

HIERARCHICAL ASSOCIATIVE NETWORKS OF FAMILY AND VALUES

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Abstract

In this research, the opinions about family and values of public administration representatives were examined. Based on online questionnaires, the research sample included 428 civil servants and scientists from various ministries, faculties, schools, libraries, institutes, and municipalities. Opinions in the form of classified data for civil servants were converted into numerical data and presented in networks. It is possible to illustrate various scenarios about diverse types of decision-making processes, within which either feminine or masculine value emphases predominate. The present study has opened an interesting area of research on hierarchical associative networks of family and values. Researching such networks, whether they concern individuals, families, or diverse societies, could support us to improve various decision-making models. Hierarchical associative value networks will play a meaningful role in decision-making in a variety of ways and the upcoming development of the family. Future research could go in the direction of measuring and analyzing hierarchical associative networks of values in specific families and other social environments like within e.g., health, police, industry, military. This would provide an excellent insight into the mental concepts of people and across different social zones (e.g., migration zone, cultural zone, industrial zone, trade zone, government zone).

Keywords

family value networks, opinions, public servants, decisions, surveys

Introduction

In this research, the opinions about family and values of public administration representatives were examined. When defining values, we encounter a similar problem as knowledge or stress. There are so many explanations in different sciences like sociology, psychology, organizational sciences, economics, politics, medicine, computer science, philosophy, religion etc. (Evans, 2008; Haralambos & Holborn, 2004; Harris & Mills, 1985; Lehner & Kube, 1955; Massey, 2011; Mukerjee, 1949; Röpke, 2015, Smith, 1991; Stewart-Sicking, 2008; Vallverdú, 2010; Zaleznik & Moment, 1964). Social, psychological, life and family values are extraordinarily important in relation to the family, but this does not exclude the importance of other types of values. Based on a synthesis of the definitions cited above, values can be defined as ethical or moral conceptions of entities that are of enormous importance to the individual, families and/or to narrower or broader communities and that guide both behavior and decision-making processes of the individual, the family and society. Ethics, morals and, by extension, values are programs of thought and action, because they are the primary platform for social association and cooperation. They are essentially collective guidelines that guide individuals and families. Despite this kind of collective orientation, families may differ among themselves in how they indeed recognize and represent normative

systems in vary to a considerable extent. In this insight, both ethics and morality do not fundamentally cause this, but rather a broad range of values, for which the parents in particular attach more considerable importance to. Based on the various classifications of values, an adapted universal classification was derived, which served as a framework for the construction of a hierarchical associative network of values (Albert, 1956; Bakuradze, 2015; De Monticelli, 2021; Ergen, 2015; Gelan, 2005; Golightly, 1947; Kelly, 2001; Kluckhohn, 2013; Kuzior, 2020; Min, 1998; Moore, 1914; Niemiec, 2014; Rutgers, 2008; Sharp & Everett, 1918; Tojimatovich & Saydaliyevich, 2021). The above-mentioned classification of values in four groups covered diverse aspects like:

- a. performance attributes e.g., investing, earning, working, education, sport, perseverance, endurance.
- b. psychological attributes e.g., joy, love, contentment, emotionality, dignity.
- d. social attributes e.g., family, cooperation, companionship, friendship, popularity.
- e. interdisciplinary attributes (e.g., harmony, security, technology, flexibility, beauty, intelligence, symbol categories, symbols, time, health, life, knowledge).

This classification deals with values in a very broad perspective so it can include different categorized values like family, personal, spiritual, psychological, social, organizational, occupational, lifestyle, health etc.

The most considerable number of survey studies in the field of family and values was conducted in connection with cultural, traditional, lifestyle, economical/financial, managerial, organizational, job work/occupational, psychosocial, health and environmental aspects. Most often, these studies have looked at family values in a narrow sense, but very rarely at values and the family in a broader sense. It could be claimed that the research on family and values that has been identified has not addressed the hierarchical associative networks of family and values at all. Otherwise, the family can in addition represent a cover value for other values like kindness, self-compassion, integrity, responsibility, mutual respect, honesty, flexibility, fairness, etc. (Valeeva, Korolyeva, & Sakhapova, 2016). Let us have a partial insight into some interesting survey research in the field of family and values.

First a very innovative study of families and values in Europe can be highlighted. This descriptive and exploratory study was searching for the links between family values, attitudes, demographic, and other cultural variables in various European countries. The differences in family values between European countries were relatively moderate (Georgas et al., 2004).

The next research used a diagnostic survey with scales of attitudes towards disabled persons and questionnaires (Barlóg, 2021). The parents, despite all difficulties by raising children with Down syndrome, are motivated by a high level of religious and moral values.

The study of divergent values in families of color used specific qualitative interviews with mixed methods for examining the perceptions and attitudes by various families of color, including high school and college students of color (Marrun et al., 2021). Findings challenged dominant thoughts that families of color do not have college or career aspirations for their children.

In the following survey study empirical methods of dyadic analysis were applied to point out the social diffusion of religious values inside families. Research has shown the degree of social influence exerted by a family interaction partner depends critically on the cohesion of the relationship involved, whether it is a couple or an intergenerational relationship (Arránz Becker, Lois, & Steinbach, 2016).

