and the environment, which in turn informs and alters subsequent performance.

Parental self-efficacy may influence the quality of care that parents provide to their children, as well as the degree of enjoyment they derive from the parenting experience (Coleman & Karraker, 1997). Self-efficacy has been identified as the strongest predictor of parental engagement in treatment of children with DD (Solish & Perry, 2008). Parents who are more confident that they can make an effective contribution and who truly believe that they can make a difference in their children's lives tend to be more involved in the intervention needed for child development, this involvement leading to positive child outcomes (Lovaas, 2003). Parenting self-efficacy is a fundamental factor in determining the behaviors a parent will attempt, as well as subsequent coping efforts and a parent's persistence in performing in the face of adversity (Bandura, 1977). From this point of view, we can define self-efficacy as the totality of a parent's beliefs about his ability to be a successful parent (Jones & Prinz, 2005).

Different authors define parenting self-efficacy as the beliefs or judgments about one's ability to succeed in the role of parent (Hess, Teti, & Hussey-Gardner, 2004). One way in which a person develops parenting self-efficacy is through the achievement or perceived failure of a parenting task. Parents also learn about parenting self-efficacy through their own childhood experiences with their parents (Grusec, Hastings, & Mammone, 1994).

Parental self-efficacy is developed through experience, perceived successes, and validation from others. Parents of children with DD may be particularly at high risk of low parenting self-efficacy because of the specific symptoms associated with their children’s disorders. Because children with DD struggle with difficult and rigid behavior, their parents may be more likely to experience failure and frustration with typical parenting strategies (Fields, 2006). Ardelt and Eccles (2001) argue that parents with a low level of parental self-efficacy may have difficulty using positive parenting methods and there is a risk that they give up easily when challenges arise, which may confirm their beliefs of low efficacy. Thus, the results of effective and consistent parenting in a child with DD can be complicated to evaluate. Parents manage to set limits and assist their child emotionally in their development, but they may not receive clear, concrete confirmation of positive changes in their child's behavior. Thus, they may begin to perceive themselves as ineffective parents (Falk et al., 2014). Parents who perceive themselves as ineffective may lack the motivation to comply with behavioral management recommendations in the first place and is possible to suffer from depression or anxiety disorders (Schieve et al., 2007).

Parental self-efficacy and depression/anxiety

Research on the families of children with DD report a greater number of stressors compared to families of children with other disabilities (McGrath, 2006). The impact of increased self-efficacy on parental well-being cannot be overlooked, as interventions focused on increasing feelings of self-efficacy among parents of children with autism have positive effects on their mental health (Hastings & Brown, 2002). Among the different facets of parents' psychological functioning, parental depression has been studied the most in relation to parental self-efficacy, including longitudinal research. Overall, parenting self-efficacy is associated with less parental depression and greater satisfaction with the parenting role and, to a lesser extent, with better coping and lower levels of stress (Tracy et al, 2005).

Parental satisfaction is a significant negative predictor of depression. Myers (2009) shows in his study that parents of children with autism feel a sense of loss and pain regarding their own future,

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their own life opportunities. Myers highlighted that these parents have a sense of losing the ability to live their own lives. Socioeconomic support and parental cognitions, particularly those thoughts about the parent's role, is the main predictor of mental health problems, and these factors may mediate the relationship between children's conditions and parenting stress (Falk et al., 2014). Parents with elevated depressive symptoms observed more severe DD symptoms, and general behavior problems in their children, perceiving their own parenting style as more negative, compared to parents of children without DD (Chi & Hinshaw, 2002).

Parents with low self-efficacy tend to have more failure cognitions and exhibit higher levels of anxiety and depressive symptoms (Miller et al., 1992). It has been shown that a low parental self-efficacy is related to faster giving up, feelings of anxiety, depression, frustration (Shumow & Lomax, 2002; Wells-Parker, Miller, & Topping, 1990). Low levels of parenting self-efficacy are linked to parenting stress, dysfunctional family interaction patterns, parents' physical and mental health, parents' negative emotional problems, and decreased quality of parent-child interactions (Gelfand, Teti, & Radin, 1992; Kwok & Wong, 2000; Scheel & Rieckmann, 1998). Mothers who reported lower parenting self-efficacy reported higher levels of maternal depression (Cutrona & Troutman, 1986; Teti & Gelfand, 1991).

