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Received: 20.12.2022; revised: 4.02.2023; accepted: 9.02.2023

RAISING A BOY AND A GIRL: PERSONALITY TRAITS THAT MOTHERS DEVELOP AND PREVENT FROM DEVELOPING IN THEIR PRESCHOOL-AGE SONS AND DAUGHTERS

WYCHOWANIE CHŁOPCA I DZIEWCZYŃKI W WIEKU PRZEDSZKOLNYM –
ROZWIJANIE POZYTYWNYCH I NIWELOWANIE NEGATYWNYCH CECH
OSOBOWOŚCI DZIECI PRZEZ MATKI

Streszczenie: Celem było sprawdzenie, czy wybór cech osobowości, które matki wychowujące synów i córki chcą i nie chcą, aby dzieci rozwinęły, różni się między grupami.

W badaniu wzięło udział 158 matek dzieci uczęszczających do przedszkoli (82 matki chłopców i 76 matek dziewcząt) w Polsce. Analizy przeprowadzono przy użyciu: (a) algorytmów text mining, (b) maszyny wektorów nośnych oraz (c) współczynnik λ Aranowskiej, testującego zgodę między odpowiedziami respondentów.

W przypadku pożądanego celu matki chłopców wybierają cele, które są zgodne ze stereotypem męzczyzny, ale starają się także rozwijać cechy wspólnotowości. Matki dziewcząt wybierają cele związane głównie z tworzeniem niezależności, zaradności i wspólnotowości.

Słowa kluczowe: cele rodzicielskie, kształtowanie cech osobowości, algorytmy text mining, maszyna wektorów nośnych

Abstract: The aim was to examine whether the selection of personality traits of mothers raising sons and daughters want and do not want them to develop differs between the groups of mothers bringing up boys and girls.

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The study involved 158 mothers of children attending kindergartens (82 mothers of boys and 76 mothers of girls) in Poland. The analyzes were performed using: (a) text mining algorithms and (b) support vector machine.

In the case of desirable goals mothers of boys choose goals that are in line with the stereotype of a man, but they also try to develop features from the group of community. The mothers of girls choose goals associated mainly with the formation of independence, resourcefulness and community.

Keywords: parental goals, shaping personality traits, text mining algorithms, support vector machine SVM

Introduction

Parental goals are defined as those which are personal characteristics that parents want to shape in their child (Grusec, Goodnow, & Kuczyński, 2000; Gurycka, 1979; Kuczyński, 2003). Studies on parental goals that have been conducted so far have revealed that the selection of parental goals can be culturally determined (R. LeVine, 1974; R.A. LeVine, 1980). Knowledge of the kinds of set by parents' goals has an important meaning not only for the sciences concerning parenting (educational and developmental psychology), for the sciences dealing with personality (psychology of personality) but also for social and geopolitical sciences. Parental goals are common to certain social and cultural groups. Current cultural norms are expressed in parental goals and moreover, parental goals seem to be „forged” of future social norms.

Selection of goals can also be determined due to the sex of the child. Studies have shown that in Latino culture other parental goals concern boys and other girls (Cupito, Stein, & Laura M. Gonzalez, 2015). It can be expected that mothers and fathers can adopt other parental goals towards daughters and different ones towards sons. We focus on checking whether there are differences in the selection of parental goals by mothers bringing up either boys or girls.

Parental goals

Parental goals in the literature are described as psychological traits that parents want to shape in their child (Brzezińska, 2002; Grusec et al., 2000; Miller, 1966; Muszyński, 1972). Unlike educational objectives, which relate more to skills development such as writing, reading, drawing, etc., parental goals relate to shaping personality and attitudes. As Grusec, Goodnow and Kuczynski noted, the selection of parental goals depends on the level of features that the parent desires and wants to shape in the child: “It makes sense that parents distinguish between varieties of acceptance and that they have in mind bands of behaviors that range from what is ideal to what is acceptable, tolerable and, finally, “out of the question”