The survey about school, social values and family collaboration examined the educational program where the scale method was applied (Bernal et al., 2011). Out of 75 families 62 expressed interest in participating in the educational program of reinforced social values.

By the survey of political influence on family values 500 randomly chosen participants were tested by using phone calls (Johnson & Tamney, 1996). The fact that traditional family values are often based on religious fundamentalism can have a huge impact on political attitudes and behavior.

The following study investigated norms and values within the management of family businesses by using an 18-question questionnaire as a tool (Olejniczak, 2014). The conducted research indicated that family businesses may run their activity, based on ethical norms and values, more efficiently than nonfamily businesses, while being more responsible for their activities and decisions.

A very comprehensive study of family and world values can be highlighted, which conducted time series data in almost 100 countries (Chelladurai, 2020). The opinion survey consisted of six questions and used descriptive statistics with latent profile analysis. The family as a value was almost universally ranked with higher levels of importance like religion or politics.

Another very interesting study on genetic and environmental factors looked at families with twins (Twito & Knafo-Noam, 2020). The authors reviewed different twin studies on human values with the potential influence of neurobiological and environmental background. The review indicated that similarity in values among parents and their offspring is, at least in part, the result of the genetic heritage shared by family members and the environment.

About correlation of values to families, religion and freedom was engaged the Slovak study with 1000 participants (Štefaňák & Zozuláková, 2021). The authors performed correlation and statistical analysis of data. The comparison obtained with empirical data validated a positive relation between religion and family but not at all to freedom.

The next survey about Karma Yoga values included 193 respondents from poor families where a quantitative method using Structural Equation Modeling was applied (Permadhi et al., 2021). The results showed numerous positive effects of karma yoga values on work ethics, welfare conditions and resource management for poor families.

Finally, the last presented survey research in this paper on the topic of family and values dealt with core values in family medicine (Arvidsson, Švab & Klemenc-Ketiš, 2021). This was a qualitative study which included a questionnaire with six items concerning core values in family medicine. In this questionnaire the respondents were also asked for suggestions about core values in family medicine. Most respondents felt the core values of their discipline are not very convincing.

The presented research about hierarchical associative networks of family and values can give us a more comprehensive insight into the connections between family as a value and numerous other values which are involved in different decision processes like parenting, education, politics, economics, management, ecology, medicine, legislation, policing, social work etc. Family and values are in fact nodes in a hierarchical associative network of values for decision-making (e.g., political decisions, actions in education, citations in publications, decisions in surgical procedures). To be specific, it is substantial to highlight the values that influence the family upbringing of children. About the theoretical and practical contribution of this research more in detail in the discussion subsection.

Work objective

Studying the hierarchical and associative connections between family and values, particularly in a direction that demonstrates how families, along with values, form hierarchical associative networks with significant informational influence in various decisions.

Research hypotheses and questions

The entire research comprised six research hypotheses and nine research questions. This article represents only a small portion of the overall research, focusing specifically on addressing the sixth hypothesis and the ninth research question.

The research hypotheses were as follows:

1. The priority list of values important for the family varies proportionally or even significantly across gender, age groups, education, and partnership relationships.
2. The priority list of values important for the family is relatively or even very identical across gender, age groups, education, and partnership relationships.
3. The future development of the family will take a markedly negative direction.
4. The future development of the family will take a distinctly positive direction.
5. The future development of the family will not be significantly different from the current situation.
6. Family and values together form hierarchical associative networks.

The research questions were as follows:

1. What is the meaning of family according to the respondents?
2. Are the respondents familiar with different family models?
3. Why do respondents believe the upbringing of children can vary greatly?
4. Which values did the respondents rate with the highest and lowest scores?
5. According to the respondents, which values are the most important for the family?
6. How do the respondents predict the future development of the family?
7. Do the priority lists of values important for the family differ among respondents based on demographic groups (e.g., gender, age, partnership, education)?
8. Are the priority lists of values important for the family identical among respondents based on demographic groups (e.g., gender, age, partnership, education)?
9. Can a family, in connection with values, form a hierarchical associative network?

Method

Based on online questionnaires, the research sample included 428 randomly chosen civil servants and scientists from various Slovenian ministries, faculties, schools, libraries, institutes, and municipalities within public administration. The survey was conducted in Slovenia 2018. The criteria for the selection of these institutions included socio-demographic variables such as gender, age, education, marital status, employment status, and affiliation within the public administration.

Participants

As already mentioned, the opinions of civil servants employed within the public administration were obtained, but the civil servants employed in the army, police and health care were intentionally uncovered, as these social/work environments deserve exceptional treatment. On the other hand, it is extremely challenging to obtain data from these social/work environments.

Collection of data

With the assistance of online questionnaire software via email, the following data were collected through 11 questions (1KA, 2017).

