

Article

Parental Attitudes and the Attitude to Energy Saving among Young People with ASD

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Abstract: The aim of the study was to determine the association between parental attitudes and saving energy in the perception of young people with autism spectrum (13–17 years old). The character of studies was pilot. The diagnostic survey method was used, along with The Scale of Parental Attitudes by M. Plopa and an authored survey questionnaire. Deliberate random sampling was applied. Statistical analysis showed that an attitude towards autonomy manifested by mothers, as well as an attitude of acceptance in mothers and fathers, turned out to be significant in adolescents with ASD showing a positive attitude towards energy saving, and these correlations were positive, strong and statistically significant. An overly protective attitude of mothers turned out to be significant in shaping a negative attitude towards energy saving among adolescents with ASD with a significant, positive moderate correlation. Regression analysis showed that the perception of the father's parental attitude as accepting was a statistically significant predictor of a positive attitude towards energy saving, and that the perception of the mother's parental attitude as demanding and overly protective was a statistically significant predictor of a negative attitude to energy saving. The achieved results acquire an additional aspect, i.e., a financial dimension in the household budget.

Keywords: saving energy; parenting attitudes; autism spectrum disorder; finance of households



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1. Introduction

Today, one of the most important trends in the field of household behavior is reduction of energy consumption. This issue is important from the point of view of the organization of traditional energy provision, development of renewable energy systems (RES) and the tendency towards energy autonomy in the face of the energy crisis, as well as from the perspective of personal/household financial management.

In households, energy is used mainly for: heating living spaces, water heating, electrical appliances, cooking, lighting and air conditioning. It should be also underlined that households use a lot of energy for private transport. Households use energy from various traditional sources such as natural gas, electricity, oil, wood and coal [1].

Common tendencies that accompany the development of the energy market are the saving of energy from traditional sources and environmental protection. At the same time, renewable energy systems (RES) are being developed based on various technologies (e.g., solar photovoltaics (PV) and wind power). Households must decide individually on adopting the new technology and using it correctly, as well as adjusting their attitudes and behaviors. Behavior-driven energy-saving approaches (supported by information and awareness) generally require less capital and time investment, and are characterized by quick-start energy-saving effects [2].

The literature presents several motivations driving the quest for saving energy in households, including economic, psychological (attitude and subjective norms), environmental and security and social issues. Household income is one of the most important socio-demographic factors that influences energy-saving attitudes among the occupants of buildings and houses [3]. Significant monetary benefits are also estimated to be achieved (saved money) through households' cost-effective energy use [4]. This requires both investment as well as the proper energy-saving behavior. Conducted research has demonstrated that changes in behavior could lead to as much as \$2.2 billion per year in electricity bill savings for U.S. households [5]. The issue of saving energy in the household is usually dictated by the limitation of expenses in the household budget. Saving energy for economic reasons is accompanied by the desire to protect the environment.

From the perspective of households, a positive attitude towards environmental protection results in (influences) measurable effects in the form of money savings, which has a positive effect on the household budget. However, the motives and values of adolescents in their participation in pro-ecological (mainly volunteer) activities may differ in comparison to adults. These may include the desire to help nature and the environment, having plenty of available free time, importance and prestige, the desire to express oneself, to acquire new experience and to be useful [6]. The economic motive in such cases may be realized indirectly by parents through a proper parental style facilitating pro-ecological behavior.

Real savings are a reason for shaping appropriate pro-ecological attitudes in everyday life that apply to basically all households that care about their financial situation. The economic/savings motive, however, is particularly important in vulnerable households facing certain health difficulties, which in turn result in additional costs and the special need for savings. Among the basic behaviors that represent a pro-ecological attitude towards environmental protection are usually listed water saving, ecological nutrition with minimal waste or energy saving.

In the field of environmental protection, emphasis is placed on the need to develop appropriate pro-ecological and facilitated savings attitudes from an early age. This means that the principal environment that shapes appropriate attitudes towards environmental protection may be the family environment. Therefore, the role of parents in shaping the appropriate attitude of a young person in terms of their perception of the environment and the optimal use of its "benefits", through appropriate behavior, cannot be overestimated. This behavior may turn out to be particularly important in the case of households exposed to additional financial burdens related to, for example, the need to conduct therapy for family members with disabilities (e.g., adolescents with ASD).