(Grusec et al., 2000). This indicates that parental goals are selected depending on a parent's subjective perception as to which attributes he or she considers desirable and which are considered undesirable. The selection of parental goals is therefore a very subjective matter, and parents can vary greatly in their preferences. Research has shown that the selection of parental goals is strongly culturally conditioned. Their selection is influenced primarily by the country's socio-economic status (R. A. LeVine, 1980) and by the values shared in each culture (Goodnow & Collins, 1990; R. LeVine, 1974; Mounts & Kim, 2007). In America, the dominant parental goals are related to the provision of material well-being as well as values such as happiness, sincerity, and respect in interpersonal relations (Richman, 1996). In European culture, an important role is played by values such as independence and self-confidence, and by skills coming from communicating with others (R. A. LeVine, 1980; Rowe & Casillas, 2010). In countries with a lower socio-economic status, parental goals associated with obedience are distinct values (Kohn, 1963). The authors explain this by the fact that people of lower status in life must often be subordinate and obedient to others.

In the selection of parental goals, selecting appropriate goals consistent with the child's abilities is important. According to Grusec, Goodnow and Kuczyński, "Those conditions may include the parent's perceptions as to what is possible in various situations and his/her perceptions of where a child currently stands in relation to a possible goal" (Grusec et al., 2000). Incorrectly selecting parental goals in relation to the child's possibilities is, according to Gurycka, a parental mistake. The parent may try to lead the child to design a personality inconsistent with the child's capabilities (Gurycka, 1980). This is because the goals might be too difficult for the child to achieve and may induce a sense of frustration in him or her. Moreover, the child's inability to meet the parent's expectations may also cause a feeling of frustration in that parent, which in turn may adversely affect the parent-child relationship (Szymańska, 2012). There are reports of research suggesting that parental goals consider traits such as personal characteristics and the formation of values and attitudes (R. A. LeVine, 1980; Rowe & Casillas, 2010; Kohn, 1963).

Parental goals and gender roles shaped in children

Psychological sex as opposed to biological sex (gonadal, hormonal, phenotype) is not innate but is shaped by the individual's way of life. The concept of the psychological role therefore relates to one's individual life and to an individual's functioning as either a woman or a man (Pankowska, 2005). A child learns his or her role in the upbringing process, and parental influences impact that process. Among them, the two most important are modeling and parental expectations.

Modeling is one of the most well-known mechanisms used in upbringing. It involves imitating the attitudes and behavior of a model. The model in the case of shaping the gender role is the mother to a girl and the father to a boy. The child

before the age of three years old is already aware of his/her biological sex, but the process of shaping the gender role has not yet come to an end (Gurycka, 1979).

Also, the gender role is shaped through a child's own activity. A study of kindergarten children revealed that there are differences in the activities of boys and girls (Pankowska, 2005).

The peer group also has an influence on the development of a gender role. When children present behavior that is inconsistent with these guidelines, the peers express disapproval, e.g. by taunting (Pankowska, 2005). According to Bokus and Cieřlik, children change their method of morality recognition according to the premise of equality and ethics of justice (group of boys) or the premise of non-violence and ethics of care (group of girls), but only if they talk to adults (Bokus, Cieřlik, 2006).

Children's literature, fairy tales and even stories in school textbooks also have an influence on the development of a gender role. (Pankowska, 2005)

The second mechanism are the *parents' expectations* about how the child should behave and what attitudes should be shaped in both girls and boys. This aspect concerns precisely the issue of parental goals for trait development. The sex of the child can be a powerful determinant of the goals parents choose.

Studies show that, depending on the sex of the child, mothers and fathers take on different behaviors toward either boys or girls. Fathers toward their sons used more bans (Snow, Jacklin, & Maccoby, 1983). Mothers accepted the boys' independent exploration but not the girls' (Martin, Maccoby, & Jacklin, 1981). Girls whose mothers sought closeness with them also sought proximity after one year, and boys whose mothers allowed independence were also independent after one year. According to Eleanor Maccoby, it can be expected that the behavior of the parents can have a substantial impact on the future attitudes of their children (Maccoby, 2000).

