Cognitive Models of Loneliness in Women in Early and Middle Adulthood

Inna M. LEONOVA[1],
Olha B. KIZ[2],
Nataliia A. DOBROVOLSKA[3],
Kateryna O. CHYZHYK[4],
Tamara V. HOVORUN[5]

[1] Doctoral Student, Department of Social Psychology, Faculty of Psychology, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine, innaleonova983@gmail.com

[2] Associate Professor, Department of the Psychology, Faculty Pedagogics and Psychology, Ternopil Volodymyr Hnatiuk National Pedagogical University, Ternopil, Ukraine, olgakiz57@ukr.net

[3] Head of Physical Education, Sports and Human Health Department, V. I. Vernadsky Taurida National University, Kyiv, Ukraine, dobrovolsk75@ukr.net

[4] Postgraduate Student, Department of Pedagogical and Age-old Psychology, Faculty of Psychology, Lesya Ukrainka Volyn National University, Lutsk, Ukraine, katerynachyzhyk675@gmail.com

[5] Assistant Professor, Jindal Institute of Behavioural Sciences of OP Jindal Global University, Haryana-131001, India, tethovorun6@yahoo.com

Abstract: *The problem of loneliness is caused by a disunity and alienation of modern society, dissatisfaction with the basic social needs for acceptance and support. The fact that the subjective feeling of loneliness does not coincide with the real degree of social isolation determines the need to study the cognitive aspects. The aim of this study is to show the role of cognitive structures in loneliness in women. A survey of 144 women aged 26-55 years was conducted. Using the UCLA Loneliness Scale and the Differential Loneliness Experience Questionnaire, loneliness was measured as a global experience, positive and negative attitudes towards it. Cognitive models were studied using the Dysfunctional Attitude Scale, Young Schema Questionnaire, the author's questionnaire that reveals cultural myths and gender stereotypes about loneliness. A comparative analysis of the groups showed no differences in the perception of loneliness among women with different family situations; it also does not depend on having children and their number. Age was found to be a significant determinant of perceptions of loneliness and family circumstances. Cognitive models influence women's loneliness to a greater extent than family situation. The publication describes correlations between perceived loneliness and individual dysfunctional attitudes, and builds regression models of predictors of loneliness in different age groups. The study shows the prevalence of cultural stereotypes about the need for marriage and motherhood, and a special female vulnerability in relationships. The construct "tolerance to loneliness" is proposed and described, which reveals the positive potential of this experience for self-knowledge and self-development.*

Keywords: *Loneliness tolerance, gender bias, emotional deprivation, positive loneliness, gender stereotypes, dysfunctional beliefs, early maladaptive schemes.*

1. Introduction

The problem of loneliness is the seamy side of human social nature. A collective lifestyle promotes survival in difficult situations, and social isolation is one of the most difficult challenges. For a long time, expulsion has been used as a punishment: sending a small child into a nursery, boycott and neglect in teenage groups, solitary confinement, etc. But *isolation* (an objective measurable phenomenon) is not identical with *loneliness* — the subjective psychological discomfort people experience when their network of social relationships is significantly deficient in either quality or quantity (Perlman & Peplau, 1998). Some people may be content with limited social contacts and, being physically distant from others, exist quite comfortably, even make scientific discoveries, creative breakthroughs and spiritual insights. At the same time, a person can lead an active social life, have a family, but feel lonely.

In contrast to isolation, loneliness reflects an internal disorder in the relationship of the individual with society and his own self. This experience arises from inadequate satisfaction of the social needs of a person, the absence of a reliable object of attachment, which leads to the feeling of oneself as abandoned, unnecessary (Weiss, 1973). It can take place both in a situation of isolation (voluntary or forced), and in different types of relationships — in the presence of other people, but without psychological contact with them. Alienation in thoughts, needs and actions from other people, awareness of their non-identity are accompanied by dissatisfaction, stress and other painful conditions. Loneliness can be a natural reaction of a person to certain life situations (such as moving, divorce of spouses, separation of a child from parents, loss of loved ones, etc.) or a stable personality characteristic. The loss of emotional connections, rejection of generally accepted traditions, norms, values, launch the process of marginalization and destruction of the personality (Filindash, 2015). Thus, loneliness is an indicator of non-integration, non-adaptability of a person to the social world. One should distinguish the temporary voluntary solitude — being alone — from loneliness, as well as the solitude lifestyle filled with existential meaning.

Conceptual diversity reflects the perception of a phenomenon in a particular culture. It is interesting that in the Ukrainian language the variety of definitions of single, lone, solitary is semantically reduced to a single word "lonely", which in turn is associated with the characteristic of "self-contained". In the course of historical development different cultures create

specific forms of loneliness and ways to overcome them (Rokach, 2018; Rokach et al., 2000). Let us note that the mentality of the inhabitants of post-Soviet countries is still experiencing the delayed influence of the collectivist ideology, the values of which were opposed to the "alienating" individualism of capitalist society. This influenced the long lack of social and scientific discussions around the topic of loneliness.