Parents are more likely to experience perceived failure in a parenting activity or parenting task if their children are more difficult to educate because of problematic behavior or poor emotional capacity (poor emotional regulation) (Teti & Gelfand, 1991). Parenting self-efficacy has been found to mediate levels of depression and anxiety for mothers, and levels of anxiety for fathers of behaviorally difficult children (Hastings & Brown, 2002). At the same time, parents with high parental self-efficacy are more likely to persevere in the face of challenges and consistently apply parenting, to exercise their parenting skills even in difficult circumstances. Therefore, high parenting self-efficacy is likely to be particularly advantageous for parents who have a more behaviorally or temperamentally difficult child, where the parents may need more patience or persistence (Teti, O'Connell, & Reiner, 1996).

Considering the above, we will try to investigate the predictive role of parental self-efficacy on the mental health of parents of children with DD. In order to achieve this objective, the following hypothesis was formulated:

H3. Parental self-efficacy is a negative predictor of mental health problems in parents of children with DD.

H3a. Parental self-efficacy is a negative predictor of the level of depression in parents of children with DD.

H3b. Parental self-efficacy is a negative predictor of the level of anxiety in parents of children with DD.

Methodology

Participants and procedure

The study was attended by 46 people, aged between 23 and 49 years, M = 37.46, SD = 6.51, parents of children with DD, the children's age being between 3 and 15 years, M = 6.50, SD = 2.77. The duration of children's diagnosis is between 1 and 13 years, M = 4.00, SD = 2.97. The number of children within the families is between 1 and 4, M = 1.52, SD = .69. Of the total participants, seven are males (15%) and 39 are females (85%), and of the total children, 35 are males (76%) and 11 are females (24%). Regarding the children's diagnosis, 20 have ASD (43%), five have ADHD (11%), seven have developmental delay (15%), four have neuromotor disorders (9%), and 10 have

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a mixed disorder (22%). Of the total number of parents, nine are single (20%) and 37 are married (80%).

The inclusion criteria used in this study was to be the parent of a child with developmental disorders. The way in which the data was collected from the mentioned sample was represented by filling out an online Google Forms-type questionnaire, which gave the participants all the time they needed to answer the questions. The participants were informed about the processing of personal data in accordance with the requirements of Regulation (EU) 2016/679. At the same time, the information obtained from completing the questions is anonymous, which protects them from subjective interpretations and/or researcher bias. The present research complies with ethical guidelines and confidentiality agreement.

The sampling method was of convenience, as all parents of a child with a developmental disorder could complete the questionnaire. Participants were not rewarded with anything after completing the questionnaire. The fulfilment of the conditions regarding the ethics of data processing and interpretation, as well as the monitoring of safety conditions has been respected. The data were initially organized in encrypted Excel spreadsheets to which only the author of this study had access. No name of the participants or other data that could connect the identity of the participant with the data provided by him was requested.

Instruments

Socio-demographic variables were collected through a list of questions regarding gender, quantified by 1 for men and 2 for women. Age was noted by each participant with numbers, marital status, quantified with 1 represents in a relationship, and 2 represents single. The number of children was written by each one in numbers.

Depression and anxiety were measured with DASS21R (Lovibond & Lovibond, 1995), Romanian version (Perțe, 2011). The instrument consists in 21 items of which we used only 14 of 21 items, seven for depression and seven for anxiety. The scoring is being made on a 5-point Likert scale, where 0 – almost never and 4 – almost always. The Cronbach alpha coefficient in the present study was .84 for the depression subscale and .88 for anxiety subscale.

Parental self-efficacy was measured with the Parenting Sense of Competence Scale (PSOC). It consists of 17 questions that track the individual's own opinion about parenting self-efficacy. In this questionnaire. We used a 6 points Likert scale, where 1 – clearly disagree and 6 – clearly agree. The Cronbach alpha coefficient was .82.

Research design

The present study has a cross-sectional, differential, and correlational design. In order to organize the data and test the hypotheses, we used the statistical analysis programs IBM.SPSS24 (IBM Corp, 2016) and Jamovi (The jamovi project, 2022).

Results

Descriptive statistics

The means, standard deviations, skewness, and kurtosis for the analyzed variables are presented in Table 1.

Table 1.