The actual participation of young people with disabilities, including those with ASD, in the process of energy saving and other pro-ecological behaviors positively influencing the home budget is also important. Especially since autism spectrum disorder is an increasingly common neurodevelopmental disorder, and the number of people with ASD is constantly increasing. Autism spectrum disorders in the United States are diagnosed in 3% of children [7] and occur in one in 54 children [8]. In addition, for a long time—due to expanded diagnostic criteria, more awareness of the disorder, diagnosis at earlier ages and the recognition that ASD is a lifelong condition—the number of cases of people (including children) with ASD has risen dramatically [9].

Hence, this group is of particular importance in shaping a positive attitude towards energy saving, because as was mentioned earlier, people with high functioning autism spectrum disorders constitute a large part of the population that actively participates in various areas of life.

The aim of the study was to answer the question: Whether, and if so, which parenting attitudes in mothers and fathers are related to attitudes among young people with Autism spectrum towards saving energy?

The paper is based on both a study of the literature in which academic sources have been used, as well as on empirical research using statistical methods.

In the empirical part of the paper, the statistical analysis showed a relation between some parental attitudes in mothers and fathers and a positive attitude towards energy saving among young people with ASD.

1.1. The Spectrum of Autism Disorders

According to the DSM-V classification (since May 2013), autistic disorders, Asperger's syndrome and pervasive developmental disorders (PDD-NOS) are included in one unit—Autistic Disorder Spectrum (ASD). This group is divided according to the intensity of symptoms (ASD severity levels: L1—requires support—problems mainly relate to social relationships, L2—requires significant support—problems with communication with people, L3—requires very significant support—unable to communicate verbally and non-verbally). This article focuses on people with high functioning autism—mild or mild (subclinical) autism, with a description of the child's characteristics, e.g., well-developed speech, broad general knowledge, specific, specialized interests that require L1 support. The spectrum of autistic disorders covers two areas:

- Social/communication deficits (DSM V, Diagnostic and Statistical Manual of Mental Disorders). People with highly functioning autism have high linguistic competences (rich vocabulary), while problems relate to establishing and understanding social relations. The abnormalities concern proper eye contact in conversation, understanding body language and the use of non-verbal communication [10,11].
- Persistent interests and repetitive behaviors (DSM V, Diagnostic and Statistical Manual of Mental Disorders). These relate to excessive use of routine, ritualized patterns of verbal or non-verbal behavior or excessive resistance to change (extreme stress, nervousness in response to small changes, movement rituals, rigid thinking patterns, emphasis on the same route or identical clothes or food every day). Very limited, fixed interests that are incorrect in intensity or on an object of attention (strong attachment to or interest in unusual objects), too limited or perseverative interests. Rigid and constant views [12] and beliefs that can positively affect social functioning and may have a positive impact on many areas of life, provided they are shaped by positive role models.

At this point, it should be underlined that there is a lack of research on different supporting and hindering environments (including parental) for the participation in different areas of life (all the more of ecology/energy protection) of adolescents with ASD. Many areas are recognized for most childhood disabilities, but have rarely been studied for adolescents with autism spectrum disorder (ASD) [13].

1.2. Parental Attitude

Parents play a crucial role in a child's development and the quality of relationships between them shapes the development of children and adolescents. Results of much research confirm that parental behavior, upbringing styles and educational styles are associated with a child's personality and their socioemotional adjustment, and also shape the future behavior of their children [14].

Parental attitude may be understood as the comprehensive attitude of one's parents (father and mother separately) towards their children and upbringing issues, formed during the fulfilling of parental functions [15]. The different characteristics of parental attitudes have contributed to the development of a classification of parental styles, in which attention is paid to, e.g., form of love and acceptance, rejection, excessive control, over-protection and autonomy. Taking into account these characteristics of upbringing, the following parental approaches have been determined: acceptance, rejection, autonomy, excessive demands, inconsistency and excessive protection [16,17].

1. Acceptance—the parent respects the individuality of their child. The relationship between parent and child is a partnership in nature. The child feels fully accepted and safe in the family, is not afraid to express their feelings and desires and enjoys freedom in the exchange of thoughts, views and feelings. The child feels that the

parent is interested in their affairs and problems. Regardless of age, parents treat them with dignity and involve them in active participation in family matters. Acceptance has several positive effects on individuals. Children who experience parental acceptance less often display emotional and behavioral problems in later adolescence and adulthood [14], while acceptance also has a positive impact on solving different social problems and making independent decisions. Accepted children experience emotions and learn to share them [18]. This may concern emotions directed toward different aspects, including ecology and environmental protection.