Parents are, however, not only different in their attitudes toward children of different sexes, but also in their expectations toward them. In their research (Cupito et al., 2015), showed that in Hispanic families, girls are expected to show completely different attitudes than boys. And so, the girls' families expect more pro-family attitudes, understood as care for the family expressed by helping in the house, supporting the family, and putting the family's needs before one's own – „*Family members with high filial obligations are expected to support one another, to assist in maintaining the household, and to place the needs of the family before theirs*”. Girls also experienced less freedom and self-freedom than boys, „*Females reported being granted less freedom outside of the house than males and being expected to help*.” The parents of girls expected that they would develop traits associated with the stereotypical role of a woman, so they would be able to cook, clean, and look nice. „*Parents also enforced stereotypically feminine behaviors among their daughters (e.g., women needed to have traditional roles such as being able to cook, clean and look nice)*” (Raffaelli & Ontai, 2004).

As can be observed, agency and communion lie not so much in the characteristics of the children but mainly in the stereotypes, i.e., in the perception of gender and in directing attitudes and expectations toward them. It seems that the diversity of goals and expectations toward boys and girls may be conditioned culturally.

Parental goals in trait development for girls and boys and parenting roles

The weight of the parental role in the analysis of the parental process is determined by two main trends. First, mothers and fathers perform two distinct roles in the process of shaping the child and, second, the child differently receives the same messages from women and from men. In other words, the parental role affects not only the way in which a parent interacts with the child but also the manner in which the child receives a message from the parent (Bugental, Kaswan, & Love, 1970). The parental role of being a father or a mother affects the way one interacts with the child. Does the parental role affect the type of parental goals that are set? Our study is an attempt to answer the question as to what parental goals mothers of kindergarten children set in Poland.

Method

Purpose of the Research

The study attempted to establish a relationship between traits, chosen by mothers, set for boys and girls. The answers to the following research question were sought:

Are there differences in the choice of desired and undesired parental goals in mothers raising either boys or girls?

Research Sample and Procedure

The research was carried out online: Kindergartens were selected from the list of preschools provided by the Ministry of Education in Poland. The interval draw was constant ($k = 6$).

Results only from the maternal sample are presented here. A total of 158 mothers participated in the study. Their age ranged from 19 to 54 years. The largest group of respondents was between 28 and 35 years old.

The study involved a similar number of mothers of boys (82) and of girls (76). Ninety-three children attended state-run preschools, 32 children attended Catholic kindergartens, and 29 children attended other preschools.

Measurement Tool

The study used the Discrepancy scale. The scale measures three traits that parents want to shape in their children and three traits that parents do not want to shape in their children. In addition, the scale measures the level of development of these features in the children. Parents are asked to mark, on a scale from -7 to 7, how much they want their child to develop a particular trait listed as a parental goal and to indicate how much the child has developed this trait. An example question concerning a parental goal that a parent wants to shape in their child is shown in Table 1.

Table 1. First pairs of questions in the Discrepancy Scale test on parental goals

<p>INSTRUCTIONS</p> <p>Please list three traits that are especially important to you as a parent, and for which you make an effort to make sure your child develops.</p> <p>Trait one: (enter trait name here)</p> <p>Mark how important this trait is to you as a parent, the extent to which you wish your child to be like this.</p> <p>- 7 - 6 - 5 - 4 - 3 - 2 - 1 0 1 2 3 4 5 6 7</p> <p>(-7) definitely not like this (7) definitely like this</p> <p>Mark the extent to which (write your child's name) has developed the trait in question.</p> <p>- 7 - 6 - 5 - 4 - 3 - 2 - 1 0 1 2 3 4 5 6 7</p> <p>(-7) definitely has not (7) definitely has</p>
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If the child had developed the trait that the parent wanted, then the measure of discrepancy was equal to 0. If the child did not develop that trait, then the discrepancy was maximal, and was $7 - (-7) = 14$ (Szymańska & Aranowska, 2016).

