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THE NON-LINEAR NATURE OF POSITIVE PARENTAL FEELINGS

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Abstract

In the last 20 to 25 years the psychology has been mainly concerned with the study of rather complex processes that hardly fit into simple linear models. At the same time, the so-called “meaningful” but not really clear correlation rates (0.2-0.3) are tend to be interpreted by psychologists as an essential ones, worth of attention in interpreting the results. This is linked with the shortage of really strong linear relations in the study of complex psychological objects. In doing so many grave errors. In the article are represented results of the research denoted a problem of the influence of positive parental fillings on a self-estimation of the preschool child in an aspect of non-linear psychology. Results of the experimental investigation of this issue are disclosed and analyzed in the paper. As the most interesting independent parameter (in a task of relations research) we considered the parameter of understanding by parents the reason of the child’s condition. In the similar case, the seven parameters based on it. And for one of them (“Indiscriminateness – insistence”) a maximum symmetric (by criteria of classification of dependences), and for the others (“The Estimation of the child the parent”, “General self-estimation of the child”, “Rendering of emotional support”, “Absence of cooperation – cooperation”, “Ability to influence the child’s condition”, “Positive parental feelings caused by advantages and achievement of the child”) is cut off on the right, i.e. in the comparison of extreme quarters it is possible to note the general increase.

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Keywords: Parenthood, positive feelings, non-linearity, spouse, child.



1. Introduction

In recent decades, there has been a deep crisis in the field of data processing in psychological science. It is, first of all, because of researchers who have a linear model in their minds (like physicists in the 18th and 19th centuries). It is inherent in human thinking, and, therefore, we trust it more. But we need to get away from system errors in the traditional methods which partially allow to maintain the linear view in experimental psychology.

Different areas of psychology (55 reports at the Congress of the ICP, ISA, ESA, ECP) had an intrusion of Basimov's (2012, 2016) copyright methods (Padurina, 2012; Ilinykh, 2012a; Basimova, 2016a, etc.), where the rich nonlinear nature of psychological data is shown.

2. Problem Statement

Studying the materials of congresses ICP, ISA, ESA, ECP, it can be noted that even the term "non-linear "or" nonlinear" is extremely rare (for example, ECP-2011 – 3 thesis, ECP-2015 – 4 thesis, etc.). And synergetics as a methodological approach has become a fashionable screensaver for dissertations, after which the authors work with their data in the traditional linear paradigm.

In order to create the visibility of results in terms of the linear concept, the following is done. There is a sufficient selection, numbering around 100 units, in which case the critical value of the correlation coefficient (the checking of the hypothesis of the correlation coefficient being equal to zero) is roughly 0.2. Thus, the relatively low correlation (0.2-0.3), which is called "meaningful" is often construed as meaningful and worthy of attention in interpreting the results. One can observe here a massive swerve (done knowingly or unknowingly) toward the lesser correlation rates. This can be explained by the shortage in the analysis of really strong linear relations of the absolute value exceeding 0.6, when the psychological objects under study are mostly non-linear by their nature while the tools employed for the study are still of the linear type and the researchers do not wish to change the pattern or do not understand that the time has come for a different methods for processing the raw data in the framework of more complex dependencies and non-linear models.

3. Research Questions

Modern studying of the psychological phenomena (motherhood, paternity, parenthood and so forth) gravitates to use of linear dependences. At the same time it is necessary to understand, that if at studying of such difficult, multidimensional and dynamical formations, we remain within the limits of linear representations it means obviously to simplify research problems and to lose the substantial information.

Originally, study on positive parental feelings and their effect on a self-estimation of the preschool child was carried out with use of traditional methods within the limits of linear representations (Padurina, 2008; Ilinykh, 2012b). Then for studying of a phenomenon of positive parental feelings has been used the author's method of relation studying (Basimov, 2012, 2018; Basimova, 2016b) which is realized through multivariate comparison of quintile splitting (a triad, a quarter, a quinter) the objects on all the evaluated

parameters. As a result force of relation and the form of dependence is defined, and linear dependences are defined as a special case.

Positive parental feelings is a system of feelings of the parent characterised by a combination of the positive maintenance and the positive social importance, representing an orientation on the parent, on the child, on the spouse as a parent, and on the parenthood in whole (Padurina, 2008).

Within the limits of research of relations of the various form with use of a Basimov's (2012, 2016) method have been selected (by quantity of relations) two important reasons influencing positive parental feelings: parameter **X**: "**Understanding the reason of the child's condition**" (7 dependences) and parameter **Z**: "Positive feelings to the spouse as to the parent" (9 dependences). In the article we will consider just the reason **X**.