2. Rejection—the parent’s role is mainly focused on meeting the material needs of the child. The child is treated with distance and their subjectivity is not noticed. Contact with the parent is limited and is not a source of pleasure for the child—unemotional exchanges, a lack of commitment and emotional intimacy. Children who experience rejection by their parents suffer from problems associated with certain aspects of emotional instability [19], with a further impact on functional deterioration and decision-making.
3. Autonomy—a favorable attitude of a parent expressed (characterized) by flexible behavior and adaptation to the child’s needs and views in solving difficulties. The child has the right to their privacy and to solving their problems on their own. The parent treats the child’s opinions with respect, even if they do not entirely approve of them. The growing child enjoys greater opportunities, and the parent becomes a partner in their daily life. The child and subsequent adolescent is characterized by self-regulation and independence, and is allowed to regulate their own activities [20].
4. Excessive demands—the attitude towards the child is stiff and ruthless in accordance with the adopted principles of upbringing; the parent requires total obedience from their child and does not allow them to have an independent opinion. There are high expectations and requirements which are imposed on their child in every sphere of life. The parent is convinced that they know what is right (or best) for their child, disregarding the views of the child. This authoritarian parenting style is usually associated with negative developmental outcomes, such as aggression, depersonalization and anxiety [21].
5. Inconsistency—the parental attitude is characterized by the parent’s lack of consistency in relation to the child. Depending on the current situation, the parental responses may be unpredictable and therefore incomprehensible to the child. The child perceives the parent as emotionally unstable and changeable. In such a home, a child may have a problem with recognizing their own needs and challenges, a frequent mechanism is emotional distance from their parents. Parental inconsistency may refer to changes in parenting by each parent over time—intraparental inconsistency, differences in parenting between parents—interparental inconsistency and incongruence between parenting and the culture where the family is inserted—extraparental inconsistency. This concept has not been so widely studied and has a hypothesized association with the mental health of children [22], with a further impact on decision-making and activities.
6. Overly protective (overprotectiveness, excessive protection)—the parent surrounds the child with excessive care, does not accept changes related to the development of child, is afraid of their autonomy and does not allow the child to gain independence. The child cannot make independent decisions. In such a situation, the child often shows rebellious attitudes and distances themselves emotionally [17].

The different parenting styles covering parental participation and parental control influence the psychological and social adjustment of children and adolescents and their achievement in different areas [23].

1.3. Adolescents’ Attitude towards Ecology

An environmental attitude includes a “collection of beliefs, affect and behavioral intentions a person holds regarding environmentally-related activities or issues” [24]. The

environmental attitudes, beliefs and behaviors of young people are different and have changed over the years. The environmental concerns of adolescents increased during the early 1990s, and then declined over the following years up until the beginning of the 21st century. In this latter period, adolescents did not accept personal responsibility for the environment. Young people rather tended to assign responsibility for the environment to the government and consumers. The decline in environmental concerns among adolescents confirmed the need for a renewed focus on young people's views and prompted a call for better environmental education [25]. It seems to be that with time, adolescents started to perceive environmental threats with more and more sensitivity, and they demonstrated a willingness to adopt an active attitude towards pro-ecological issues [26].

Today's young people are concerned about the environment and hold moral standards that motivate them to act pro-environmentally and undertake grand environmental challenges. Adolescents worldwide initiate social movements to urge policy makers to tackle environmental challenges, e.g., concerning climate change. Young people see caring for nature and the environment as a universal value [27–29] but this value seems to be less prioritized than other values [30]. Generally, a decline in pro-environmental behavior is observed as a child moves from childhood into adolescence, only to increase again in adulthood [31–33].

Studies confirm positive relationships between caring for nature (biospheric values) and environmental activism in the form of a wide range of pro-environmental behaviors, including recycling, environmentally-friendly travel, purchasing environmentally-friendly goods and drinking tap water [34]. Young people accept and support policies promoting energy conservation.

Adolescents' values and identity—including their environmental self-identity—undergo intense development and are not stable. Their moral standards are still changing, and they depend on social interactions with their peers and parents [35,36].

A proper behavioral change in energy use intended to save energy is also termed as behavior-based energy efficiency. This method is typically implemented through education, outreach activities or normative feedback [37].