Data Analysis Method

Measuring parental goals required a special method of analysis. The obtained material was quantitative and qualitative in its nature. Two methods of analysis were chosen.

Text mining algorithms. They revealed which parental goals were mentioned most often by mothers. The algorithms also performed a principal component analysis which aim was: a) a reduction of the number of correlated goals into a smaller number of variables called components, b) interpretation of the most important components (Nisbet, Elder, & Miner, 2009). Subsequently, the algorithms indicated the 10 strongest predictors differentiating the groups of mothers bringing up boys and girls.

Support vector machine. Based on the strongest predictors (traits mentioned as parental goals) indicated by the text mining algorithms, the support vector

machine determined to what extent it was possible to predict whether a mother was bringing up a boy or girl. In other words, the machine determined to what extent, based on these predictors, the correct classification of mothers of boys and girls can be made (Nisbet et al., 2009).

Results

Differences in the choice of mothers' goals for boys and girls –
results of the Text Mining algorithm

Analyses were performed to check mothers' choice of parental goals separately for the boys' group and the girls' group.

Mothers' goals for boys. For the traits that mothers want their child (boys' group) to develop, the importance index and frequency of mention by the mothers are presented in Table 2. The mothers most often mentioned goals related to the development of virtues. In second place they mentioned goals linked to competence traits, and thirdly – personality. Figure 1 illustrates the results of Principal Component Analysis for positive parental goals listed for boys.

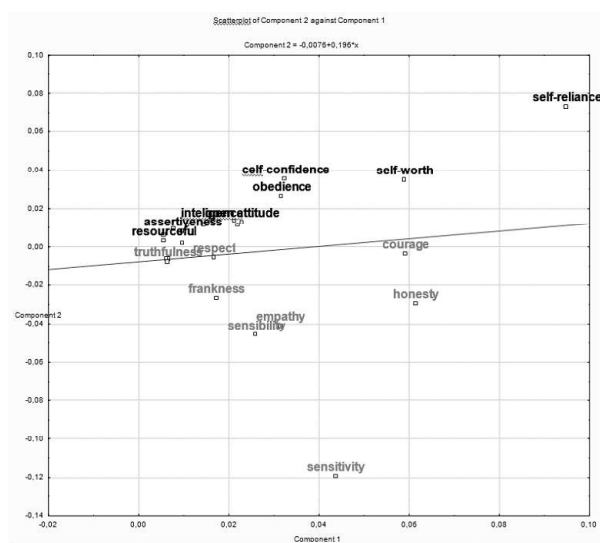


Figure 1. Results of the Text Mining algorithm. Principal Component Analysis for positive parental goals (boys' group)

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Table 2. Importance indices and frequency for traits that mothers want their child to develop (boys' group)

No.	Trait	Importance index	Frequency	class
1	self-reliance	100.0000	15	competence
2	honesty	89.4608	12	virtue
3	courage	85.6588	11	virtue
4	empathy	81.5560	10	competence
5	sensitivity	73.0524	8	virtue
6	intelligence	68.3203	5	unclassified
7	self-worth	68.1580	7	personality
8	patience	63.2542	6	personality
9	obedience	63.2289	6	unclassified
10	respect	58.3385	5	virtue
11	happiness	57.9477	5	personality
12	sensibility	57.7518	4	virtue
13	frankness	57.6521	5	virtue
14	open attitude	56.9211	3	personality
15	self-confidence	55.9242	4	virtue
16	curiosity	51.9304	4	personality
17	joyfulness	51.8861	4	personality
18	kindness	51.6032	3	virtue
19	creativity	48.9023	4	unclassified
20	resourcefulness	44.8977	3	competence
21	truthfulness	44.5907	3	virtue
22	responsibility	44.3466	3	competence
23	sense of humor	43.9827	3	unclassified
24	assertiveness	42.5215	3	competence

