IDENTIFYING THE SOCIO-PSYCHOLOGICAL PATTERNS OF HEALTHY MOTHERHOOD DEVELOPMENT IN WOMEN WITH COMPLICATED CHILDBIRTH AND POSTPARTUM PERIODS

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ABSTRACT

Worldwide, an increasing number of complications during pregnancy, childbirth, and the postpartum period are being reported, giving rise to psychological changes that may contribute to the development of specific pathologies in the mother's body; timely psychological, as well as medical, support is therefore essential for preserving maternal health. This study aimed to identify the socio-psychological patterns underlying the development of healthy motherhood in women whose childbirth and postpartum periods were complicated. The severity index of childbirth complications — reflecting the overall severity of complications during pregnancy, childbirth, and the postpartum period — served as the dependent variable in a sample of 608 women. Independent variables were obtained through psychodiagnostic assessment using psychometric instruments characterizing the value-semantic, emotional-regulatory, personal-role, socially supportive, and behavioral-interactive components of healthy motherhood, including measures of life-meaning orientations, value orientations, trait and state anxiety, hardiness, postpartum depression, maternal and parental identity, social support, and parent–child relations. Multiple regression analysis produced a statistically significant and well-fitting model ($F = 105.322$; $p < 0.001$; $R^2 = 0.813$; adjusted $R^2 = 0.805$). The results show that the regression profile of the value-semantic and emotional-regulatory components of healthy motherhood follows a fairly clear psychological logic. On the one hand, greater meaningfulness of life, stable family-maternal values, personal meaning, self-realization, and value-based resources of motherhood are associated with more favorable adaptation of women after complicated childbirth. On the other hand, elevated trait and state anxiety, as well as postpartum depressive symptoms, act as factors of psychological vulnerability, whereas hardiness, by contrast, plays a protective and supportive role.

Keywords: Woman, Childbirth, Motherhood, Psychology, Personality.

1. INTRODUCTION

Today, an increasing number of complications during childbirth and the postpartum period are being reported among pregnant women worldwide. This, in turn, gives rise to certain psychological changes in women who have given birth. Such psychological changes can lead to the development of specific pathologies in the mother's body. For this reason, providing not only medical but also psychological support during childbirth and the postpartum period is of great importance in preserving maternal health.

2. LITERATURE REVIEW

In modern conditions, preserving the health of mother and child is one of the most important directions of state policy and the healthcare systems of most countries in the world. At the same time, increasing attention is being paid not only to reducing maternal and infant morbidity but also to creating conditions for the woman's full psychological recovery after childbirth. Despite significant advances in modern medicine, complicated childbirth and postpartum periods continue to remain a serious medical and socio-psychological problem (Agafonova & Bryukhova, 2024; Askarova, 2021; Brown & Jones, 2023; Shermukhamedova, 2020; Suslova, 2021).

In this respect, documents of the World Health Organization emphasize that the quality of postpartum care should not be assessed by medical outcomes alone. The woman's psychological state, respectful treatment by specialists, access to necessary information, family support, and the possibility of receiving timely assistance are all of great importance. A positive postpartum experience implies that the woman, the child, and their family receive consistent support, and that the healthcare system takes their real needs and cultural characteristics into account. Such an approach creates conditions for preserving the health of mother and child both in the immediate postpartum period and thereafter (Iskandarova et al., 2023; Jalilova et al., 2024; Mukhamedova & Rasulova, 2022).

At present, even given the modern level of development of obstetric and gynecological care, complicated childbirth and postpartum periods are often accompanied by heightened anxiety, emotional tension, depressive symptoms, diminished confidence in one's own maternal capabilities, and difficulties adapting to the new life role. The most pronounced psychological consequences are observed in women who have undergone severe childbirth, emergency surgical interventions, prolonged hospitalization, or separation from the child. Under these conditions, medical recovery is not always accompanied by full psychological adaptation, which calls for the timely identification of emotional disturbances and the organization of comprehensive psychological support (Cabrera, 2018; Domino & Domino, 2006; Eberhard-Gran et al., 2024).