- a. Collecting data on gender, age, partnership, education, and status (closed and semi-closed answers),
- b. Collecting data on respondents' views on the importance of family (descriptive answers),

- c. Collecting data on respondents' knowledge of different family models (closed and semi-closed answers),
- d. Collecting data on differences in children rearing (descriptive answers),
- e. Collecting data on how respondents rate values like e.g., peace, love, courage, strength, health, life (closed and semi-closed answers),
- f. Collecting data on opinions about the values important for the family (descriptive answers),
- g. Collecting data on opinions about the future development of the family (descriptive answers).

Data on opinions about the significant values for the family were substantial for the given research. The classification of values was already mentioned in the introductory chapter. This construct was chosen because of the holistic insight and relationships between family and values.

Ethical consideration

In the survey on family and values, civil servants' respondents were selected from the websites of ministries, research institutes, faculties, schools, libraries etc. based on the aforementioned criteria, especially the affiliation of the respondents within the public administration. The participants in this research were ensured informed consent, anonymity, voluntariness, confidentiality, and fair and respectful treatment.

Data analysis

Opinions in the form of classified data for civil servants were converted into numerical data. In this way, structured data in the form of tables were obtained, which was a favorable starting point for creating a family value network. Various software tools for data analysis were used. These include:

1. AntConc for importing opinions and word analysis (Anthony, 2019).
2. Ora Casos for importing composite data and conducting conceptual network analysis (Carley et al. 2011).
3. Mental Modeler was utilized to depict a potential scenario within a specific decision network (Gray et al., 2013).
4. YEd Graph editor for visualizing the hierarchical associative value and decision network scenario (yWorks GmbH, 2019).

Results

Before the primary content of this article is discussed, the findings and insights from respondents' answers to the other questions, which do not represent the leading body of the paper, will be briefly presented.

a. Structure by gender

Under the option other, we can record an asexual and a non-binary person. The most considerable number of respondents who completed the online survey questionnaire were female (277; 64.72%). There were significantly fewer male respondents (149; 34.81%).

b. Age groups (age to 20 years, age 21 to 40 years, age 41 to 60 years and age 61 years and more)

The age structure of the recruited respondents is considerably high. The most significant number of respondents comes from the second (130; 30.37%) and especially the third-age class (253; 59.11%).

c. Partner relationship

The most considerable number of respondents were married (257; 60.5%), followed by single persons - never married (79; 18.46%), followed by cohabitants (62; 14.49%), divorced persons (25; 5.84%) and widowed persons (5; 1.17%).

d. Composition by education

The most significant number of respondents possessed the most senior possible level of education, i.e. PhD (179; 41.82 %), followed by those with a university degree (124; 28.97 %), followed by civil servants with a Master's degree (72; 16.82%), followed by those with a secondary school diploma (22; 5.14 %), closely followed by persons with a higher, university, etc. school education (16; 3.73 %) and last but not least we encounter persons who have not completed secondary education (13; 3.04 %).

e. Composition by status

Most of the respondents covered were employed (402; 93.92%), followed by smaller groups like retired (7; 1.64%), unemployed (3; 0.7%) and other statuses (16; 3.74%). Based on a sample of 428 respondents, the percentage of employed women is relatively more significant than that of employed men.

f. Opinions about the importance of family

The term “security” was used most frequently by both women (74 times; the ratio of 277 feminine respondents is 0.27) and for men (29 times; the ratio in relation to 149 respondents is 0.19). The second most frequently used term was “love” by women (60 times; the ratio of 277 respondents is 0.22) was used more frequently than by men (11 times; the ratio of 149 respondents is 0.07). Interestingly, the term “cell” was used equally frequently, in relation to the ratio by both men and women (0.01 in relation to 277 female respondents and 149 male respondents). As regards the term “child”, there is a slight difference in the ratio in favor of the male representatives (male: 0.08; female: 0.07). For the concept of “trust”, the ratio is in favor of female representatives (0.03 for males, 0.06 for females). When describing the importance of the family in relation to the concept of “stability”, women place a significantly more significant emphasis (ratio for women 0.05; for men 0.00). The concept of “support” is extremely fascinating, where the ratio is in favor of the masculine gender (men 0.06; women 0.04). The concept of “belonging” was again used more often by the female sex than by the masculine sex (females: 0.05; men: 0.03). Last, but not least, there are concepts like “connectedness and values”, where the ratios once more go strongly in favor of the female gender (females: the ratio is 0.04; men: the ratio is 0.00).

g. Knowledge of family models

It can be claimed that the female gender was much more familiar with different family models than the male gender.

h. Opinions about differences in children rearing.