4. Purpose of the Study

We are considering the phenomenon of Positive parental feelings in the same manner as the issues of psychology primarily as a non-linear object, which can be demonstrated based on many results.

The synergetic paradigm (Knjazeva & Kurdyumov, 2005; Krylov, 2000; Mainzer, 1994), becomes inevitable in the study of complex psychological reality. It used not as a mysterious methodological idea, but as a guide to action. In particular, this applies to the psychology of the family, where this problem is particularly relevant. Otherwise, authors often offer questionable results and conclusions that they themselves do not support, if the discussion refers to their personal experience of a parent or child.

5. Research Methods

For studying statistical dependencies, enhanced method of multivariate comparison is proposed. Original method of multivariate comparison is described by Basimov (2012, 2018). The novel method employs a generalized version of the multivariate comparison for quantile splitting the data based on the values of the all measured parameters. Advantage of the proposed method is the unnecessary in preliminary hypothesis about the type of dependence. It allows to simultaneously tracking the various non-linear dependencies and also makes estimation of the intervals of dependencies clear for the researchers. The latter makes interpretation of the results concise and more relevant to the object of study.

6. Findings

We shall consider dependences in which the factor affecting positive parental feelings is the parameter **X**. In the similar case seven parameters are based on it. And for one of them **Y1**: "**Indiscriminateness – insistence**" a maximum symmetric (by criteria of classification of dependences), and for the others 6 parameter:

Y2: "The Estimation of the child the parent"

Y3: "General self-estimation of the child"

Y4: "Rendering of emotional support"

Y5: "Absence of cooperation – cooperation"

Y6: "Ability to influence the child's condition "

Y7: "Positive parental feelings caused by advantages and achievement of the child "

is cut off on the right, i.e. in the comparison of extreme quarters it is possible to note the general increase.

Here and after particular terminology are used to describe statistical relations of the factors:

SV – Factor of the connection strength $Y_i(X)$

SV' – Factor of the connection strength $X(Y_i)$

R – Coefficient of correlation

Dependence with a symmetric maximum

1. Dependence $Y_1(X)$:

Quarters	Comparative weightiness Y_1
X4	-2148
X3	+471
X2	+6719
X1	-1865

$$SV = 0.87 \quad SV' = 0.12 \quad R = -0.03$$

The obtained data testifies that low level of X , as well as high level, are the reasons of strongly enough shown indiscriminateness in relation to the child (comparative weightinesses are equal -1865 and -2148). At the same time an extreme insistence (+6719) is observed in the second quarter (the first average level) the independent parameter X then begins sharp decrease of insistence. Thus, the maximum insistence is shown, when the X is already expressed, but is not strong, and is moderate enough. And the further growth of parameter X reduces insistence to initial values. Thus dependence obviously unilateral: inverse dependence to it on the force of relation is the weakest (the factor of the connection strength is equal 0,12). It means that the understanding of the reasons condition of the child does not depend in any way on insistence. The measure of linear relation is close to zero (-0,03). Graphically dependence looks like (see figure 1):

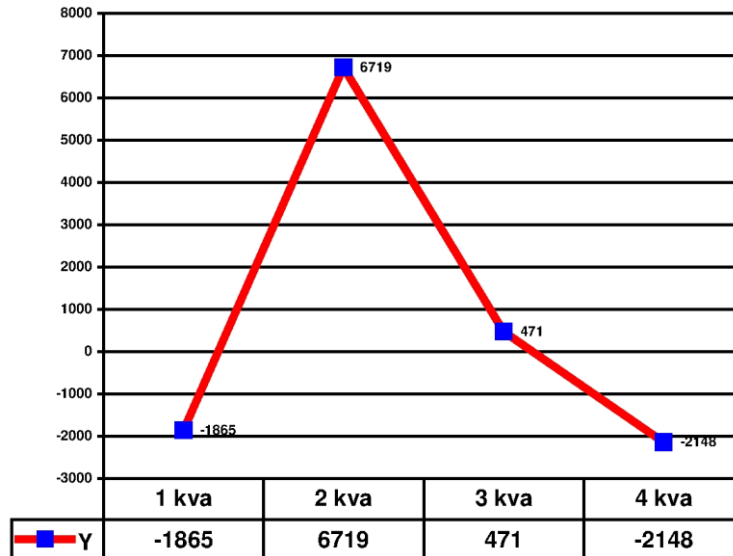


Figure 01. Dependence Y1(X)

Dependences with a nonsymmetric maximum (cut off on the right, the general increase)