There are few studies on the influence of parental attitudes on the development of children's ecological behavior. More common among them are, for example, research on development of a child's food preferences, e.g., eating healthy and ecological foods under the influence parental attitudes [38]. There is somewhat less research into the effects of parenting style on other aspects of environmental protection, e.g., related to economical energy use. This research shows that adolescents' pro-environmental behavior (recycling, energy saving, etc.) is heavily influenced by the dominating norms within the family, and mainly by how strongly they are manifested in their parents' behavior. In particular parental attitudes there are descriptive norms—normative information is conveyed via parents' actions, or injunctive norms—parents' instructions on pro-environmental behavior directed to their children [39]. The available results of recent studies confirm the correlation between parents' and adolescents' energy-saving behaviors, mediated by adolescents' perceptions of their parents' behavior. At the same time, the researchers recommend further, deeper research on the topic [40].

Taking into account the fact that young people are considered to be one of the most essential stakeholders in environmental protection and conservation in the future, and—on the other hand—considering the unquestionable impact of parents on their children's relationship with the environment—the scale of research in this area should be increased.

In this research, an attempt will be undertaken to examine the influence of the parental style on pro-ecological behavior, mainly related to energy use in households with children with ASD.

The aim of the research is to try to answer the question:

1. What parental attitudes do the father and mother present in the perception of adolescents with ASD?
2. What is the attitude of adolescents with ASD toward energy saving?

3. Are the parenting attitudes of mothers and fathers, and if so which ones, related to an attitude towards saving energy among young people with Autism spectrum or Asperger syndrome?
4. Are there any predictors of positive/negative attitudes towards saving energy, and if so, which educational attitudes of the father and mother does this relate to?

The research is exploratory; therefore, no research hypotheses have been formulated.

2. Material and Methods

The research can be characterized as a pilot study and used the diagnostic survey method. The Scale of Parental Attitudes by M. Plopa [17] and an authored survey questionnaire were used in the research.

According to the Scale of Parental Attitudes by M. Plopa [17], the questionnaire consists of two versions—designed to assess the mother's parental attitudes and the father's parental attitudes. Each of the sheets contains 50 diagnostic statements grouped into five dimensions corresponding to five parental attitudes: acceptance-rejection, excessively demanding, autonomy, inconsistent, overly protective. The person studied responds to each of the statements on a five-point scale. The reliability of the tool has been confirmed, with high rates of internal compliance for both versions—for mothers and for fathers. The validity of the tool is satisfactory, with confirmed theoretical validity by means of factor analysis and correlation with other questionnaires: assessment of psychological gender and a retrospective assessment of parental attitudes of their parents; there is also abundant evidence for criterion validity (results from different special groups) The authors of the Scale of Parental Attitudes developed norms based on the results of a representative sample of 3249 women and 2786 men; the sten were prepared separately for men and women of different ages, education and number and age of children in the family [17]. The scale of attitudes towards saving energy is indicated in an authored survey questionnaire. The tool consists of closed questions about energy-saving behavior. The person studied responds to each of the statements on a five-point scale: no—1, rather not—2, don't know—3, rather yes—4, yes—5. The raw results are converted into sten norms, and the degree of intensity of a given ratio is interpreted in a positive or negative direction. High scores (7–10 sten) indicate a positive attitude towards energy saving, while low scores (1–3 sten) indicate a negative attitude. The average results according to psychometry assumptions in the measurement of the bipolar ratio are not taken into account.

The research was conducted in 2021 at the Specialist Outpatient Clinic for People with Autism for Children in Leżajsk. Deliberate random sampling was used. The study involved 106 children with Autism spectrum syndrome. A total of 85 boys and 21 girls were examined. The average age of the respondents was 16 (from 13 to 17). Adolescents with a medical diagnosis of high-functioning autism, whose main criterion is functioning within the intellectual norm, have great cognitive abilities and high verbal communication abilities, and were qualified for the research. People with high-functioning autism mainly show problems in social functioning (problems in relationships with other people, reading intentions and body language, isolating themselves). The parents were not tested.