We represent all a product of nature, which means that our genetic material motivates certain physiological and mental potentials. We are confronted with our environment as we prolong our existence, where we encounter numerous people, discover the fundamental rules, observe or are active members in events, etc. Through the above, everyone acquires identical and diverse experiences, thereby various skills and knowledge are developed. Thus, the possibilities of numerous genetic variations and the variety of situations and norms in the immediate and wider environment lead to more significant or lesser differences in decision-making. The way in which a child is brought up represents essentially the decision of each parent, which coincides with his or her worldview (which may also change over time), cultural

perception and social condition. The male representatives primarily emphasized aspects over which individuals have little influence (genetics, normative systems, ethics, morals, values, rules of behavior, culture). In contrast, the female representatives mentioned aspects that affect both the individual and the broader environment to a lesser extent (individuals, personality traits, default behavior patterns, personality structure, parental inconsistencies, or consistencies in child-rearing). Briefly, the male view of the difference in children rearing is more global, while the female focus is more specifically tied to the family.

i. Evaluation of values on the scale from one (less important) to five (very important)

It can be noted that the value of “health” was given the highest rating by 428 respondents (the average score is 4.7). This is followed by values like “love” (average score 4.6), “life” (average rating is 4.6), “joy” (average rating is 4.5), “freedom” (grade point average 4.4), “optimism” (grade point average 4.4), “empathy” (average of 4.4), “happiness” (average of 4.4), “hope” (grade point average 4.3), “courage” (grade point average 4.0), “diligence” (the average score is 4.0), “intelligence” (the average score is 3.9), “innovation” (average of 3.8), “erotica” (average of 3.6), “technology” (average rating is 3.1), “beauty” (average rating is 3.0), “authority” (average of 2.9), “wealth” (average of 2.8) and “power” (mean score 2.6). Under the “other” option (average of ratings is 4.2), the values were: acceptance, truth, kindness, reliability, selflessness, communication, cooperation, responsibility, education, independence, attentiveness, will, self-confidence, support, justice, security, solidarity, personal growth, alliance, acceptance, creativity, knowledge, money, listening, passion, flexibility, learning, material goods, perseverance, Bosnia and Herzegovina, Slovenia.

Without health, there is no sincere love and no proper life. Consequently, there is also no true joy, freedom, optimism, empathy, happiness, hope, etc. This is how we could translate the contributions of the 428 respondents' evaluations. The triangle of values “life - health - love” is important in this respect to which all the other values could be linked.

j. Future family development

An adapted sentimental analysis of the texts was performed using the Jigsaw software tool. Out of a total of 129 opinions, men contributed 36.43% of positives and 63.57% of negative opinions, while women out of a total of 225 opinions contributed 26.67% of positives and 73.33% of negative opinions.

Women described the eventual development of the family slightly more negatively than men, but the H_I^2 -test showed that at one level of freedom and 5% risk there were no statistically significant differences between men's and women's opinions about the future development of the family (the value of 3.2603 was below the cut-off value of 3.841).

The following will present the results for the most important family values, which represent the primary subject of interest of this paper.

k. Opinions for the most important family values

Based on a textual analysis of opinions with AntConc and a network visualization with Ora Casos software tool, the highlights of the most significant values relevant to family by gender are as follows:

1. Love: 65.70% female (277/100%) and 51.68% male (149/100%) attributed the highest importance to this value. In short, the outcome is not surprising.
2. Respect: 29.24% of females (277/100%) attributed this value to the 2nd highest importance and 16.78% of males (149/100%) attributed this value to the 4th highest importance.
3. Empathy: 25.29% of women (277/100%) attributed this value to the third largest importance and 21.48% of males (149/100%) attributed this value to the second highest importance.

4. Health: 25.29% of females (277/100%) and 19.46% of males (149/100%) attributed this value to the 3rd highest importance.

5. Trust: 21.30% females (277/100%) and 16.11% males (149/100%) attributed this value to the 5th highest importance.

6. Happiness: 17.69% of women (277/100%) attributed this value to the 6th highest importance and 16.11% of males (149/100%) attributed this value to the 5th highest importance.

7. Joy: 15.52% of females (277/100%) and 12.08% of males (149/100%) attributed this value to the 7th highest importance.

8. Freedom: 14.10% of females (277/100%) and 11.4% of males (149/100%) attributed this value to the 8th highest importance.

9. Security: 12.27% of women (277/100%) attributed this value to the ninth largest importance, while 4.03% of males (149/100%) attributed this value to the 12th highest importance.

10. Optimism: 10.11% of women (277/100%) attributed this value to the 10th highest importance, while 4.70% of males (149/100%) attributed this value to the 11th highest importance.

11. Understanding: 9.75% of women's representatives (277/100) attributed this value to the 11th highest importance, while 11.40% of males (149/100%) attributed this value to the 8th highest importance.

12. Life: 6.50% of the female representatives (277/100%) attributed this value to the 12th highest importance, while 7.38% of the male gender (149/100%) attributed this value to the 10th highest importance.

Table 1. Small part of the prepared network data

Top node »Values«	UCV	Important values for the family	Percent by female	Percent by male
Values	K4	health	25.29	19.46
Values	K4	life	6.50	7.38
Values	K2	love	65.70	51.68

Table 1 shows the structure of prepared data for building two value networks, while **figure 1** represents the visualization. It is possible to point out subtle differences in the emphasis of values regarding gender. Relatively significant differences can be highlighted in the emphasis on gender values like safety, respect, optimism, empathy, intelligence, and technology.

It can be claimed that the priority list of values significant for the family is relatively different between the two genders. Within the priority list of 12 values, only four values are of the same rank, corresponding to 41.66% identity and 58.34% diversity.