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All the traits show a positive correlation with the first component – it means that the first component reproduces the variability of all the words in the set, and the trait that occurred the most frequently is also the one with the greatest weight (load). As Figure 1 shows, self-reliance has the strongest load for the first component. Next come honesty, courage, self-worth, sensitivity, empathy, faith, and obedience. The first component is tied to traits that we could describe as traits of 'strength and power'; these are two combinations of parental goals:

1. self-reliance, self-worth
2. courage, honesty, empathy, self-confidence, and obedience.

The combination of traits from the first component is fascinating, as on the one dichotomy of this component are chivalrous virtues. The words of knightly oaths mentioned obeying certain rules that it was a knight's duty to follow. Comparing different texts of knightly oaths, one can clearly see that knights swore to stay faithful to the truth, pledged to be valiant and courageous, and it was an obligation

of their knightly estate to protect the poor (Barber, 2003). Below is a sample text of a knightly oath (from the film *Kingdom of Heaven*).

Be without fear in the face of your enemies. Be brave and upright, that God may love thee. Speak the truth always, even if it leads to your death. Safeguard the helpless and do no wrong; that is your oath.

It is easy to see that it contains the traits listed in the second combination above:

1. 'Be without fear in the face of your enemies. Be brave and upright' – courage
2. 'Speak the truth always, even if it leads to your death' – honesty
3. 'Safeguard the helpless and do no wrong' – sensitivity, empathy

It is significant that there is a cluster around parental goals for boys that reproduces qualities from a knightly oath.

The second component differentiates the traits into two dichotomies. There is a negative correlation between dichotomies. The first dichotomy includes traits such as self-reliance, self-worth, self-confidence, obedience, open attitude, joyfulness, humor, kindness. The second dichotomy includes sensitivity, empathy, frankness, honesty, courage, truthfulness, respect.

On one dichotomy of the second component are goals that focus on developing traits related to the self, such as self-reliance, self-worth, self-confidence, obedience, open attitude, joyfulness, humor. These are traits that mostly focus on a boy's self-image. On the other dichotomy are goals that focus on traits related to communion: sensitivity, empathy, frankness, honesty, courage, truthfulness, respect.

Mothers' goals for girls. For the traits that mothers want their child (girls' group) to develop, the importance index and frequency of mention by the mothers are presented in Table 3.

Table 3. Importance indices and frequency for traits that mothers want their child to develop (girls' group)

No.	Trait	Importance index	Frequency	class
1	self-reliance	100.0000	13	competence
2	self-confidence	96.0720	12	personality
3	assertiveness	78.4451	8	competence
4	empathy	73.3760	7	competence
5	truthfulness	72.8213	7	virtue
6	joyfulness	68.0599	6	personality
7	frankness	67.9331	6	virtue
8	responsibility	67.9320	6	competence
9	curiosity	62.7054	5	personality
10	respect	62.0610	5	virtue
11	obedience	62.0427	5	unclassified
12	courage	62.0192	5	virtue
13	orderliness	62.0145	5	competence
14	self-worth	55.8424	4	personality

No.	Trait	Importance index	Frequency	class
15	sensitivity	55.6700	4	virtue
16	open attitude	55.4746	4	personality
17	patience	55.4752	4	virtue
18	communication skills	55.4693	4	competence
19	industriousness	55.4690	4	virtue
20	honesty	48.0994	3	virtue
21	dutifulness	48.0842	3	competence
22	scrupulousness	48.0441	3	virtue

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The mothers most often mentioned goals related to the development of competences. In second place they mentioned goals linked to virtues and thirdly – personality traits.

Figure 2 illustrates the results of the Principal Component Analysis for positive parental goals in the girls' group. Among mothers of girls, self-confidence and self-reliance had the strongest loads in the first component, followed by assertiveness in third place. The second component was positively correlated with the same traits. Traits of obedience, truthfulness negatively correlate with the rest features in the second component.