3. METHODOLOGY

The study employed a battery of standardized psychodiagnostic instruments to assess the value-semantic, emotional-regulatory, personal-role, socially supportive, and behavioral-interactive components of healthy motherhood. Specifically, the following instruments were used: the Life-Meaning Orientations Test by D.A. Leontiev; the Value Orientations Questionnaire by M. Rokeach; the State-Trait Anxiety Inventory by C.D. Spielberger and Y.L. Khanin; the Hardiness Survey by S. Maddi, adapted by D. Leontiev; the Edinburgh Postnatal Depression Scale by J. Cox, J. Holden, and R. Sagovsky, adapted by V.V. Golubovich; the “Who Am I?” Test by M. Kuhn and T. McPartland, modified by T.V. Rumyantseva and N.L. Ivanova; the Utrecht Scale for Parental Identity by K. Piotrowski, adapted by Y.V. Borisenko; the Social Support Questionnaire (F-SozU) by R. Fydrich, J. Sommer, and U. Brähler, adapted by A.B. Kholmogorova and G.A. Petrova; and the Parent–Child Relationship Questionnaire by E.S. Schaefer and R.Q. Bell, adapted by T.V. Neshcheret.

4. RESULTS

Before interpreting the results, the basic assumptions for applying linear regression analysis were tested. The sample size was 608 respondents, which is sufficient for building a regression model.

The Durbin–Watson statistic was 1.970, indicating the absence of pronounced autocorrelation among the residuals. The multicollinearity check likewise revealed no critical values: tolerance indicators were above the minimum acceptable level, and VIF values did not exceed 1.40. Consequently, the independent variables did not critically duplicate one another and could be used together in a single regression model. The overall model proved statistically significant ($F = 105.322$; $p < 0.001$), with a coefficient of determination of $R^2 = 0.813$ and an adjusted $R^2 = 0.805$. This indicates the high explanatory power of the constructed regression model.

The results of the regression analysis revealed that various socio-psychological characteristics of women are related to the severity of complications of pregnancy, childbirth, and the postpartum period to differing degrees. Significant predictors were found among indicators belonging to virtually all structural components of the proposed model of healthy motherhood. This indicates that the formation of healthy motherhood is determined not by any single psychological factor, but by a system of interrelated personal, emotional, role-related, social, and behavioral characteristics.

The analysis also showed that the direction of influence of individual psychological indicators differs. Some characteristics act as factors associated with a lower severity of complications and more favorable psychological functioning in women, whereas others, conversely, are associated with an increased risk of unfavorable course of pregnancy, childbirth, and the postpartum period. These results confirm the assumption of the complex nature of the socio-psychological mechanisms underlying the development of healthy motherhood and make it possible to identify the most significant psychological resources and risk factors.

We will now consider, in turn, the regression profiles of each structural component of the proposed model. First, we analyze the value-semantic component, which, according to the theoretical model developed, constitutes its basic foundation and reflects the characteristics of life meanings, value orientations, and the woman's internal attitude toward motherhood.

4.1 Value-Semantic Component of Healthy Motherhood

As can be seen from the data presented in Table 1, all indicators characterizing the value-semantic component of healthy motherhood entered the regression model as statistically significant predictors ($p < 0.05$). All regression coefficients have a negative direction, indicating a single overall pattern. These results suggest that as the level of meaningfulness of life increases, family-maternal values strengthen, the inner system of life meanings develops, and constructive value attitudes are formed, the likelihood of pronounced psychological difficulties associated with complicated childbirth and the postpartum period decreases. In other words, the more stable a woman's value-semantic sphere is, the more internal resources she has for successful adaptation to the difficulties she has experienced.

Table 1. Regression profile of the value-semantic component of healthy motherhood in women with complicated childbirth and postpartum periods (n = 608)

Predictors	B	β	t	p
Life-Meaning Orientations Test (D.A. Leontiev)	-0.018	-0.119	-6.085	<0.001
Family-Maternal Value Orientation Index (M. Rokeach Value Orientations Questionnaire)	-0.105	-0.055	-2.881	0.004
Personal Meaning and Life Meaningfulness Index	-0.184	-0.099	-5.015	<0.001
Self-Realization and Social Activity Index	-0.075	-0.043	-2.224	0.027
Value-Based Resources of Motherhood Index	-0.116	-0.061	-3.130	0.002

Note. B = unstandardized regression coefficient; β = standardized regression coefficient; t = Student's t-test statistic; p = significance level.

The greatest contribution to the regression model came from the Life-Meaning Orientations Test ($\beta = -0.119$; $p < 0.001$) and the Personal Meaning and Life Meaningfulness Index ($\beta = -0.099$; $p < 0.001$). This allows meaningfulness of life to be regarded as one of the leading psychological resources of healthy motherhood. This is probably not so much a matter of the presence of individual positive emotions as of a deeper personal mechanism that helps a woman perceive events as part of her own life story, maintain a sense of perspective, and not lose her sense of inner stability even under difficult circumstances.