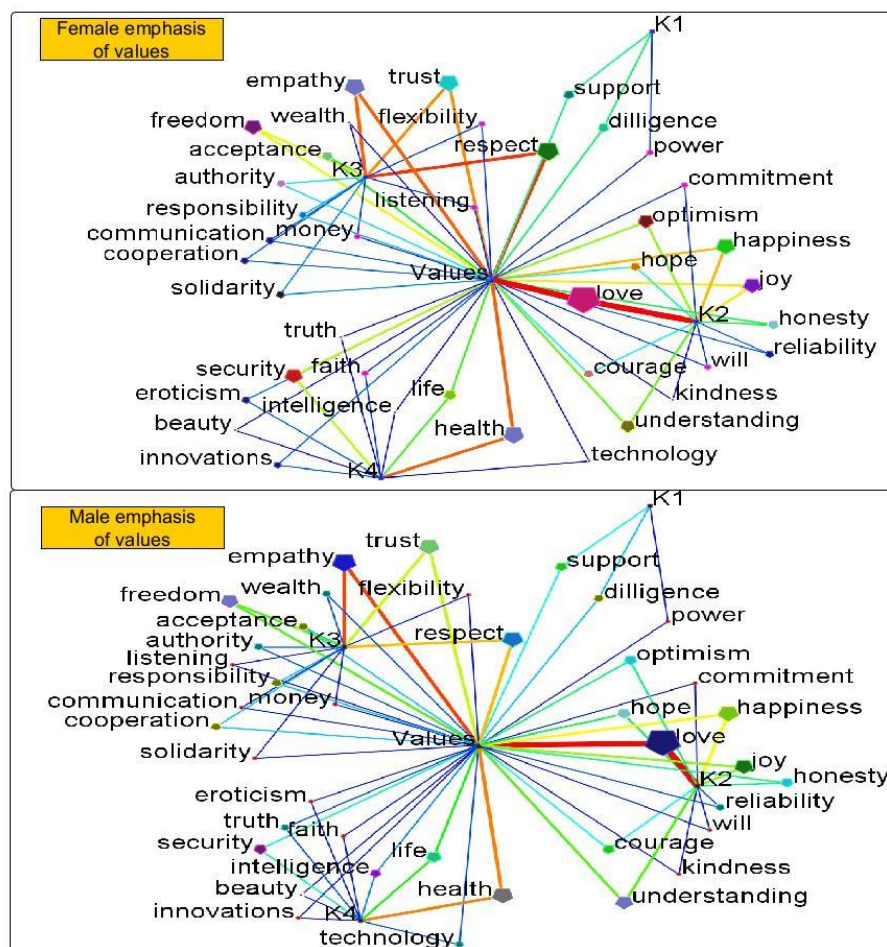


Figure 1. Emphasis of values by gender

The priority list of globally relevant values is slightly different from the priority list of family relevant values (open-ended question - description) but contains many of the values from the previous (semi-open-ended - assessing the given values and adding) question. The common denominator of both metrics could be identified as the value of love, while the values of health and life have lost importance. Uniform rankings for both genders are found for values such as love, trust, joy, health, and freedom, while non-uniform rankings are observed for concepts like respect, empathy, happiness, understanding, optimism, security, and life. The priority list of values possesses a certain influence on decision-making by both men and women. In the first place, it influences the eventual conclusion of a partnership (marriage, cohabitation) and, in a further stage, in each case it also influences the upbringing of children and, consequently, family life as a whole. Once more, the list of values is not therefore significantly different (despite the calculated 58.34% difference) that both male and female representatives would be unable to establish a successful and loving partnership. In simple decisions, the given emphasis does not even come to the fore as much, but the differences are more likely than not to manifest themselves in more complex situations that require more complex decision-making. As already noted, there are some gender differences in the emphasis of particular values. Values, as extremely powerful concepts within the information hierarchy, can possess an extremely mighty influence on a variety of decisions. For example, in the choice of a partner, where there must be enough identical emphases on perceived values for a particular form of family life to occur. On the other hand, these emphases must be too unidentical, which can stifle an emotional and erotic relationship. In essence, the most significant value of family life is love for one's