2. Dependence Y2(X):

Quarters	Comparative weightiness Y2
X4	-202
X3	+3994
X2	+830
X1	-2645

$$SV = 0.54 \quad SV' = 0.33 \quad R = 0.18$$

"The estimation of the child the parent" is the parameter showing a particular variant of a self-estimation of the child – the estimation him/herself from the parents' point of view. Proceeding, from the received data it follows that the average level of **X** leads to forecasting by the child the high appreciation of him/herself by parents (it is normal for children of preschool age). Though it is impossible do not notice, that 1 and 4 quarters of independent parameter strongly enough differ on parameter "The Estimation of the child by the parent" (-2645 and -202). But such positive dynamics is reached not by simply monotonous growth, and in two stages: in the beginning is a sharp increase at 3 quarter (+3994), and then – a sharp falling. It is interesting, that low and high levels of **X** lead to a child predicted low estimation of him/herself by parents. If for low level of **X** such result is predicted, for high – is not obvious. Probably, such result is caused by that at high level of **X** the parent foresees thoughts, feelings, actions of the child. As consequence, a parent helps the child, gives him/her advice earlier, than that has asked for the help, i.e. acts in a role "all-knowing", "all-powerful". As a result it can determine the child's feeling of inferiority and his/her confidence that the parent estimates his/her low. Graphically dependence looks like (see figure 2):

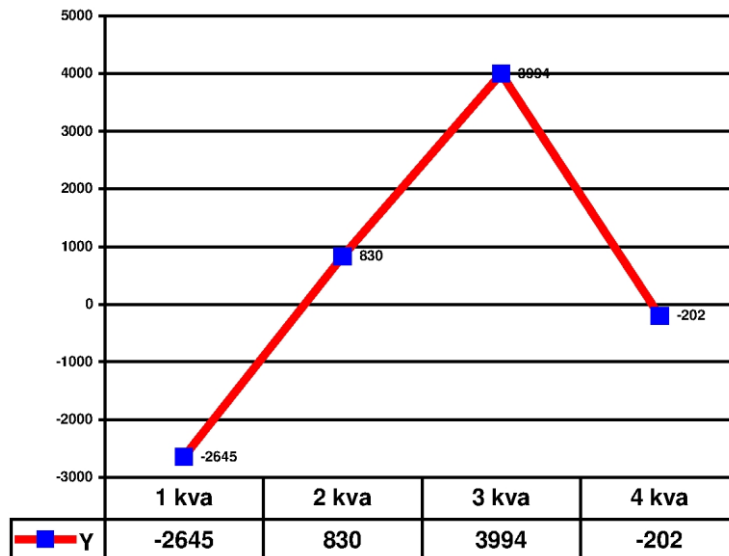


Figure 02. Dependence Y2(X)

3. Dependence Y3(X):

Quarters	Comparative weightiness Y3
X4	-227
X3	+2683
X2	+3959
X1	-2968

$$SV = 0.56 \quad SV' = 0.07 \quad R = 0.18$$

As well as in the previous case, we have (though by criteria of classification of dependences is still a symmetric maximum) general positive dynamics (on comparative weightiness with -2968 to -227). But thus jumps equally strong both towards increase, and towards reduction of dependent parameter, since both quarters of an average level (2 and 3) differ from each other a little. That is, the average level of **X** leads to formation at the child of a high general self-estimation (it is norm for children of preschool age). Low and high levels of **X** lead to formation of the underestimated or realistic general self-estimation of the child (for preschool age is it is considered a deviation from norm).

4. Dependence Y4(X):

Quarters	Comparative weightiness Y4
X4	-490
X3	+4854
X2	+290
X1	-1976

$$SV = 0.61 \quad SV' = 0.16 \quad R = 0.23$$

For first three quarters of the parameter **X** the increase to the maximum values of parameter "Rendering of emotional support" (a point of a maximum on the 3rd quarter) is observed. But then, when the independent parameter accepts high values (the 4th quarter) there is a sharp recession of parameter "Rendering of emotional support" that leads to an absence of behavioural displays of emotional interaction, namely absence of emotional support by the parent of the child. In a case with high level of **X**, we observe a divergence of cognitive and emotional components from behavioural element of emotional sphere of the parent. Probably it is possible to explain such sharp fall on the 4th quarter of the parameter "Rendering of emotional support" through the phenomenon of a dominant, when domination of cognitive and emotional element (**X**) leads to braking behavioural element (rendering of emotional support to the child).

5. Dependence Y5(X):

Quarters	Comparative weightiness Y5
X4	-561
X3	+3864
X2	+387
X1	-3319

$$SV = 0.58 \quad SV' = 0.24 \quad R = 0.16$$

The obtained data testifies that low level of **X** is connected with an extreme variant – absence of cooperation (-3319), further is observed a fast growth towards cooperation (to +3864 on 3 quarter) before the maximum cooperation of parents with the child. The 4th quarter of understanding of the reasons of a condition of the child (excessive understanding) leads to return result – to sharp reduction of cooperation (-561). However, it is necessary to note the general positive dynamics on an indicator of cooperation of the parent with the child (with -3319 to -561).