Means, standard deviations, skewness, and kurtosis for the analyzed variables

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	Depression	Anxiety	Parental self-efficacy
M	5.93	5.11	77.59
SD	4.79	5.10	12.70
Skewness	.77	.92	-.53
Kurtosis	-.22	-.19	.93

It is observed that the scores obtained by the participants for depression are average M = 5.93, SD = 4.79, and for anxiety they are moderate M = 5.11, SD = 5.10. Regarding parental self-efficacy, the scores obtained by parents are high M = 77.59, SD = 12.70.
Skewness and kurtosis are found in the range (-1,1), which reflects a normal distribution of the data.

Table 2.
Correlations among the analyzed variables

	Depression	Anxiety	Self-efficacy
Depression	—		
Anxiety	.83 ***	—	
Self-efficacy	-.48 ***	-.38 **	—

* p < .05, ** p < .01, *** p < .001

It is observed that there are significant negative correlations between depression and parental self-efficacy r = -.48, the effect size being r^2 = .23, as well as between anxiety and self-efficacy, r = -.38, the effect size being r^2 = .14.

Inferential statistics

H1. *Mothers show a higher level of mental health problems than fathers of children with DD.*

H1a. *Mothers show a higher level of depression than fathers of children with DD.*

H1b. *Mothers show a higher level of anxiety than fathers of children with DD.*

In order to test this hypothesis, two t-test for independent samples were performed, one for depression and one for anxiety.

Table 3.
Mean scores for depression by gender of parents

	Group	N	M	SD	SE
Depression	Male	7	3.29	.95	.36
	Female	39	6.41	5.05	.81

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Table 4.

Independent samples t-test, level of depression by parent's gender

							95% CI		
			df	p	MD	ESD	Min	Max	d
Depression	t	-1.62 [a]	44.00	.113	-3.12	1.93	-7.01	.77	-.66

It is observed that there are no gender differences regarding the level of depression of parents with a child with DD, the scores obtained by the mothers, M =6.41, SD = 5.05, being not significantly different from fathers' scores, M = 3.29, SD = .95. The t-test is insignificant, t(44) = -1.62, p = .11, DM = -3.12, CI95%(-7.01, .77), d = -.66.
Considering this result, we can say that hypothesis H1a is not supported by the analyzed data.

Table 5.

Mean scores for anxiety by parent's gender

	Group	N	M	SD	SE
Anxiety	Male	7	1.29	1.25	.47
	Female	39	5.79	5.23	.84

Table 6.

Independent samples t-test, level of anxiety according to parent's gender

							95% CI		
			df	p	MD	ESD	Min	Max	d
Anxiety	t	-2.25	44.00	.029	-4.51	2.00	-8.55	-.47	-.92

It is observed that there are gender differences regarding the level of parental anxiety. The scores obtained by mothers, M = 6.41, SD = 5.05, being significantly higher than the scores obtained by fathers, M = 3.29, SD = .95. The difference is significant, t(44) = -2.25, p < .05, DM = -4.51, CI95 %(-8.55, -.47), d = -.92.
Considering this result, we can say that hypothesis H1b is supported by the analyzed data.

H2. *The age of the child with DD is a significant positive predictor of mental health problems in parents of children with DD.*

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H2a. *The age of the child with DD is a significant positive predictor of the level of depression in parents of children with DD.*

H2b. *The age of the child with DD is a significant positive predictor of the level of anxiety in parents of children with DD.*

In order to test this hypotheses, two simple linear regression analysis were performed with the child's age as the predictor and the parent's level of depression/anxiety as the dependent variable.

Table 7.

Simple linear regression analysis for child age as a predictor of parent depression

						95% CI	
Predictor	**Estimation**	**SE**	**t**	**p**	**β**	**Min.**	**Max.**
Age of the child	.64	.24	2.62	.012	.37	.09	.65

R^2 = .14

It is observed that the age of the child with DD is responsible for 14% of the variation in the level of depression of the parent, the regression equation being statistically significant,
$F(1, 44) = 6.88$, $p < .05$. The child's age is positively associated with the parent's depression level, $\beta = .37$, $p < .05$. Considering this result, we can say that hypothesis H2a is supported by the analyzed data.

Table 8.

Simple linear regression analysis for child age as a predictor of parent anxiety

						95% CI	
Predictor	**Estimation**	**SE**	**t**	**p**	**β**	**Min.**	**Max.**
Age of the child	.76	.25	3.00	.004	.41	.13	.69

R^2 = .17

It is observed that the age of the child with developmental disorder is responsible for 17% of the variation in the parent's anxiety level, the regression equation being statistically significant, $F(1, 44) = 68.97$, $p < .01$. The child's age is positively associated with the parent's anxiety level, $\beta = .41$, $p < .01$. Considering this result, we can say that the H2b hypothesis is supported by the analyzed data.