partner and children. We know from experience that the love between the two partners is not always identical and can vary considerably in intensity and strength, but the common denominator remains love, despite misgivings. Another situation may be the purpose of starting a family, which includes financial stability, health, a secure and favorable environment, a job, etc. Next, it is usually necessary to think about the offspring, which must be brought up and allowed to develop positively. In this insight, we have two different hierarchies of values between the two genders, which at the same time, in a functional sense, trigger hierarchical and associative relations between the two representatives. In the case of the man, he will argue their offspring must first be taught to have empathetic skills, while the woman will argue the children must first be taught to respect their parents and other persons. In this relative uncomplex tangle, they will have to recognize the most proper decision and thus the most efficient solution. Can we instruct children to respect their parents and other people, or can we teach them empathy towards their parents, other people, animals, etc.? It seems likely that it is more elementary to teach a child respect for living beings, which can heretofore be done by parents in parallel with the transmission of content from diverse normative systems (e.g., rules of behavior, ethics, morals). Respect for other alive beings is clearly intimately linked to empathy for other living beings, which means that, almost in parallel with the teaching of humble attitudes, it is necessary to build procedurally empathetic feelings into the child's mindset (e.g., your son does not torture animals because it hurts them, just as it would hurt you if someone did it to you). However, findings in the field of neurology have also shown certain people lack the neural connections needed to experience empathy. Respect in this view is more related to a learning process than to the physiological and/or mental characteristics of a particular individual. Learning empathy is a little more complicated because it is actually closely linked to neural connections, but if there are enough of these then learning empathy is possible. Briefly, we can point out that in the case of the hierarchy of values between the two genders, we are again dealing with hierarchical associative networks. In fact, the results obtained from the online questionnaire clearly show that the male gender has slightly different emphases on important values for family life than the female gender, but these differences and identities are sufficiently favorable for partner relationships. As a result, it is relatively effortless for the two representatives to seek and achieve agreement on a broad range of decisions and measures. In essence, nature itself seems to have provided for the relative heterogeneity and inhomogeneity of thinking of both men and women, which, of course, depends on the historical cultural development of the human species, the physiology of both genders and the genetic make-up.

It is possible to illustrate various scenarios about diverse types of decision-making processes, within which either feminine or masculine value emphases predominate. For the sake of clarity, a model of a decision network with a female emphasis of values should be demonstrated.