An active study of the psychological aspects of loneliness began in the 80's of the 20th century, when data were obtained on the discrepancy between the actual number of social ties (the degree of social isolation) and the subjective experience of loneliness. Moreover, the most severe forms of loneliness turned out to be typical for situations when a person did not lack communication, was among friends or family members. Subsequent studies have shown links of loneliness with emotional distress, anxiety, depression, poor sleep, obesity, rapid aging, risk of cardiovascular disease and cognitive impairment (Hawkley & Cacioppo, 2010); decreased immunity (Pressman et al., 2005); hostility, suicidal behaviour, alcohol and drug abuse, unhealthy lifestyles (Holt-Lunstad at al., 2015; Napryeyenko et al., 2019; Richard at al., 2017). Today, social isolation and the experience of loneliness are generally recognized risk factors for physical and mental health problems. There is evidence that subjectively judged loneliness is a more important predictor of negative outcomes than actual isolation (Cacioppo & Patrick, 2008).

Large-scale national polls show an increase in perceived loneliness, especially among young people: from 16 to 30% of respondents in different age and gender groups reported pronounced dissatisfaction with their social relations, the quality and volume of communication, a sense of alienation (Barreto et al., 2021; Hawthorne, 2008; Hysinga et al., 2020). The rise of loneliness in modern society is triggered by many factors. Urbanization, migration, and the acceleration of the pace of life intensify social mobility, which is accompanied by a weakening of ties in traditional groups, primarily family and intergenerational ones. People who are passionate about their careers and self-realization prefer not to get married and have children as long as possible; and numerous superficial contacts do not satisfy the basic need for intimacy. Individualism which is based on the principle of "every man for himself" led to a decrease in interpersonal trust, and the need for constant self-determination caused an identity crisis. Loss of established values, economic and political instability increase the state of alienation and loss. The influence of social forces is exacerbated if there are factors of personal ill-being (Korchagina, 2008). Communication virtualization has brought new meanings to loneliness. Today, more and

more young people say that they feel more comfortable alone than in society. This can be considered as a spontaneous adaptation of the individual to global social disunity.

It is important to understand that any person, regardless of social status, needs the acceptance, approval and support of other members of the group. Even in individualistic Western culture, the lonely lifestyle is a sharp deviation from conventional wisdom and is therefore often stigmatized (Fisher & Sakaluk, 2020). In the public mind, loneliness is filled with negative connotations attaching epithets while "crying for help": helpless, suppressed, hopeless, abandoned, desperate, lost, terrible, dreary, deadly, etc. (Kagan, 2000). Lonely people are perceived as unhappy, inferior or unsuccessful (except in cases of hermitism associated with religious and spiritual quests). Thus, the fear of loneliness is acquired in the process of socialization. It is not surprising that the awareness of one's loneliness can cause an individual to feel anxiety, guilt, and shame.

Although the problem of loneliness affects almost all categories of the population, there are especially many stereotypes around the loneliness of women, not only in the everyday life, but also in psychological publications. The blog of a popular Russian psychologist begins with the words: "Women want to be in a relationship more than men, and they often experience lack of a loved man as loneliness and inferiority". The author urges readers to keep an eye on their figure and be always attractive (Kozlov, 2013). Glossy magazines intend to cheer up single women, but they actually escalate the problem: "Those who are not married have always been perceived as somewhat flawed: being unmarried means a failure" (Kiseleva, 2013). In scientific research, female loneliness is often interpreted narrowly — as the experience of the absence or lack of an intimate relationship with an important man (Tsvetkova, 2014). This led to the development of gender-oriented models of loneliness and corresponding methods of psychological support (Shitova, 2009).

It is generally accepted that women are more willing than men to recognize themselves as lonely and are more likely to seek psychological help. The influence of social role leads to stigmatization and rejection of single men (Borys & Perlman, 1985). At the same time, women are more socialized, have better communication and emotional skills, and cope better with loneliness.

That said, empirical data on gender differences of loneliness are ambiguous. In a number of studies, the influence of gender showed very little or no effects (Kahan & Žiaková, 2019; Richard et al., 2017); other

works have revealed gender differences only in certain groups: among college students (Russell, 1996), married people aged 20 to 49 years (Tornstam, 1993). These samples of Russian students aged 16-28 demonstrate the predominance of the subjective feeling of loneliness in women (Manakova, 2018). In contrast, in a survey of Polish students, women reported lower levels of loneliness and a higher level of perceived social support compared to men (Adamczyk, 2016). According to an online survey (Osin & Leontyev, 2013), men more often reported about the absence of loved ones, lack of communication and feelings of alienation; women more often talked about their rejection of loneliness as a phenomenon more often. In a cross-cultural study by Barreto et al. (2021), men also reported loneliness, although the gender effect was weaker for older participants. In general, the empirical data accumulated to date do not clarify the issue of the peculiarities of male and female loneliness.