The research is consistent with the assumptions of social research methodology. The research used so-called strong, standardized psychological tools, in which the accuracy and reliability of the tool, not the questionnaire, is examined. Therefore, it was possible to study the relationship between The Scale of Parental Attitudes by M. Plopa and the scale of attitudes towards saving energy using higher statistical analyses, including correlation analysis. Non-probabilistic selection and deliberate random sampling were used. Such sample selection is permitted by standardized tools (the validity and reliability of the tool) for groups that are difficult to access [41] such as children with ASD, especially during a pandemic. The sample was large considering the hard-to-reach group and the pandemic lockdown.

3. Results

First, the profile of the presented parental attitudes and the attitude to energy saving among young people with ASD were analyzed. Mothers and fathers scored the highest in terms of inconsistency and protection. The lowest are for both mothers and fathers in terms of being too demanding (Figure 1).

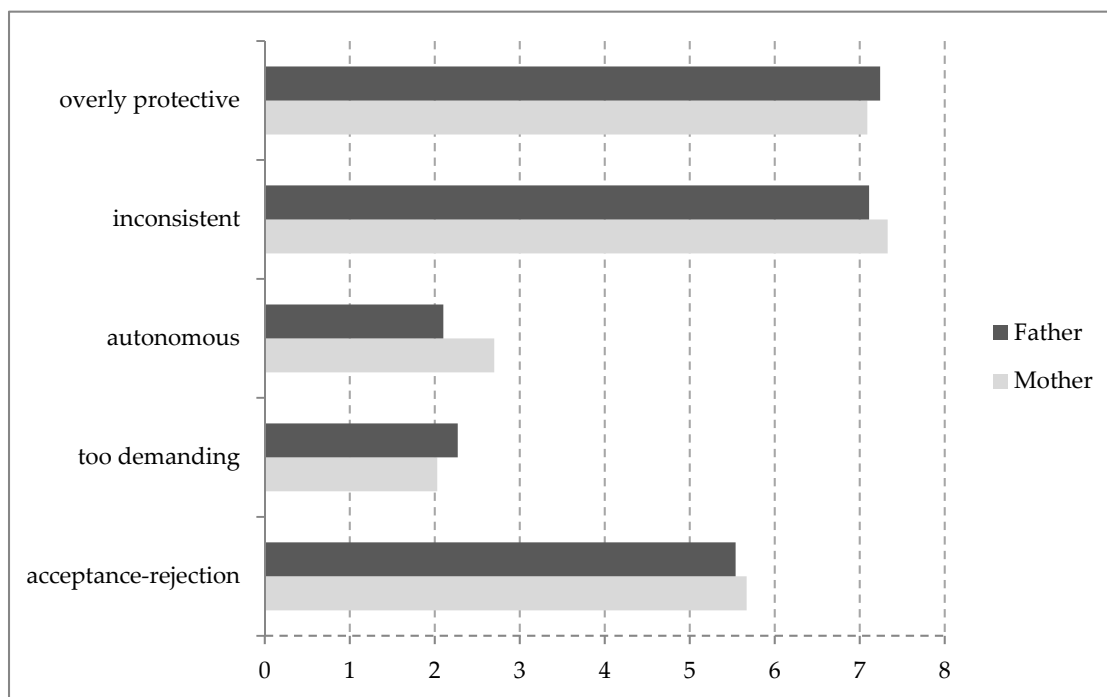


Figure 1. Intensity (in sten values) of parental attitudes of mothers and fathers in the perception of adolescents with ASD.

Based on the norms (in sten values) in relation to adolescents, we can conclude that high scores are between 7 and 10 sten. Both the inconsistent and overly protective parental attitudes of mothers and fathers in the perception adolescents with ASD scored highly. For the acceptance-rejection attitude of both the father and the mother, the mean scores range from 5 to 6. Low results up to the 4th sten were found for autonomous and too demanding attitudes of both the father and mother in the perception of adolescents with ASD.

The parents did not differ significantly in the intensity of individual attitudes (Table 1).

Table 1. Differences between mothers and fathers in the intensity of parental attitudes (in sten values).