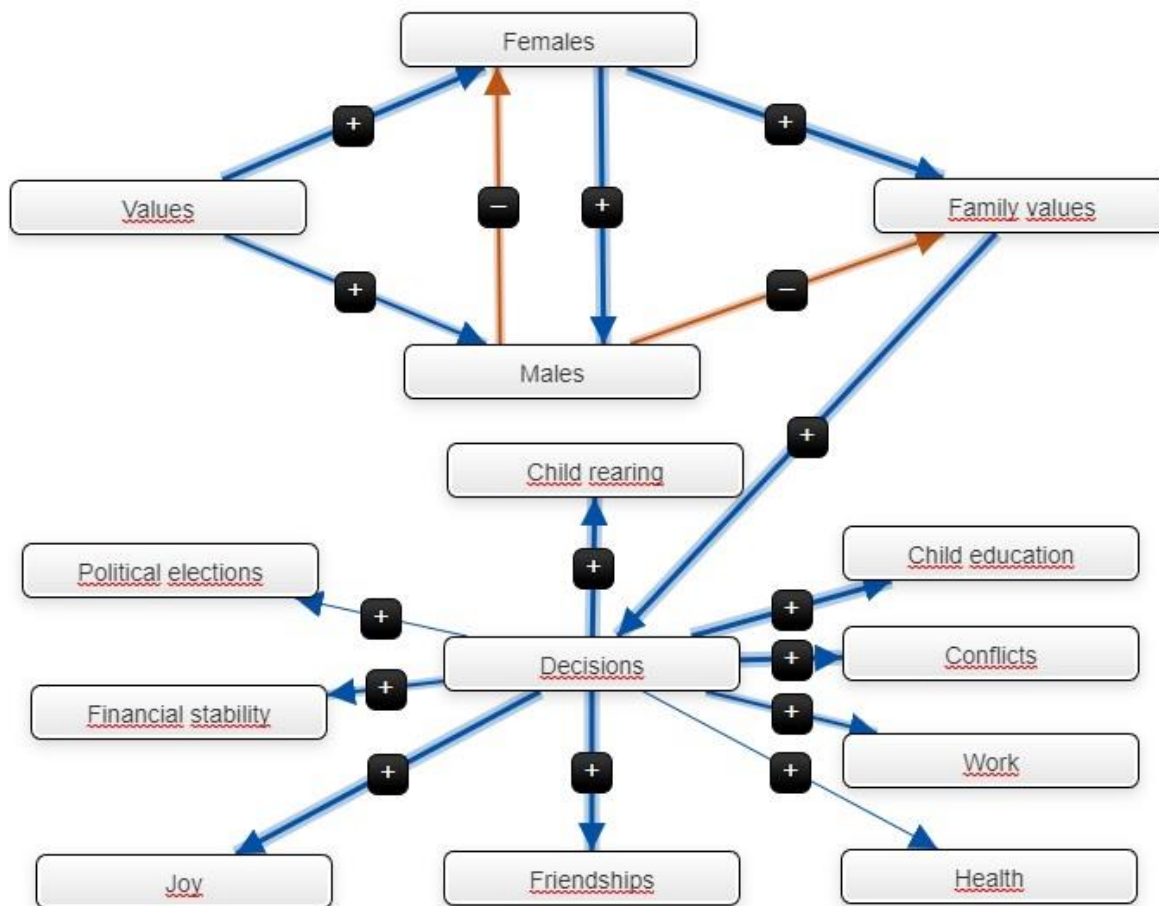


Figure 2. Scenario of a decision network model by female emphasis of values

Figure 2 demonstrates a possible scenario of a decision network model where in a partnership feminine value emphases dominate over masculine ones. Minor emphasis on dominant values can produce a fatal outcome, especially regarding decisions about the upbringing and education of children, the pursuit of family security, financial stability, resolving conflicts, friendships, acquaintanceships, etc. This is conditionally comparable to genes, where even the most minor differences can give rise to completely various personalities with diverse traits and abilities. Families and values collectively construct hierarchical associative networks consisting of building blocks like persons (e.g. partner), relationships (e.g. friendship), states (e.g. financial stability, health status), activities (e.g. learning, teaching), traits (e.g. stability) and even dimensions (e.g. time, space). It is precisely because of these relatively minor differences in the perception of values between the sexes that the upbringing of children can also be completely different, because when parents attach the most significant importance to values like power and wealth, this is induced in the child's mindset. It is the power of this induction that will be difficult to override, even while schooling, by collective upbringings, because it is properly recognized that children, especially at the initial stages of development, take on the thought and behavior patterns of their parents. We can equally see that the aforementioned value emphases are very numerous and varied. Parents assign different weights to various values, so that, for example, love may be less important than wealth. From a hierarchical associative point of view, this means we could produce many diverse kinds of parental hierarchical associative models or value networks with higher and lower mean emphases or weights.

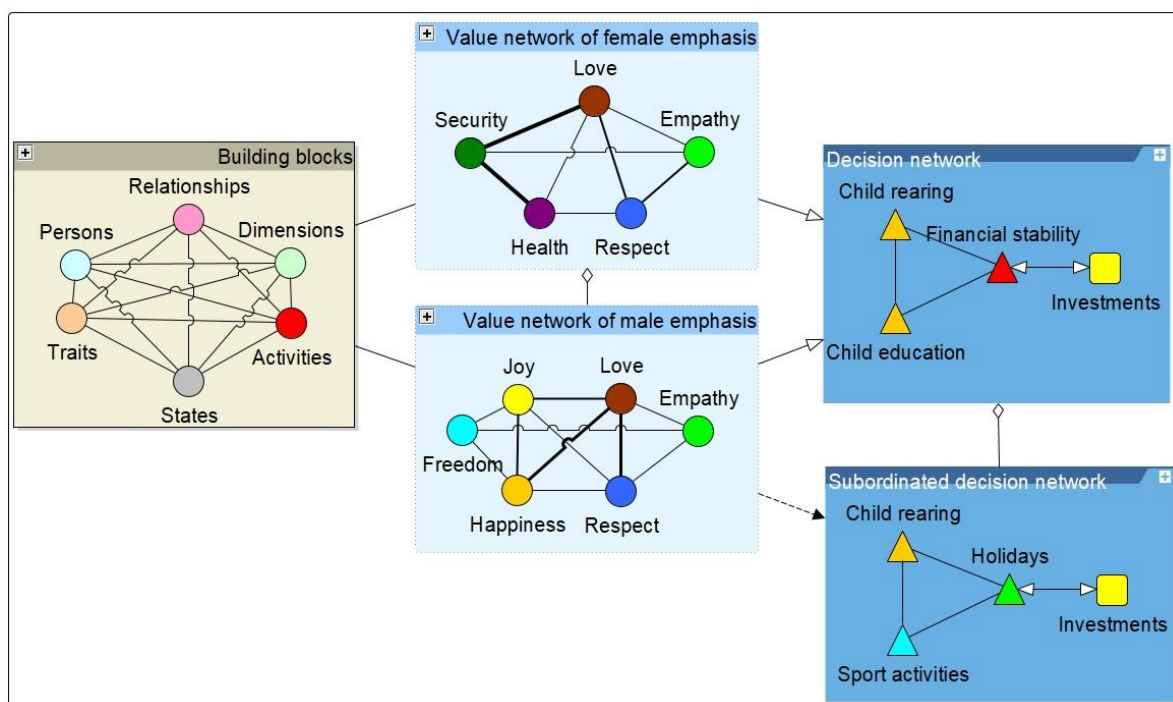


Figure 3. Package diagram of a hierarchical associative value and decision network scenario

Figure 3 shows a possible scenario of a hierarchical associative network of emphasized values with building blocks from both genders and decisions using a package diagram. There are two associative links between the building blocks and the values emphasized by both genders (note straight lines), and in this possible scenario the feminine values emphasized are predominant over the masculine ones (note the hierarchical link in the form of a straight line with a white diamond). This has an impact on the subsequent decisions in the direction of the upbringing and education of the children (see links in the form of a straight line and a triangle). The possible decision-making network on the part of the masculine gender is in an inferior position because the masculine viewpoint slightly reduces the significance of the importance of security (note the hierarchical link in the form of a straight line with a white diamond). In fact, the present study has opened an interesting area of research on hierarchical associative networks, which are the content of everything that is social, which can also have a positive or negative impact on our natural environment. Study of such networks, whether it be individuals, families, or different societies, could help us to improve different decision-making models.

Discussion

The aim of the research was to identify significant values which are by the opinions of female and male participants primary for families. Exploring the hierarchical and associative links between family and values, towards showing that families or better parents, together with values, form hierarchical associative networks which possess extraordinary informational power in diverse decision-making. This is precisely accurate for the upbringing and education of children.