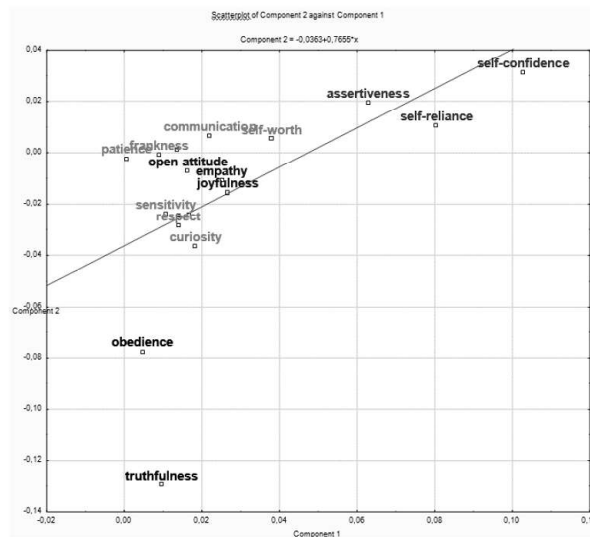


Figure 2. Results of the Text Mining algorithm. Principal Component Analysis for positive parental goals (girls' group)

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Thus, five combinations of parental goals were recorded for girls:

1. self-confidence, self-reliance and assertiveness,
2. self-worth, communication skills, frankness, patience,
3. open attitude, empathy, joyfulness,
4. sensitivity, respect, and curiosity,
5. obedience, truthfulness.

It needs noting, however, that three very important qualities, namely self-confidence, self-reliance and assertiveness, form a separate cluster. These traits were mentioned the most often (the highest load in the first component and in the second). The traits listed for girls are significantly different from those mentioned for the boys' group. In the case of boys, traits such as communication skills, orderliness, dutifulness, industriousness did not occur or occurred less often among the parental goals, since the algorithm did not consider their frequency sufficient to form a cluster. On the other hand, the goals for boys included trait that was not mentioned as goals for girls; like intelligence.

Features that Mothers do not Want to Develop in their Children – Results of the Text Mining Algorithms and The Support Vector Machine

Traits that mothers do not want to develop in their daughters. Text mining algorithms counted the undesirable parental goals and displayed which of them were most often mentioned by mothers of daughters. Table 4 shows the traits that the mothers of girls do not want them to develop. It contains goals that were listed at least 4 times.

Table 4. Frequency of Undesirable Traits Mentioned by the Mothers of Girls

Undesired traits	Frequencies
aggression	13
lack of submission	13
egoism	11
lying	8
laziness	7
disobedience	7
stubbornness	6
shyness	5
passivity	4
greed	4
nervousness	4

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The most common traits named by the mothers as undesirable in their daughters were aggression, lack of submission, egoism, lying, laziness, disobedience and

stubbornness, and shyness, followed by passivity, greed, and nervousness. The remaining features were listed at least twice by the mothers. A principal component analysis, the results of which are presented in Figure 3, showed how those goals were correlated. Shyness, stubbornness, laziness, lie and passivity were similarly correlated with the first and the second component. They created a cluster. Aggression, disobedience, and nervousness created another cluster. The third cluster was created by egoism and lack of submission.