Most of the publications translate a negative view of loneliness, emphasizing its destructive impact on the quality of life. At the same time, more and more studies present loneliness as an integral part of making up of individuality, a necessary element of self-knowledge, self-determination and self-sufficiency, as well as a positive resource for personal development that needs to be cultivated (Guseinova, 2014; Long & Averill, 2003; Osin & Leontyev, 2013; Storr, 2005; Zavorotnykh, 2009). Such reflections are based on the idea of Moustakas (1972) that loneliness is a challenge for a person, coping with which makes him more holistic, sensitive and human. Failure to cope with this challenge leads to painful loneliness, which is a source of anxiety. The *fear* of loneliness leads to the denial of it as a fact, the repression of the corresponding experiences, the constant search and establishment of superficial social contacts, as a result — to alienation from oneself. Time spent alone can be used for internal dialogue, self-discovery, creativity and other necessary activities that allow you to value relationships with other people. The positive potential of loneliness also includes the functions of self-regulation, stabilization of psychophysical states, protection of the self from external destructive influences (Neumoeva, 2005).

In the context of the above, the cognitive aspect requires special attention, which emphasizes the importance of personal beliefs and social attitudes in determining the subjectively experienced loneliness. This phenomenon fits well into the classical theory of the influence of cognitive structures on individual perception of reality (Beck, 1976). It is known that cognitive schemes that arrange and process incoming information (patterns of perception and evaluation, patterns of thinking, attitudes, representations,

prejudices, automatic thoughts, etc.) are acquired at an early stage of personality development and develop as experience is accumulated. Deformation of these structures — *cognitive distortions* — leads to distorted perception, inappropriate emotional responses, erroneous decisions, behavioural disorders and personality disorders. Young (1982) described early maladaptive schemas — protective emotional-cognitive patterns that are formed in childhood, guiding reactions throughout life.

"Fundamental underlying assumptions" about ourselves, others, and the world determine the behaviour of lonely people, making it difficult to establish and maintain satisfactory social relationships (Young, 1982). Maladaptive schemas are usually the result of traumatic events, frustration of important needs, attachment disorders; overprotection and care, lack of reasonable restraint, selective identification with the thoughts, feelings and behaviour of an influential adult can also be causes (Young et al., 2003).

Identifying and correcting maladaptive social cognition underlies the provision of effective psychological care for loneliness problems (Cacioppo et al., 2015; Käll et al., 2020).

The cognitive component is invariably present in the definitions of loneliness as a result of a person's assessment of the system of his relationships with other people, social groups, himself and the world as a whole: the discrepancy between the desired and achieved level of contacts (Perlman & Peplau, 1998); the perceived deficit of relationships, which the subject defines as unsatisfying his needs (Kryukova, 2016); subjective reflection of one's position in the "I-Others" system, the dominant form of identifying oneself with others: identification or isolation (Oleinik, 2018), the meaning with which a person endows isolation, communication and connections with other people (Osin & Leontyev, 2013).

Sadler and Johnson (1980) described the cognitive moment of loneliness as a "sign of selfhood": it informs a person who he is in this life. This is a special acute form of self-perception and self-awareness, showing a split in the real network of relationships and connections of the inner world. The experience is built on the basis of the *individual's life world* — an intentional structure that sets a framework within which events become meaningful.

Loneliness positions a person on the scale "I am alone - I am not alone" using a number of criteria: subjective assessment of the manifestation of loneliness, the degree of its recognition (the nature of psychological defence) and the emotional colouring of loneliness. Each person experiences this state in his own way and has his own "comfortable level" of loneliness

(Zavorotnykh, 2009), as well as ideas about social activity (Shamionov & Grigoryev, 2019). The cognitive aspect of self-diagnosis of loneliness also includes ideas about a *certain type of relationship* that is currently absent, as well as an analysis of disagreements between individual experience of a person and generally accepted standards (Korchagina, 2008).

An individual who has clearly identified himself as a lonely person experiences loneliness even more strongly (Perlman & Peplau, 1998). Recent research by Oleinik (2018) showed that in a situation of awareness of their loneliness (the image of a lonely person), adult respondents are dominated by the idea of the absence of significant people with whom they can share thoughts and feelings, the desire to isolate from others increases, and a mechanism of alienation is formed in their experiences. The cognitive component determines subsequent emotional and behavioural reactions. The works of Kryukova (2016) made an important contribution to the development of a cognitive approach to coping with loneliness.