H3. *Parental self-efficacy is a negative predictor of mental health problems in parents of children with DD.*

H3a. *Parental self-efficacy is a negative predictor of the level of depression in parents of children with DD.*

H3b. *Parental self-efficacy is a negative predictor of the level of anxiety in parents of children with DD.*

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In order to test this hypotheses, two simple linear regression analyses were performed, with parental self-efficacy as the predictor and the parent's level of depression/anxiety as the dependent variable.

Table 9.

Simple linear regression analysis for parenting self-efficacy as a predictor of parent depression

						95% CI	
Predictor	**Estimation**	**SE**	**t**	**p**	**β**	**Min.**	**Max.**
Self-efficacy	-.18	.05	-3.65	<.001	-.48	-.75	.22

R^2 = .23

It is observed that parental self-efficacy is responsible for 23% of the variation in the parent's depression level, the regression equation being statistically significant, $F(1, 44) = 13.33$, $p < .01$. Parental self-efficacy is negatively associated with the parent's depression level, $\beta = -.48$, $p < .01$. Considering this result, we can say that hypothesis H3a is supported by the analysed data.

Table 10.

Simple linear regression analysis for self-efficacy as a predictor of parent anxiety

						95% CI	
Predictor	**Estimation**	**SE**	**t**	**p**	**β**	**Min.**	**Max.**
Self-efficacy	-.15	.06	-2.79	.009	-.38	-.66	-.10

R^2 = .15

It is observed that parental self-efficacy is responsible for 15% of the variation in the parent's anxiety level, the regression equation being statistically significant, $F(1, 44) = 7.51$, $p < .01$. Parental self-efficacy is negatively associated with the parent's anxiety level, $\beta = -.38$, $p < .01$. Considering this result, we can say that hypothesis H3b is supported by the analysed data.

Discussions

The only hypothesis that is not supported by the analyzed data is H1a which reveals that mothers of children with developmental disorders present higher levels of depressive disorder than fathers. Their scores were higher than fathers', but not statistically significant, so this hypothesis is rejected. The hypothesis H1b, which claims that mothers of children with developmental disorders, show higher levels of anxiety disorder than fathers, is supported by the analyzed data. Thus, we can say that the mothers of these children are more anxious than the fathers. In general, women tend to be more prone to anxiety (Freeman, Perry, & Factor, 1991; Gray & Holden, 1992; Hastings et al. 2005; Moes et al., 1992; Sharpley et al., 1997). In addition, the relationship between mother and child is much closer than father-child, especially when the children are young. Thus, women could be more affected by the child's disorder. Other studies argue that family-related problems affect women more than men (Aneshensel, 1992; Thoits 1991), the child's problems being part of the family.

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Hypotheses H2a and H2b were also supported by the analyzed data, so that we can say that the age of the child with DD is a predictor for the mental health of their parents. Thus, the older the child's age, the more often depressive and anxiety disorders are found in their parents. In other words, parents of a 4-year-old child with a developmental disorder have fewer depressive and anxiety symptoms than parents of a 9-year-old child with a developmental disorder. When there are no big changes in children or in the evolution of treatment, it affects the mental health of the parents. This affects them daily, their health deteriorating as time passes. At the beginning of the therapy, the parents still have a dose of hope and trust, but, seeing that their child has changed too little (compared to what they would like), the trust and hope for healing decreases, which brings with it, depression, and anxiety.

When children grow up, reach adolescence, they require more attention from parents or caregivers. Thus, parents are forced to consume more energy, to give more attention to children who lack independence. This consumes them, tiring them, thus ending up with a low level of mental health. Hypotheses H3a and H3b were also scientifically supported. Thus, we can state that parental self-efficacy is a predictor for depressive and anxiety disorders of parents of children with developmental disorder. So, if the level of parental self-efficacy is low, then depression and anxiety have an increased level of occurrence, and vice versa, that is, if the level of parental self-efficacy is high, then parents of children with developmental disorders show lower levels of depression and anxiety. Parental self-efficacy supports well-being and mental health because it helps parents to have a more positive attitude towards their children's diagnosis. Thus, parental self-efficacy is the main motivational engine at certain times for these parents. If they manage to stay positive or feel that what they are doing is not in vain, they will be able to continue. Self-efficacy is closely related to mental health, so the higher the level of parental self-efficacy, the lower anxiety and depression (Hastings & Brown, 2002).