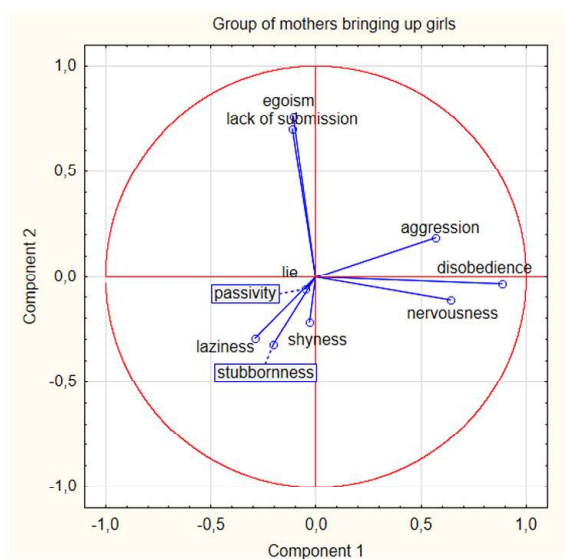


Figure 3. The results of the principal component analysis for the undesirable traits mentioned by the mothers of girls

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Traits that Mothers do not Want to Develop in their Sons

Traits that mothers do not want their sons to develop are shown in Table 5. The traits mentioned most often as undesirable by the mothers of boys were aggression, egoism, laziness, untidiness, lying, malice, shyness, disrespect, disobedience, lack of sensitivity, and conceit. Adverse traits were therefore like the group of mothers raising girls. Both groups of mothers most often mentioned the traits of aggression, egoism, laziness, and lying. The convergence of the undesirable goals listed by the mothers of boys and girls was high.

Figure 4 presents the results of the principal component analysis in the group of the mothers of boys.

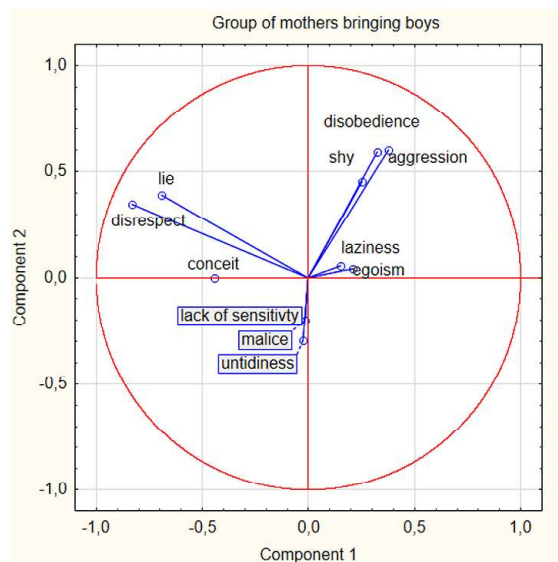


Figure 4. Principal component analysis for the undesirable traits mentioned by the mothers of boys

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Table 5. The Frequency of Undesired Traits Mentioned by Mothers of Sons

Undesirable traits by mothers	Frequency
aggression	16
egoism	9
untidiness	7
laziness	7
lying	6
disobedience	6
malice	6
shyness	5
disrespect	5
lack of sensitivity	4
conceit	4

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Traits close to each other (i.e., they assumed similar values in both components) were shyness, aggression, egoism, laziness, and disobedience. Their arrangement in the coordinate system suggests that these traits were mentioned together by the mothers. However, they were not mentioned together with traits such as disrespect, lying, and conceit, which were negatively correlated with the first component, or with lack of sensitivity, malice, and untidiness, which were negatively

correlated with the second component. The remaining traits formed one cluster, which, similarly to the group of mothers raising girls, was not strongly related either to the first or the second component.

Differences Between the Group of Mothers Bringing up Boys and Girls in Terms of Undesirable Traits- A predictive model

The algorithms have identified five traits that differentiated the groups of mothers of boys and girls most strongly. The variable that differentiated the groups most strongly was greed. It was also the only variable whose value was statistically significant. It indicated that the mother is raising a girl. The second variable, this time characteristic for the group mothers raising boys, was untidiness. The third variable was miserliness, characteristic for the mothers of girls. The fourth variable was sadness, characteristic for the mothers of boys. The fifth variable was lying.

Using the support vector machine, a predictive model was built to predict whether unwanted parental traits were mentioned by mothers of boys and mothers raising girls in distinct ways. The five variables of parental goals which differentiated the groups of mothers bringing up boys and girls the most were introduced as predictors. A correctness rating of 86% was obtained in the classification for mothers raising boys and only 14% for mothers bringing up girls. On the basis of negative traits, it was much more possible to predict that the mother is raising a boy, but not a girl.