Studies in different samples have shown that an individual assessment of loneliness is accompanied by a number of cognitive distortions and thinking errors: towards denial, exaggeration or understatement of its level. The higher the level of subjective loneliness and the more distorted its assessment, the more unproductive coping strategies a person chooses (Kryukova, 2016). Thus, the subjectively perceived deficit in relationships distorts the real picture of a person's social life.

Loneliness is a complex, heterogeneous and ambiguous phenomenon that requires scientific understanding and practical study. Identification of cognitive schemes and models that provoke loneliness is useful primarily in practical terms, since it will allow developing effective programs for the socio-psychological support of lonely people, and in theoretical terms — to better understand the binary human nature, combining both the needs for autonomy and joining, and also explain the problems of social exclusion in modern society.

The aim of this article is to show the role of cognitive structures in experiencing loneliness in women.

In previous studies (Hovorun et al., 2019; Kiz, 2017), we have shown the prevalence of loneliness among women from different social groups, including socially vulnerable people in forced isolation: migrants, prisoners of a correctional colony, deaf and dumb. It was found that the experience of loneliness does not depend on having children (Leonova, 2020). This time we expanded the sample and traced the impact of the family situation in more detail. In addition, we focused on studying the

intrinsic factors of loneliness, namely cognitive distortions and social stereotypes.

2. Materials and Methods

The sample consisted of 144 healthy, socially well-off women with different family status, aged from 26 to 55 (average age 39.67±6.12). At the time of the survey 25% of the participants had no children; 21.5% were not in a family or romantic relationship and did not have a permanent partner (including unmarried, divorced women and widows), that is, they fell in the "single" category.

2.1. Diagnostic tools

The main criterion for the subjective experience of loneliness was the UCLA Loneliness Scale (Version 3; Russell, 1996). It is a one-dimensional tool that measures loneliness as a global experience and experience of a wide range of people. The scale contains 20 questions reflecting feelings of isolation and alienation, lack of satisfactory interpersonal contacts, and lack of support. The respondent chooses one of four answer options: never, rarely, sometimes, always (1-4 points). The total indicator of the scale is from 20 to 80 points without a set threshold; its increase indicates the severity of the experience of loneliness. The tool is actively used in scientific research, empirical data of different national, age and social groups have been accumulated; its Russian-language adaptation has proven to be reliable and valid (Ishmukhametov, 2006). In a sample of adult women, the UCLA Loneliness Scale scores were obtained in the range from 20 to 70 points, the mean was 38.80±9.75 (M±SD). The indicator in the sample was distributed normally, with a small "tail" on the right (Kolmogorov-Smirnov $Z = 0.98$ at $p=0.287$).

To validate the data, the Differential Loneliness Experience Questionnaire (DOPO-3k) by Osin and Leontyev (2013) was used, which allows assessing the attitude of a person to loneliness, its subjective meaning and possible consequences for the person. According to the author's model, the acceptance of loneliness as an existential fact opens up a person the opportunity to find in him a positive resource for self-development, auto-communication, and the establishment of deeper and more meaningful connections with people. *Rejection of loneliness*, on the contrary, leads to avoidance of "meeting with oneself" and hinders personal growth, in the course of which a person faces the challenge of recognizing his separateness. The short version of the questionnaire consists of 24 statements with

4 possible answers: disagree, rather disagree, rather agree, agree. The scores are grouped into three scales: a) general experience of loneliness (meaningful equivalent of the UCLA scale); b) positive loneliness — a joy and a resource of solitude; c) dependence on communication — negative and dysphoric perception of loneliness as a problem, the need for company. The reliability and validity of DOPO-3 were confirmed in a study of a large sample of Internet users (Osin & Leontyev, 2013). When interpreting the data, we divided the sum of points by the number of points in the subscale, thus obtaining average scores that are convenient to compare with each other. The results obtained in the sample corresponded to the criteria of normal distribution: the Kolmogorov-Smirnov Z statistic is 0.84; 1.10 and 1.15, the significance in all cases is greater than 0.05.

Cognitive models were studied using the author's questionnaire and two enquirers.

Dysfunctional attitude scale (DAS) by Beck (1976) was used for the study of cognitive distortions, adapted and standardized in Russian by Zakharova (2013). The contracted version contains 40 statements, which are rated on a scale from 1 "strongly agree" to 7 "strongly disagree". The total amount of assessments reflects the severity of maladaptive errors in the perception of reality - automatic irrational and dysfunctional attitudes that determine the assessment of oneself, other people, the world around them and thereby affect the system of emotional and behavioural reactions of the individual, provoking the onset of neurotic disorders. The sample obtained an average of 115.45 ± 21.34 in the range from 51 to 202 points; the distribution of the data significantly differed from the normal and had a pronounced assimilation with a predominance of low values (Z Kolmogorov-Smirnov 2.82 at p=0.000).