6. Dependence Y6(X):

Quarters	Comparative weightiness Y6
X4	+447
X3	+4926
X2	-456
X1	-4125

$$SV = 0.68 \quad SV' = 0.43 \quad R = 0.28$$

The display of dependence is similar to the previous: very strong growth of parameter **Y6** (with

-4125 to +4926) is replaced after a maximum on the 3rd quarter by sharp recession on the 4th quarter (to +447) at excessive **X**. Though thus general positive dynamics is obviously expressed (with -4125 to +447). Thus, the **X** if it is not excessively overestimated, leads to formation at parents of high level of **Y6**. Low level of **X** is connected with absence or insufficient ability of the parent to influence a condition of the child.

7. Dependence Y7(X):

Quarters	Comparative weightiness Y7
X4	+148
X3	+4736
X2	-643
X1	-2306

$$SV = 0.54 \quad SV' = 0.17 \quad R = 0.24$$

The received dependence also concerns dependences with a maximum (cut off on the right) and testifies that the first 3 quarters of **X** promote positive dynamics of development in the parent of **Y7** (with -2306 to +4736). Then sharp recession of positive feelings to the child (to +148) on the 4th quarter of parameter is observed.

Parameter **Y** are important both for the parent, and for the child. These parental feelings are the indicator of success of his/her activity, behaviour for the child. To the positive parental feelings caused by merits and demerits of the child concern the feeling of parental pride and feeling of gratitude. The feeling of parental pride is shown in the emotional relation characterized by satisfaction by the child, and, as consequence, by him/herself as the parent, for the efforts undertaken by it and the reached successes. The feeling of gratitude to the child for its diligence is the moral feeling characterized by an indebtedness, approval, respect and love to the child (in particular, expressed in corresponding actions) for "blessing" rendered to it.

So, on the basis of the received results it is possible to speak about influence of the parameter **X** on features of display of positive parental feelings not so much on the basis of linear relations, but in much more degrees on the basis of non-linear dependences. Thus basically dependences (except 1st) are marked by general positive dynamics, and a maximum on the 3rd quarter then monotonous growth is replaced by sharp recession of a dependent variable at excessive **X** (the 4th quarter). For first three quarters the positive role of parameter **X** is observed, but at its extreme displays we observe inverse dynamics.

So, on the basis of the received results it is possible to speak about influence of parameter **X** on features of display of positive parental feelings and a self-estimation of the child (preschool child) not so much on the basis of linear relations (which it is not revealed), but only on the basis of non-linear dependences.

7. Conclusion

In the article we have considered in detail the influence of parameter **X** on features of display of positive parental feelings and a self-estimation of the child (preschool child). The considered dependences are not entered in linear models and give an occasion for a synergetic sight at complicated processes in relations between children and parents and between parents themselves.

In the researches spent within the limits of a scientific paradigm dominating in psychology, linear dependences are studied basically and their interpretations are considered. It is paradoxical, but the considerable quantity of scientists understand, that the world is far not so simple to explain it only within the limits of linear interrelations. There is a set of the examples described in a science of the phenomena which have non-linear character: life cycle of the person, a family, an organization, a cycle of addiction development, etc. is not a straight line, and the curves close under the form to a parabola, a hyperbole, a sinusoid and other elementary functions.

Often many important phenomena remain out of focus of attention of the researcher as there are no significant linear relations between parameters. At the same time if to look at a problem from a position of synergetics it is possible to find enough considerable quantity of the significant non-linear dependences requiring the description and the further studying.

In our case, in the dissertational research (Padurina, 2008) classical methods of the mathematical and statistical analysis have been used: correlation, discriminant and factorial analyses owing to what separate interesting and valuable results have been received.

Later the data (50 parameters, 6 diagnostic methods), collected in the dissertational research, has undergone to additional processing on studying simultaneously both linear, and the elementary non-linear relations with the help of an author's method of Basimov (2012, 2018). Two problems of studying of relations with splitting of the data into triads and quarters on the studied parameters have been solved, classification of types of relations is made.

In total, the research identified the following number of rather strong non-linear relationships: triad model – 41 dependence; quart model – 151 dependence. There are only 40 relatively strong ($R > 0.5$) linear bonds. But 25 of them are connections between related indicators of one technique, which does not give interesting information for the researcher.

It means, many significant dependences of studied parameters (only 151) have appeared absolutely not noted earlier in dissertational research as the size of linear correlation for them was extremely small also these dependences were not considered at the description of results of research. In the article we were limited to interpretation only 7 (from 151) the dependences.

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