Summary and Discussion

The study confirmed the hypothesis that mothers use different goals toward boys and different ones toward girls. It can be stated that the mothers' goals for boys confirm the general stereotype of them expecting a strong, resourceful, and chivalrous man. The features that mothers develop in girls can be described as belonging to those of independence and resourcefulness, as well as communion. It seems that nowadays girls in Poland are brought up in the spirit of greater freedom and independence. These features appear to be a priority in the upbringing of girls. Certainly, numerous social changes and the increasing role that women play in public life impose the need to prepare girls for their future role. These results support the theory that parenting goals arise from social norms. They reflect these norms and in turn shape them for the future. New generations of women will not be like their predecessors. They will change and the process of these changes can be observed in parental goals.

In the second place the mothers of girls selected features relating to communication (the vast domain of women); to this cluster belonged: frankness, communication skills but also self-worth and patience. The mothers of boys promoted in this place values from the stereotype of agency and chivalry: *courage, honesty, sensitivity*.

In the third place the mothers of girls promoted characteristics associated with community spirit and resourcefulness, these were: *empathy, open attitude, joyfulness*. At this point the mothers of boys promoted very similar qualities such as: *faith, obedience, open attitude, joyfulness, sense of humor, kindness*. As can be observed, the groups vary in terms of clusters. Many of the characteristics listed by the mothers belonged to the area of virtues, e.g., *truthfulness, faith, courage, honesty, patience*. As can be observed, parental goals are not only an area where attitudes associated with the development of gender roles are developed, but also values are promoted. An especially appreciated value (which scored high in the group of girls but was also indicated by the mothers of boys) was sensitivity.

The study also confirmed the hypothesis of other authors (LeVine, 1974, 1980; Mounts & Kim, 2007) that among parental goals there are values universally appreciated in culture (European). Among the goals of the mothers there are values that are typical for the European culture associated with independence, self-esteem and skills stemming from communication with others, such as assertiveness and communication skills.

Despite the fact that it is possible to indicate the predictors that differentiate the groups of mothers raising boys from those raising girls, the prediction of whether a mother is raising a boy or a girl based on the chosen traits was at an average level of accuracy. Indeed, a large number of traits were the same for mothers bringing up sons as well as for mothers raising daughters.

The knowledge emerging from these studies can be important for the development of knowledge regarding the future shaping of personality traits in children. It is significant that in the case of undesirable traits, where the existence of universal traits – undesirable regardless of the child's sex – was discovered. The existence of specific traits was also described. In the case of boys, these were traits of untidiness, malice, disrespect, and conceitedness. In the case of girls – stubbornness, passivity, greed, nervousness, and lack of submission.

In the case of positive traits, mothers were much more different in terms of selecting traits for their sons and daughters. It is significant that in the case of negative traits, there was a large set of traits common between boys and girls. The obtained results should be confirmed in the future by other trials, as well as larger trials, which would help obtain greater certainty towards the conclusions presented here.

Based on these characteristics, mothers did not differ in the selection of the traits that they did not want to develop in their sons and daughters, only seemingly. The results described in this article also show how useful data mining methods can be in personality analysis (Szymańska, 2017a, 2017b). They allowed to obtain plenty of valuable information about the characteristics that mothers do not want to shape in their children.

Limitations of the research

There are a few limitations of the study. Our study only concerned mothers. Therefore, it does not give a possibility to compare differences in the selection of goals between mothers and fathers. Such a comparison would certainly be very interesting. Research on the fathers' parental goals is ongoing.

The study did not control many other interesting variables that could influence the set of mothers' goals, such as: different children's ages, family socio-economic position. Finally, it would be very interesting to compare parental goals in different countries. Our research sample was restricted only to Poland.

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