Additionally, 10 positive and negative statements were formulated, reflecting the stereotypes about "female loneliness", replicated in psychological publications (we did not invent them ourselves, but cited from various publications). We used a 7-point Likert scale to assess agreement-disagreement. Analysis of the answers for each statement allowed revealing the severity of individual attitudes that accompany the experience of loneliness.

Young Schema Questionnaire (YSQ-S3R) was developed in line with schema therapy synthesizing cognitive behavioural approach, early attachment theory, gestalt therapy, and a number of other areas (Young, 1982). The short Russian-language form of YSQ measures 18 early maladaptive schemas using 90 statements that the respondents rate

according to their experience and perceptions on a 6-point Likert scale from "Not at all about me" to "Completely describes me". The score for each schema varies from 5 to 30 points, a high score indicates the severity of the cognitive attitude (Kasyanik & Romanova, 2016). The resulting profile of values demonstrates the dominant cognitive patterns that guide the perception and reactions of a person. According to the results of checking the distribution in the female sample, the values of all YSQ – S3R scales significantly differed from the normal (Z. Kolmogorov-Smirnov statistics from 1.48 to 2.03, all significant at $p<0.05$), positive asymmetry indicates the prevalence of low ratings. We grouped some of them into 5 domains in accordance with frustrated developmental needs: impaired connection and rejection (unmet need for secure attachment, love), impaired autonomy (unmet need for self-sufficiency, success, and efficiency), broken boundaries (unmet need for adequate boundaries with other people), focus on others (unmet need for self-esteem and self-acceptance), over-vigilance and rigid standards (an unmet need for the free expression of needs and emotions) (Young et al., 2003).

The data were collected from June to October 2020. Participation in the study was entirely voluntary. The survey was conducted online, instructions and forms were sent to the participants upon receiving informed consent. The study was conducted in accordance with the ethical principles of the APA and the Declaration of Helsinki. The research program was preliminarily approved at the methodological seminar of the Taras Shevchenko National University of Kyiv, Kyiv, Ukraine, Ternopil Volodymyr Hnatiuk National Pedagogical University, Ternopil, Ukraine, V. I. Vernadsky Taurida National University, Kyiv, Ukraine, Lesya Ukrainka Volyn National University, Lutsk, Ukraine and Jindal Institute of Behavioural Sciences of OP Jindal Global University, India.

2.2. Data analysis

The obtained results were processed using descriptive statistics and frequency analysis. Groups of different ages, with different status of relationships and having/not having children were identified in the general sample of women. Since the parameters of loneliness are normally distributed, the groups were compared using parametric criteria — one-way and multivariate analysis of variance.

The correlations between indicators of loneliness and parameters of cognitive attitudes were calculated; Spearman's rank correlation coefficient

was applied. An analysis of the scores for each statement allowed identifying specific cognitive biases that accompany the experience of loneliness.

Linear regression was also used to compare loneliness and cognitive patterns. The dependent variables were the indicators of UCLA Loneliness Scale and DOPO-3k. Initially, a complete model was built for each parameter, including all measures of cognitive attitudes as predictors. A model with the largest information criterion was selected for each scale using the Stepwise Algorithm method.

3. Results

3.1. The severity of loneliness in groups of women of different ages and marital status: A comparative analysis

The results of the UCLA survey showed the prevalence and intensity of feelings of loneliness in a sample of adult women. Only 9% of those surveyed indicated that they have never had the experience of alienation and isolation. Women who often acutely feel lonely have been found among both married mothers and those living alone.

When analysing the data obtained, we were interested in the influence of the family situation on the subjective experience of loneliness.

Two grouping factors were identified for multivariate analysis of variance: 1) having a husband or a permanent partner in a relationship; and 2) having children and their number (Table 1).

We traced the influence of the family situation of women with the help of the dependent variable was the UCLA indicator; marital status (the presence of a permanent partner or husband) and having children were considered as the determining grouping variables.

Table 1. Average figure for UCLA Loneliness Scale and comparative analysis for groups of women with different marital status.

Grouping variables	N	Mean	Std. Deviation	Test of Homogeneity	ANOVA
1. Having partner:					
Do not have a permanent partner	31	39.30	10.19	Levene's Statistic	F = 0.167
Are in a stable relationship	47	37.42	9.82	0.168	Sig. =
Married	66	39.54	10.24	Sig.= 0.846	0.847
2. Having children:					

Do not have children	36	39.91	9.98	Levene's	F =
One child	70	39.37	10.45	Statistic	1,602
Two or more children	38	36.21	9.09	0.320 Sig.= 0.726	Sig. = 0.205

We see that having a permanent partner does not significantly affect the level of perceived loneliness in women. The average rate of loneliness among married women is only slightly higher than that of a group of single women.