Limitation and future research directions

The study we conducted presents several limitations. The first and most important of these was the unequal number of female and male populations, with more females than males participating in the study, which could affect statistical analysis. The number of participants in the sample was too small, only 46 parents, so we cannot generalize the data as being representative enough for the entire population of parents of children with developmental disorders in Romania. The number of parents of children with ADHD was very small, only five. Previous studies show that those suffering from this disorder become more and more adapted with age, the symptoms diminishing with growth. Thus, the mental health of parents becomes better with the passage of time, and in our study the hypothesis according to which age is a positive predictor was refuted.

Another limitation of this study is that it only measured parenting/self-efficacy cognitions. It may be that other cognitions, such as those related to one's own life or success in activities other than parenting, are equally significant in predicting the mental health of these parents. As with any study examining predictors of anxiety and depression, this study included a narrow subset of potentially predictive variables. The current study provides only surface-level insight into the actual types of cognitions that predict and maintain anxiety and depression in parents of children with developmental disorder.

In our following research we would try to investigate some more representative samples of the population of parents of children with developmental disorders, or we could carry out different studies for ADHD, because this disorder manifests itself differently from all others, when the

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disease does not have serious comorbidities. It would also be important and interesting to study relationships in the extended family, focusing primarily on the involvement of grandparents and the help they provide, then on the involvement of other relatives, such as uncles and aunts.

Conclusions

The results of this study highlight the importance of studying the mental health of parents of children with developmental disorders. The findings support that the mental health of mothers and fathers is affected not only by the fact that they have a child with DD, but also by other factors. Parental gender is an important predictor of anxiety. Mothers are most affected by anxiety disorders due to raising and caring for a child with a developmental disorder. This hypothesis is plausible because, in general, women are more prone to anxiety disorders. But if families of children with developmental disorders knew this, or society, they could prepare mothers for child rearing. Social support is also a factor in parents' mental health, as we have shown in the introductory section. Thus, if society itself knew the hardships a mother of a child with a developmental disorder goes through, perhaps they would support her more.

The age of the child is a factor that influences the mental health of the parents. The older the child, the more affected the mental health of the parents. This can be considered for family life interventions. Proper preparation for this moment can help manage mental health when the child with developmental disorder grows up (only in the case of ASD or other developmental disorders but not ADHD, see study limitations). If this were considered, parents could practice therapy sessions to help support motivation and self-confidence.

Parental self-efficacy is a strong predictor for changing the mental health of parents of children with developmental disorders. When parents have a child with a developmental disorder, after a while, their self-efficacy begins to decline. Thus, states of anxiety and depression set in, which in turn affect parental self-efficacy. If the children's parents would prepare for these moments, through therapy, they could maintain their parental self-efficacy at a high level, which would reduce mental disorders. Self-efficacy also supports the child's therapy, so a less anxious or depressed parent is more involved in the child's recovery because there is confidence, motivation, and hope.

Therefore, this study can provide a database to designate who are the targeted people, who should be helped or who could be the respective group of parents with poor mental health. This study looked at only two of the three components of mental disorders, the parents' primary mental health variables, anxiety, and depression, and included a range of potential predictors in their analysis of their health. It would be difficult for any study to include all the variables that could influence the mental health of parents of children with developmental disorders, so the study stopped at three of them.

In conclusion, the mental health of parents is a very important factor for the development of children with developmental disorders. This can be a predictor for parents' involvement in their children's therapeutic activity towards their recovery. The way parents observe their children's development is largely influenced by their mental health. Thus, depressed, or anxious parents will not notice an evolution in their children's behavior and activity, which directly affects parental self-efficacy. When their attempts to recover the child fail, parental self-efficacy is declining, causing anxious thoughts and depressive behavior. The behaviors of children with developmental disorders are abnormal, wrong only for society in general, since each one adapts to the surrounding world in a certain way. Parents and therapists try to teach them certain coping mechanisms (eating,

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going to the toilet, etc.), but unfortunately a relatively small number manage to gain independence. Another factor that can influence depression, anxiety and self-efficacy is the expectation, which parents develop over time, of positive changes in their children as a result of the actions taken in their recovery process.

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