Results on Parental Attitudes Scale	Mother		Father		<i>t</i>	<i>p</i>
	M	SD	M	SD		
<i>acceptance-rejection</i>	5.67	2.61	5.54	2.41	0.18	0.83
<i>too demanding</i>	2.03	0.92	2.27	1.23	−0.83	0.41
<i>autonomous</i>	2.70	1.64	2.10	1.41	1.62	0.10
<i>inconsistent</i>	7.33	1.04	7.11	1.15	−1.44	0.15
<i>overly protective</i>	7.09	1.11	7.24	1.20	−0.34	0.72

The most frequently preferred parental attitudes among mothers in the perception of adolescents with ASD are: inconsistent ($M = 7.33$, $SD = 1.04$) and overly protective ($M = 7.09$, $SD = 1.11$). Similarly, but slightly more often, adolescents with ASD most frequently chose the preferred parental attitudes in fathers to be overly protective ($M = 7.24$, $SD 1.24$) and inconsistent ($M = 7.11$, $SD = 1.15$). The least frequently preferred parental

attitudes among mothers in the perception of adolescents with ASD were: too demanding ($M = 2.03$, $SD = 0.92$) and autonomous ($M = 2.70$, $SD = 1.64$). Similarly, but less often, adolescents with ASD most frequently chose the preferred parental attitudes of fathers as: autonomous ($M = 2.10$, $SD = 1.41$) and too demanding ($M = 2.27$, $SD = 1.23$). The differences are not statistically significant. The above research shows that parental attitudes manifested by both mothers and fathers in the perception of adolescents with ASD are most often associated with the lack of rules, inconsistency and excessive protection, which does not favor proper social development.

The high and low scores regarding attitude to energy saving among young people with ASD are presented in Table 2.

Table 2. Outcomes of attitude to energy saving among young people with ASD (in sten values).

Energy Saving Scale	M	SD
negative attitude	2.98	1.74
positive attitude	7.08	1.10

According to the theoretical assumptions of the tool, low results indicate a negative attitude to energy saving, while high results indicate a positive attitude to energy saving.

Below, the relationship between parental attitudes and the attitude to energy saving among young people with ASD is analyzed (see Table 3). For this purpose, r-Pearson correlation analysis was performed, and the conditions for the correlation were met (the data—interval and distribution close to normal—was checked using the Kolmogorov-Smirnov test).

Table 3. Correlation of parental attitudes and the attitude to energy saving among young people with ASD.

Results on Parental Attitudes Scale	Low Results on Energy Saving Scale—Negative Attitude		High Results on Energy Saving Scale—Positive Attitude	
	Mother	Father	Mother	Father
<i>acceptance-rejection</i>	0.06 (0.632)	0.32 (0.077)	0.56 (0.002)	0.52 (0.002)
<i>too demanding</i>	−0.02 (0.647)	0.04 (0.622)	−0.04 (0.321)	0.06 (0.773)
<i>autonomous</i>	0.04 (0.778)	−0.05 (0.714)	0.69 (0.005)	0.04 (0.886)
<i>inconsistent</i>	−0.07 (0.558)	0.33 (0.769)	0.11 (0.311)	0.24 (0.343)
<i>overly protective</i>	0.04 (<i>p</i> 0.042)	0.021 (0.199)	0.33 (0.124)	0.29 (0.321)

Some parental attitudes of the mother and father are related to a positive attitude towards saving energy among young people with ASD. The autonomy attitude manifested by mothers correlates with a positive attitude to energy saving among young people with ASD, with the results indicating the existence of a significant, positive correlation at the level of 0.69 (p 0.005) between the variables. The attitude of autonomy is understood here as an attitude in which the parent shows their child alternative options, demonstrates by their own example what behavior is good and what is bad, talks about the consequences of actions by giving a free choice and also pays attention to teaching the child to make independent and conscious decisions and expresses approval for this type of activity.

The mother's attitude of acceptance turned out to be significant in creating a positive attitude to energy saving among adolescents with ASD, with the results indicating the existence of a significant, positive, strong correlation at the level of 0.56 (p 0.002) between the variables. The attitude of acceptance of the father also turned out to be significant in generating a positive attitude to energy saving among adolescents with ASD, with the results indicating the existence of a significant, positive correlation at the level of 0.52 (p 0.002) between the variables. Children of mothers and fathers who preferred this

educational attitude significantly more often showed a responsible and conscious attitude towards energy saving.

The mother's overly protective attitude turned out to be significant in shaping a negative attitude towards energy saving among adolescents with ASD, as the results indicate the existence of a significant, moderate correlation between the variables at the level of 0.04 (p 0.042). The excessively protective attitude is understood here as an attitude in which the parent carries out his or her duties without giving space for development and without allowing the child to enjoy free, conscious decision-making. Such a child does not learn the norms of appropriate behavior, is helpless and waits for someone to solve a problem for them.