The lowest rates on the UCLA scale are observed in mothers with two or more children, but the differences are not statistically significant. The combination of the two grouping factors also did not reveal a significant effect on the overall variability of the loneliness indicator. Tests of Between-Subjects Effects showed F=1.41 with Sig=0.234. The value of Adjusted R Squared — 0.078 — shows that only 7.8% of the variance of the loneliness scale can be predicted using this factor model.

Among the nine clusters formed by a combination of grouping variables, we noted a high vulnerability to feelings of loneliness in married women without children (9 people, mean 43.89±10.80) and in single mothers who do not have a permanent partner (11 people, mean 42.55±10.97). Mothers with many children who have a permanent romantic partner (5 people, mean 32.40±6.50) feel loneliness to the least degree (Figure 1).

Despite the observed difference in the mean, the results obtained do not provide grounds to confirm the thesis (stereotype) that the feeling of loneliness prevails in women who do not have children or a regular partner. Our practical experience explains that women compensate for the lack of communication in the family sphere by activity in other areas of social life.

One-way analysis of variance confirmed the statistical significance of differences in the experience of loneliness in groups of different ages (F=2.33 with Sig.=0.045). Looking at the 5-year UCLA means, two peaks at the age of 26-30 and 41-45 are noticeable. After 55 years, the severity of loneliness significantly decreases — the older group had the lowest rate in the sample. The relationship between feelings of loneliness and age has a complex nonlinear nature, which leads to the lack of correlations — Figure 2.
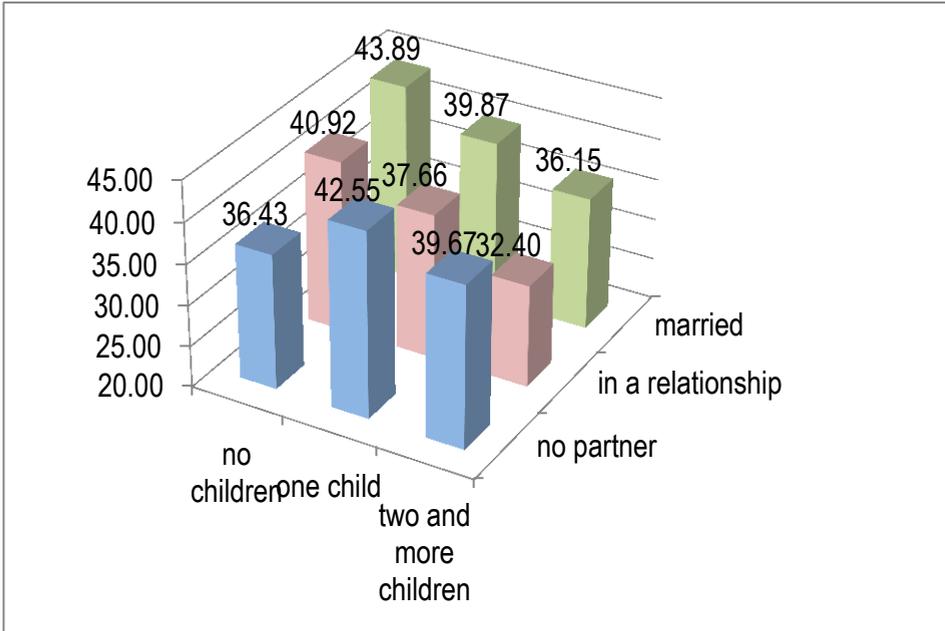
Figure 1. Mean UCLA loneliness scale scores when grouping variables are combined.
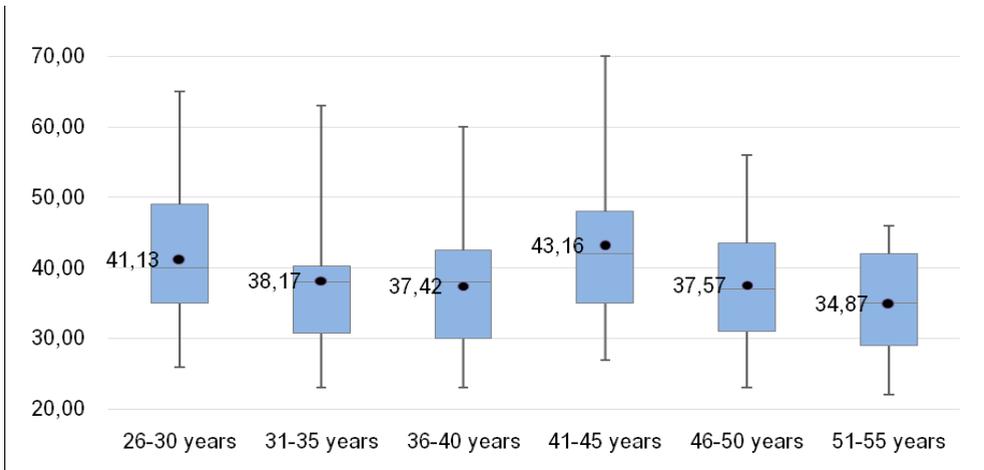