It should be noted that complicated childbirth is almost always accompanied by pronounced emotional tension. For many women, such a situation becomes a serious life trial associated with worry about their own health and the condition of the child, fear of possible consequences, a sense of uncertainty, and disruption of habitual life plans. However, the psychological reaction to such events is far from being determined solely by the severity of the medical situation. In many cases, what matters much more is how the woman herself perceives what has happened, what place this experience occupies in her system of life values, and what conclusions she draws for herself.

For example, two women may experience almost identical complications during childbirth. One of them gradually comes to perceive what happened as a difficult but already completed life stage, focusing on recovery, caring for the child, and planning her future life. Despite ongoing distress, she gradually returns to her usual activities, feels responsible for the child, and sees new life tasks ahead of her. Another woman, in a similar medical situation, may for a long time keep mentally returning to the events of childbirth, experience a sense of injustice, search for the causes of what happened, doubt her own capabilities, and perceive what happened as a personal defeat. Although the objective circumstances may be very similar, the way each woman internally processes the meaning of her experience turns out to be completely different. It is probably differences of this kind that are reflected in the results of the regression analysis.

Indicators characterizing personal value orientations proved no less important. In particular, the Family-Maternal Value Orientation Index ($\beta = -0.055$; $p = 0.004$), the Value-Based Resources of Motherhood Index ($\beta = -0.061$; $p = 0.002$), and the Self-Realization and Social Activity Index ($\beta = -0.043$; $p = 0.027$) also made independent contributions to the model. Despite their somewhat weaker influence compared with the life-meaning orientation indicators, their statistical

significance shows that a woman's system of life values also plays an important role in the process of her psychological adaptation.

Of particular interest is the fact that the Self-Realization and Social Activity Index proved to be a significant predictor. At first glance, it might seem that after the birth of a child, a woman's main attention should be focused exclusively on the maternal role. However, the results obtained suggest a more complex picture. It is likely that the women who prove psychologically most stable are those who manage to preserve a sense of their own individuality and do not limit themselves exclusively to one social role. The opportunity to gradually return to one's usual social circle, maintain professional interests, make plans for the future, and feel like a full participant in social life may serve as an additional psychological resource for recovery.

In practice, this can manifest as follows. After the most difficult period of recovery is over, one woman gradually becomes interested in further education, maintains relationships with friends, plans professional development, and tries to find time for her own rest and for spending time with loved ones. Motherhood remains one of her most important life values, but it does not become her only sphere of existence. Another woman completely gives up her own interests, perceives any attempt to pay attention to herself as a manifestation of selfishness, restricts her social contacts, and gradually begins to feel emotional exhaustion. Such differences do not mean that one behavioral pattern is absolutely correct; however, the study's findings suggest that maintaining a reasonable life balance may have a positive effect on a mother's psychological well-being.

The results obtained also draw attention to another important pattern. All the predictors identified relate not to individual emotional states but to relatively stable personal formations — life meanings, the value system, and inner convictions. This means that the value-semantic component performs a deeper psychological function. It does not eliminate the objective difficulties that arise with complicated childbirth, but it can substantially influence how a woman perceives what is happening, how successfully she adapts to the new life situation, and what inner resources she draws on to overcome the difficulties that arise.

At the same time, the results presented should be interpreted with a degree of caution. Regression analysis can reveal statistically significant relationships between the indicators studied, but it does not, in itself, prove the existence of a direct causal relationship. It is therefore more accurate to say that a high level of development of the value-semantic sphere serves as an important socio-psychological resource associated with a more favorable course of psychological adaptation in women after complicated childbirth and during the postpartum period.

Thus, the analysis of the data in Table 1 leads to the conclusion that the value-semantic component is one of the central elements of the developed model of healthy motherhood. It is precisely the characteristics of life meanings, the value system, attitudes toward motherhood, and the ability to see a perspective for one's own development that form the inner psychological foundation contributing to a woman's more successful adaptation to the consequences of complicated childbirth and to the formation of healthy motherhood as a whole.