Theoretical contribution

This study contributes to theories in the symbolic interactionist perspective. It confirms

and complements the approach of the basic notion of symbolic interactionism that human action and interaction are understandable only through the exchange of meaningful communication with norms, values, symbols, etc. (Charmaz et al., 2019; Janoski et al., 2021; Panicker et al., 2020; Saunders, 1997). In order to more effectively manage, control, and address family problems, it is necessary to comprehensively measure or study hierarchical associative networks of values. This is a good prerequisite for establishing the interrelationships between various factors, which in turn additionally allows for better prediction of harmful family problems. Such acquired knowledge can enhance the decisions, quality of life, and health of a significant number of parents and their children. This is significantly directly related to sociological perspectives on the family and symbolic interactionism. The interaction of family members and intimate couples involves shared understandings of their situations (Barkan, 2020). Family problems arise in particular because of different understandings, expectations, and implementation of values within married life. Diverse parenting styles express also different patterns of parental values, practices and behaviors which are transmitted to children or better next generations (Totkova, 2019). Family members communicate with each other constantly in the form of norms, values, and symbols. This is additionally the form of communication that takes place between the mass media and families (e.g., economic propaganda, political propaganda, information), between institutions and families (e.g. schools), between national authorities and families (e.g. parliament), etc. Very often, various moods, emotional and mental inductions take place, causing a process of unification of mental concepts (e.g., values, symbols) that are otherwise more than not permeated with subjectivity from the point of view of the individual and the family. It is precisely because of these inductions that an agreed reality can emerge, which represents not only the case in political and economic propaganda, but on top gains its place in the broadest sense of human culture.

Practical implications, limitations, and future research

Analysis of hierarchical associative networks of values can contribute to a more proper understanding of diverse social groups like families, work organizations, associations, etc., and thus to the reinforcement of positive values within state systems. This can, in addition, provide us more effective communication between varied social groups, problem solving even in the form of conflicts, decision making towards business, education and child rearing, etc., which can contribute to better utilization of social systems. Reinforcing positive values within social systems can lead to better economic financial returns, more ample security, more consistent enforcement of laws, demographic growth and the progressive development of our descendants. The perception of values within families and other social groups gives us excellent feedback on the mental orientation and mood of a large mass of people. Hierarchical associative networks of family and values in individuals, families as well as societies are additionally of paramount importance in other decisions that are interdisciplinary in nature (e.g., politics, business, law - legislation, medicine - treatment of patients, science - experimental science - inventions, military, police, everyday thinking, management - personnel selection). The reinforcement of positive values by opinion and mood formers should be permanent and intensive, especially through the mass media, various institutions, and influential persons. The realization of positive values by both individuals and social groups should be encouraged through both material and symbolic rewards. In fact, if people act more consistently along the lines of positive values, social systems benefit much more (e.g., financial gain, better quality of life, more effective communication) and experience fewer unsavory problems like intractable conflicts, increases in distress, increases in crime. If the most positive values (e.g., love, health, life) within the hierarchical associative network are more minor nodes and contain weak and few links, there is a significant probability that any decision will be less pleasing or positive for the individual,

the family and society.

One of the biggest limitations of this research is the individual approach to obtaining data. It is extremely challenging to obtain data because exceptional work inputs are needed to be able to get respondents. Obtaining data becomes more complicated when you want to conduct research for the police, medical facilities, and the military. For this reason, research on hierarchical associative networks of values in various social environments should be systematically accepted as a mandatory measurement (analogy: measuring distress in societies).

Future research could go in the direction of measuring and analyzing hierarchical associative networks of values in specific families and other social environments like within e.g., health, police, industry, military. This would provide an excellent insight into the mental concepts of people and across different social zones (e.g. migration zone, cultural zone, industrial zone, trade zone, government zone). This may be closely related to the occurrence of distress, crime, stigma etc., as well as to positive or negative government and managerial decisions.

Conclusion

In fact, the present study has opened a fascinating area of research on hierarchical associative networks (hierarchical associative systems). The study of such networks, whether they concern individuals, families, or diverse societies, could support us to improve various decision-making models. The second view is towards artificial intelligence, which already performs a significant role in everyday life and is expected to produce an indeed more enormous impact in the future (e.g., programming humanoid intelligent robots with positive and realistic hierarchical associative value networks to be able to make or propose the best). Hierarchical associative value networks will play a meaningful role in decision-making in a variety of ways and the upcoming development of the family. 428 respondents expressed the opinion that the future of families will be less positive, which is somewhat alarming, as the majority were civil servants who, as a rule, enjoy a regulated family life, a regulated status, and relatively sufficient funds. This may mean that in realizing positive values inside social hierarchical associative systems (e.g. families, individuals, communities, societies, organized associations) it will be necessary to invest even more scientific research effort and ensure (holders of state power) for more intensive and mightier influence of these values in these systems. If positive values in everyday conditions are declining, the result will be manifested especially in the form of energy loss of social hierarchical associative systems, which will of course have an extremely negative impact on families and individuals. Achieving positive values in all areas of social life means gaining positive energy, which will make life better, fewer complexes and less costly.

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