Figure 2. Average trends and variation in loneliness in groups with a 5-year age interval

It is important that with age, not only severity of the experience of loneliness in women changes, but also the nature of its perception. The indicator of dependence on communication is highest at the stage of early maturity up to 35 years (F=2.37 with Sig.=0.042); a positive perception and understanding of loneliness (F=3.42 with Sig.=0.006) is more typical for the older groups (Table 2).

Table 2. Means of loneliness experience (M±SD) in groups of different ages

Age	26-30 N=25	31-35 N=23	36-40 N=24	41-45 N=25	46-50 N=25	51-55 N=22
UCLA Loneliness Scale	41.13±9.44	38.17±10.55	37.42±9.51	43.16±10.84	37.57±8.81	34.87±7.44
Differential Loneliness Experience Questionnaire DOPO-3k						
General experience	2.38±0.71	2.21±0.67	2.17±0.58	2.51±0.70	2.16±0.71	2.02±0.62
Dependence on communication	2.36±0.74	2.06±0.72	2.03±0.66	2.16±0.74	1.84±0.76	1.81±0.65
Positive loneliness	2.61±0.55	2.87±0.51	3.12±0.63	3.06±0.54	3.39±0.53	3.55±0.48

Age also mediates the perception of the family situation. The combined effect of age and having a partner accounted for 14.5% of the total variance in the UCLA Loneliness Scale (Tests of Between-Subjects Effects showed F=3.60 with Sig=0.031; R Squared=0.145). The combined effect of age and having children accounted for 11.3% of the total variance in the loneliness indicator (F=4.96 with Sig=0.008; R Squared=0.113). Young girls under 30 who do not have a permanent partner, as well as women over 40 who have no children were the most vulnerable to loneliness.

3.2. Cognitive distortions, their correlation with the subjective experience of loneliness in women

The assessments of experiencing loneliness according to the UCLA and DOPO-3k scales directly correlate with the general indicator of the severity of dysfunctional attitudes (r=0.225 and r=0.231 at p≤0.01). At the same time, more than half of the items on the DAS questionnaire turned out to be significantly interrelated with measures of loneliness — they are noted in Table 3 (the correlations of the "General experience of loneliness"

subscale of DOPO-3k were not included in the table, since they are similar to the indicators of the UCLA scale, which is explained by similar content of the questionnaires).

Table 3. Dysfunctional attitudes which significantly correlate with indicators of loneliness

DAS:	UCLA Loneliness Scale	DOPO-3k	
		Positive loneliness	Dependence on communication
General indicator	0.225**	-0.246**	0.239**
Separate statements (installations):			
3. People are likely to think amiss of me if I make a mistake.	0.203*	-0.146	0.183*
4. If I am not good all the time, others will not respect me.	0.151	-0.245**	0.125
6. You can gain the respect of another person without being gifted in anything.	-0.177*	0.188*	-0.097
7. I'm only happy when other people admire me.	0.168	-0.147	0.283***
8. When a person asks for help, it is a sign of weakness.	0.041	-0.194*	0.066
11. If a person cannot do something correctly and perfectly, there is no point in starting this business.	0.157	-0.207*	0.139
12. It's useful to make mistakes so I can learn from them.	0.160	0.259**	0.097
13. If someone does not share my opinion, this apparently means that he does not love me.	0.228**	-0.094	0.225
19. My value as a person largely depends on how other people think of me.	0.136	-0.243**	0.125
20. If I don't make the highest demands on myself, I will probably end up being a second-rate person.	0.192*	0.089	0.175*
22. People who have good ideas are more valuable than those who do not.	0.167*	-0.174*	0.044
24. My own opinion of myself is more important than the opinion of others about me.	-0.114	0.237**	-0.159

27. It's terrible when you are criticized by people who are important to you.	0.211*	0.030	0.162
28. If you do not have a person who can be a support for you, you inevitably become unhappy.	0.106	-0.227**	0.183*
31. I cannot trust other people because they may be cruel to me.	0.170*	-0.063	0.165*
32. You cannot be happy if others do not love you.	0.275***	-0.248**	0.199*
33. It's good to give up your own interests in order to please other people.	0.004	-0.247**	0.056
34. My happiness depends more on other people than on myself.	0.199*	-0.200*	0.127
35. I do not need recognition from others to be happy.	0.074	-0.259**	0.017
38. It is very important what other people think of me.	0.123	-0.227**	0.179*
39. Isolation from others invariably leads to feelings of unhappiness.	0.371***	-0.104	0.218**
40. I can be happy without being loved by others.	0.056	-0.213*	-0.073

Notes: * - values exceeding the critical value of Spearman's correlation coefficient for this sample (0.164 at $p \le 0.05$), ** - correlations significant at $p \le 0.01$; *** - correlations significant at $p \le 0.001$.