4.2 Emotional-Regulatory Component of Healthy Motherhood

As the data presented in Table 2 show, all indicators of the emotional-regulatory component entered the regression model as statistically significant predictors ($p < 0.001$). These results reflect a fairly consistent psychological picture. Trait anxiety, state anxiety, and the severity of postpartum depression have positive regression coefficients, whereas the hardiness indicator is characterized by a negative coefficient. In other words, an increase in the level of anxiety and depressive symptoms is associated with a greater severity of unfavorable changes, whereas a high level of hardiness, on the contrary, serves as an important psychological resource associated with more favorable adaptation of women after complicated childbirth.

The greatest contribution to the regression model came from trait anxiety ($\beta = 0.174$; $p < 0.001$). This suggests that a woman's stable tendency to perceive various life situations as potentially dangerous or worrying is of greatest importance among the emotional-regulatory characteristics studied. It should be noted that trait anxiety reflects not a temporary emotional state but a fairly stable individual personality trait.

Table 2. Regression profile of the emotional-regulatory component of healthy motherhood

Predictors	B	β	t	p
Trait Anxiety (State-Trait Anxiety Inventory; C.D. Spielberger & Y.L. Khanin)	0.049	0.174	8.224	<0.001
State Anxiety (State-Trait Anxiety Inventory; C.D. Spielberger & Y.L. Khanin)	0.034	0.119	5.781	<0.001
Hardiness (Hardiness Survey; S. Maddi, adapted by D. Leontiev)	-0.018	-0.119	-5.831	<0.001
Postpartum Depression (Edinburgh Postnatal Depression Scale; J. Cox, J. Holden, & R. Sagovsky, adapted by V.V. Golubovich)	0.079	0.143	6.912	<0.001

Note. B = unstandardized regression coefficient; β = standardized regression coefficient; t = Student's t-test statistic; p = significance level.

It can therefore be assumed that women with an initially high level of anxiety are more sensitive to stressful events associated with complicated pregnancy, childbirth, and subsequent recovery.
At the same time, state anxiety also proved to be a significant predictor ($\beta = 0.119$; $p < 0.001$). Whereas trait anxiety characterizes a person's habitual way of emotional responding, state anxiety reflects the distress that arises under the influence of a specific life situation. In this case, the results obtained suggest that a woman's emotional state during pregnancy, childbirth, and the early postpartum period also has independent significance. This is quite understandable, since complications are often accompanied by a long wait for examination results, medical interventions, the need to make difficult decisions, and natural worry about one's own health and the condition of the child. Such circumstances alone are capable of causing pronounced emotional tension even in psychologically stable women.

It is interesting to note that the strength of the influence of trait anxiety proved to be greater than that of state anxiety. This probably indicates that successful psychological adaptation depends not only on the emotional reaction to specific events but also on the individual's overall style of emotional responding. In other words, temporary worry in a difficult life situation can be considered a fairly natural reaction. However, if anxiety becomes a permanent way of perceiving

the surrounding world, its effect on a woman's psychological well-being can become considerably stronger.

These results are well illustrated by ordinary life situations. For example, after complicated childbirth, most women feel anxious about the child's health, take an interest in doctors' recommendations, and closely monitor any changes in their own condition. Such a reaction is quite natural and, to a certain extent, even helps them to observe the necessary precautions. In some women, however, anxious feelings gradually decrease as their condition improves, whereas in others they persist for a long time, spreading to virtually every area of life. Such a woman begins constantly to expect new problems to arise, repeatedly double-checks specialists' recommendations, has difficulty resting and relaxing, and finds even minor changes in the child's condition hard to bear. It is probably differences of this kind, between temporary worry and stable trait anxiety, that are reflected in the results of the analysis conducted.

Another important predictor was the severity of postpartum depression ($\beta = 0.143$; $p < 0.001$). This result appears quite expected, since numerous studies show that complicated childbirth increases the risk of depressive experiences developing in the postpartum period. At the same time, it should be borne in mind that postpartum depression is far from always manifesting only as low mood. Women often describe constant fatigue, loss of interest in usual activities, a sense of emotional exhaustion, a feeling of their own inadequacy as a mother, and diminished confidence in the future. In such a situation, even everyday duties begin to be perceived as excessively burdensome, which makes the process of adapting to the new life role more difficult.

In real life, such changes can manifest quite differently. One woman, despite physical fatigue and emotional tension, gradually restores her usual level of activity, begins to enjoy interacting with her child, takes an interest in what is happening around her, and makes plans for the future. Another woman, by contrast, feels a persistent inner emptiness, performs childcare more as a duty than as a source of positive emotions, increasingly doubts her own abilities, and begins to avoid contact even with those close to her. Such states can, of course, vary in severity, but the study's findings suggest that depressive experiences are one of the most significant factors associated with the psychological adaptation of women after complicated childbirth.