In order to obtain answers to the research question (whether and if so which parenting attitudes of the father and mother are predictors of a positive/negative attitude to energy saving), logistic regression analysis was performed. The goodness of fit statistics indicate a good model fit of 82%. The pseudo- R^2 values calculated by the Cox, Snell and Nagelkerk methods were, respectively: $R^2 = 0.41$ and $R^2 = 0.55$. Summing up, the results indicate that the perception of the father's parental attitude as accepting ($OR = 1.1$) turned out to be a statistically significant predictor of the "positive attitude towards energy saving". An increase in this by 1 standard deviation unit increases the chance of it being in the group of "positive attitude towards energy saving" (see Table 4).

Table 4. Predictors of parental attitudes in relation to a positive attitude to energy saving.

Predictors	β	S.E.	Wald	p	OR	Confidence Intervals for OR (95%)	
						Lower	Upper
Mother acceptance	0.01	0.6	0.02	0.87	1.02	0.91	1.14
Mother too demanding	−0.01	0.04	0.06	0.81	0.90	0.91	1.08
Mother autonomous	−0.08	0.07	1.26	0.26	0.92	0.82	1.07
Mother inconsistent	0.08	0.07	1.17	0.28	1.08	0.96	1.22
Mother overly protective	0.06	0.05	1.15	0.27	1.05	0.95	1.16
Father acceptance	0.11	0.05	5.29	0.02	1.11	1.02	1.25
Father too demanding	−0.05	0.04	1.41	0.24	0.96	0.88	1.03
Father autonomous	−0.08	0.04	2.56	0.11	0.92	0.86	1.02
Father inconsistent	0.01	0.06	0.04	0.84	1.01	0.91	1.14
Father overly protective	−0.03	0.05	0.48	0.49	0.97	0.88	1.06

The model containing the predictor of the perception of parental attitudes regarding "negative attitudes to energy saving" among adolescents with ASD turned out to be a good fit. Goodness of fit statistics indicate a better fit of the model, from 91% to 92%. The pseudo- R^2 values calculated by the Cox, Snell and Nagelkerk methods were, respectively: $R^2 = 0.26$ and $R^2 = 0.48$.

The results presented in Table 5 indicate that the perception of the mother's parental attitude as demanding ($OR = 0.73$) was a statistically significant predictor of a "negative attitude to energy saving" in adolescents with ASD ($OR = 0.73$). The results also show the perception of the mother's parental attitude as overly protective ($OR = 1.31$), the increase of which by one standard deviation increases the chance of it being in the group of a "negative attitude to energy saving" in adolescents with ASD (see Table 5).

Table 5. Predictors of parental attitudes in relation to a negative attitude to energy saving.

Predictors	β	S.E.	Wald	p	OR	Confidence Intervals for OR (95%)	
						Lower	Upper
Mother acceptance	0.02	0.07	0.05	0.84	1.02	0.86	1.19
Mother too demanding	−0.30	0.11	7.95	0.01	0.73	0.59	0.91
Mother autonomous	0.06	0.08	0.38	0.54	1.05	0.90	1.21
Mother inconsistent	−0.14	0.11	1.76	0.19	0.88	0.72	1.07
Mother overly protective	0.26	0.13	4.73	0.03	1.31	1.03	1.68
Father acceptance	−0.11	0.16	0.59	0.44	0.89	0.66	1.20
Father too demanding	−0.02	0.07	0.06	0.79	0.98	0.86	1.13
Father autonomous	0.14	0.11	2.14	0.14	1.16	0.95	1.43
Father inconsistent	−0.07	0.11	0.27	0.61	0.94	0.76	1.18
Father overly protective	−0.08	0.10	0.61	0.43	0.93	0.77	1.14

4. Discussion

In spite of numerous prior studies into the link between parenting style and future adolescent features, there are none that have analyzed the relationships between parental styles and economical (or not) energy use. Even though one recently conducted study confirms the correlation between parents' and adolescents' energy-saving behaviors [40], there are no details on the influence of parental style on energy saving among their children. It is commonly known that under the influence of parenting styles, adolescents are not just passive social beings, but play an active role in shaping many relationships and behaviors.