The hardiness indicator ($\beta = -0.119$; $p < 0.001$) deserves special attention. Unlike anxiety and depressive symptoms, this indicator has a negative direction of association. This means that as the level of hardiness increases, the severity of unfavorable psychological manifestations decreases. From a psychological point of view, hardiness can be regarded as a person's ability to maintain inner stability under conditions of life difficulties, to adapt to changes that occur, and gradually to restore their own resources. Consequently, women with a higher level of hardiness probably cope more easily with the emotional consequences of complicated childbirth, adapt more quickly to new life circumstances, and make more successful use of their own psychological capabilities to overcome the difficulties that arise.

It is important to emphasize that hardiness does not mean the absence of anxiety, distress, or negative emotions. Rather, it refers to a person's ability to keep moving forward even under difficult circumstances. A woman may experience fear, fatigue, or worry, while at the same time gradually accepting the situation, seeking ways to solve the problems that arise, turning to family

and specialists for support, and maintaining hope for a favorable future. It is probably this inner capacity to adapt to a stressful situation that is reflected in high hardiness scores.

Considering the emotional-regulatory component as a whole, another important pattern can be observed. All four predictors characterize not individual emotions but the individual's ability to manage her own emotional state under difficult life conditions. On the one hand, anxiety and depressive experiences reflect factors of psychological vulnerability; on the other hand, hardiness represents an important internal resource that makes it possible to withstand the unfavorable effects of stressful circumstances. It is probably the balance between these two groups of factors that largely determines the characteristics of a woman's psychological adaptation in the postpartum period.

At the same time, these results should be interpreted with a degree of caution. Regression analysis reveals statistically significant relationships between the indicators studied but does not make it possible to state unequivocally that emotional characteristics are the direct cause of complications or of subsequent psychological adaptation. Nevertheless, the data obtained allow the emotional-regulatory component to be regarded as one of the key elements of the developed model of healthy motherhood and indicate that reducing anxiety and depressive symptoms, as well as developing hardiness, may serve as important directions for psychological support of women after complicated childbirth and during the postpartum period.

5. DISCUSSION

Bloch (2021) examined a wide range of psychological difficulties faced by women during motherhood and identified internal and external resources that help preserve psychological well-being. Our regression analysis made it possible to identify the most significant socio-psychological predictors of the development of healthy motherhood in women with complicated childbirth and postpartum periods. It was established that, within the structure of the value-semantic component, life-meaning orientations (β = -0.119), personal meaning and life meaningfulness (β = -0.099), as well as family-maternal values, value-based resources of motherhood, and self-realization, are of greatest importance. Among the indicators of the emotional-regulatory component, the most pronounced influence is exerted by trait anxiety (β = 0.174), postpartum depression (β = 0.143), state anxiety (β = 0.119), and hardiness (β = -0.119). For the identity-role component, the leading predictors were maternal identity (β = -0.103) and parental identity (β = -0.102), together with indicators of social self-realization and family-role and personal identity. Perceived social support (β = -0.153) makes a substantial contribution to the development of healthy motherhood, while among the behavioral-interactive characteristics, optimal emotional contact between mother and child (β = 0.107) and a reduction in the emotional distance between them (β = 0.091) stand out. These results indicate that healthy motherhood is shaped by a complex of interrelated psychological and social factors reflecting both a woman's internal resources and the characteristics of her interaction with her immediate environment and her child.

6. CONCLUSIONS

Thus, the results obtained show that the regression profile of the value-semantic and emotional-regulatory components of healthy motherhood follows a fairly clear psychological logic. On the one hand, greater meaningfulness of life, stable family-maternal values, personal meaning, self-realization, and value-based resources of motherhood are associated with more favorable

adaptation of women after complicated childbirth. On the other hand, elevated trait and state anxiety, together with postpartum depressive symptoms, act as factors of psychological vulnerability, whereas hardiness, by contrast, plays a protective and supportive role. This means that healthy motherhood, under conditions of complicated childbirth and the postpartum period, is formed not only through external care or medical recovery but also through the woman's inner work: the ability to understand the meaning of what is happening, to accept the maternal role, to preserve life orientations, to cope with anxiety, and gradually to restore emotional balance. The value-semantic component can therefore be regarded as the inner foundation of healthy motherhood, and the emotional-regulatory component as the mechanism of its psychological stability in a difficult life situation.

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