The results of previous conducted studies confirm that parental acceptance is associated with greater psychological [42] and social adjustment in their children [43]. Some research has tried to analyze the role of maternal/paternal acceptance (or rejection) separately in the psychological adjustment of children, with regard to further consequences in their social life, and the results of some studies suggest that the best predictor is not so much the gender of the parents, but the relationships between them and their children [44]. In turn, other research demonstrated that the sole presence of the father, regardless of perceived paternal acceptance, affects the psychological adjustment of his child. There is no consensus on the statement that mothers or fathers rank higher on criticism–rejection: some studies claim that it is fathers who rank higher, while others draw similar conclusions for mothers. In addition, there are also results of research in the literature which suggest that older children perceive a higher degree of negligence in parental behavior, especially in the case of their mothers [14].

Even though the cited studies do not always refer to pro-ecological behavior, especially energy saving—they present specific regularities which are confirmed on the parental styles—energy saving behavior axis.

The research presented in this article confirms that in the perception of adolescents with ASD, a predictor of their positive attitude to energy saving is the father's acceptance style, while predictors of their negative attitude to energy saving are the demanding style of the mother and the overly protective style of the mother.

Even though there is lack of previous research on the relationships between parental styles and economical (or not) energy use by children and adolescents (including children and young people with ASD), a discussion was undertaken on an explanation of and justification for positive and negative ecological behavior in adolescents with ASD in terms of energy savings. In this discussion, the typical general behavior of children and young people as result of a given parental style were taken into account.

Partnership (acceptance) relations between a child and a father with an acceptance style may be expanded into other dimensions. By involving the child in active participation in family matters, the accepting father equips the child with social competences. In turn,

the basic social skills include a range of prosocial behaviors [45], which may include environmental protection e.g., in the form of saving energy behavior.

Meanwhile, the negative attitudes of young people toward ecology in the area of energy savings may find their source in their rebellious attitudes against an overly protective mother [17]. While a negative attitude to energy saving in the case of children of a demanding mother is typical for an excessively demanding parental style—negative developmental outcomes may occur, as well as aggression and resistance against many aspects and solutions, [21] including environmental protection in the form of energy savings.

In addition, justification of positive energy saving behavior in the case of the acceptance style, and negative attitudes toward energy saving behavior in the demanding and protective styles may be explained by the prism of emotional issues typical for each of the described parental attitudes. It has been proved that emotionality determines reactions toward environmental problems, and relates to both pro-environmental and environmentally risky behaviors [46].

Children who experience parental (father's) acceptance, less often display emotional problems [14], which may result in more correct and positive emotions directed to ecology, resulting in acceptance of energy savings. In turn, a negative attitude toward energy protection goes hand in hand with typical emotional distance in overly protective attitudes [17] as well as with the demanding style, resulting in consequences in the form of negative emotions such as aggression and resistance [21].

5. Conclusions

The results obtained in the study provided an answer to the research question: Whether the parenting attitudes of mothers and father, and if so which ones, are related to an attitude towards saving energy among young people with Autism spectrum or Asperger syndrome?

Coral analysis showed a relationship between some parental attitudes of the mother and father and a positive attitude to energy saving among young people with ASD. The attitude of autonomy manifested by mothers as well as the attitude of acceptance of the mother and father turned out to be significant in forming a positive attitude towards energy saving among adolescents with ASD; the correlations were positive, strong and statistically significant. On the other hand, the overly protective attitude of mothers turned out to be significant in shaping a negative attitude towards energy saving among adolescents with ASD, with the results indicating the existence of a significant, positive moderate correlation. Moreover, regression analysis showed that the perception of the father's parental attitude as accepting turned out to be a statistically significant predictor of a "positive attitude towards energy saving", and the perception of the mother's parental attitude as demanding and overly protective was a statistically significant predictor of a "negative attitude to energy saving" in adolescents with ASD.

Improving the energy efficiency of households is on the one hand an excellent opportunity to reduce greenhouse gas emissions and increase thermal comfort, while on the other hand it has great potential to improve the weak financial situation of vulnerable households with children with ASD due to higher living costs. Reducing energy use with regard to protecting the environment, supplemented by informed energy use in order to save money, may be an extremely valuable way of improving financial management in households with children with ASD due to the specific features of such households.

The research results indicate that parental styles play an important role in shaping attitudes towards saving energy among children with ASD, but that these parenting styles are also of additional importance due to the financial dimension.

In order for the impact of parental styles on ecological and energy-saving behavior to be more effective and visible in terms of the household budget, further research and action should additionally take into account environmental, technological and financial education aimed at children and adolescents with ASD.

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