The analysis of correlations shows that women who are seriously experiencing their loneliness are characterized by a critical attitude towards themselves and others, a sense of "obligation", and dependence on the recognition of other people. They are convinced that the value of a person depends on his abilities and achievements, that special efforts must be made in order to gain the sympathy and recognition of others. They are afraid to make mistakes, overestimate the importance of the opinions of other people, while they do not trust others. The strongest correlations were obtained with respect to dysfunctional attitudes: "You cannot be happy if others do not love you" and "Isolation from others invariably leads to a feeling of unhappiness" ($p \le 0.001$). We should note that these views are not dominant in the sample. The women surveyed most often agreed with the opposite, adaptive statements: "Happiness is something related to the attitude towards oneself, rather than the feelings that other people have for you" (mean=2.7) and "I can be happy not being loved by others" (mean=2.9).

Attitudes that correlate with a positive attitude toward loneliness are of particular interest. This part of Table 3 presents mostly negative values. The strongest correlations relate to denying beliefs about the importance of other people's opinions and recognizing that happiness requires the presence and love of another person. Besides, such women do not agree to give up their own interests in order to please someone. They accept their own mistakes and weaknesses, are ready to ask other people for help when it is needed. They also do not associate the value of a person with his "goodness" or productivity, this belief concerns both themselves and others. This list provides a guideline for building a tolerance for loneliness in cognitive behavioural therapy. YSQ results in the female sample indicate the severity of response patterns caused by:

a) strict standards and captiousness — perfectionism, striving for unrealistically high standards of behaviour (professional, moral, cultural, religious, etc.) in order to avoid criticism, which leads to a feeling of pressure and energy exhaustion, extreme captiousness towards oneself and people;

b) abandonment/instability — subjective perception of the behaviour of loved ones as unreliable, fickle, unpredictable; fears that they will abandon or be unable to provide support;

c) seeking approval — excessive striving to gain recognition and attention from other people, adjusting at the cost of ignoring "self"; dependence of self-esteem on the reactions of other people, and not on their own feelings, hypersensitivity to rejection.

The described attitudes are expressed in more than 30% of the women surveyed. Observed behaviour in interpersonal relationships is guided by maladaptive patterns and is a response to them. As Table 4 shows, they are closely related to the feeling of loneliness.

Table 4. The severity of early maladaptive schemes and their correlation with measurements of loneliness

Young Schema Questionnaire:	Mean in the sample	UCLA Loneliness Scale	DOPO-3k	
			Positive loneliness	Dependence on communication
I. Breaking ties and rejection				
Emotional Deprivation	9.76 ± 5.02	0.125	0.037	0.169*
Abandonment/Instability	14.26 ± 4.45	0.221*	0.033	0.178*
Mistrust/Abuse	12.77 ±	0.107	0.037	0.104

Social Isolation/Alienation	10.92 ± 5.24 4.71	0.270**	-0.063	0.166*
Defectiveness/Shame	8.08 ± 5.39	0.005	-0.169*	0.032
2. Lack of autonomy and fear of proving oneself (to assert oneself)				
Dependence/Incompetence	9.11 ± 4.07	0.203*	-0.200*	0.188*
Vulnerability to Harm or Illness	10.28 ± 4.56	0.108	-0.055	0.064
Enmeshment/Undeveloped Self	9.62 ± 3.93	0.043	-0.229**	0.109
Failure	10.35 ± 5.01	0.262*	-0.114	0.117
3. Violation of boundaries				
Entitlement/Grandiosity	12.17 ± 5.47	0.081	-0.094	0.085
Insufficient Self-Control/Self-Discipline	13.31 ± 4.80	-0.104	0.113	-0.131
4. Orientation towards others				
Subjugation	10.95 ± 4.44	0.066	0.017	0.065
Self-Sacrifice	12.06 ± 4.37	0.193*	-0.144	0.195*
Approval-Seeking/Recognition-Seeking	14.50 ± 5.29	0.209**	-0.248**	0.247**
5. Hypervigilance and suppression of emotions				
Negativity/Pessimism	12.02 ± 5.62	0.156	-0.215*	0.082
Emotional Inhibition	11.67 ± 5.63	0.125	-0.150	0.188*
Unrelenting Standards/Hypercriticalness	15.45 ± 5.13	0.151	-0.184*	0.036
Punitiveness	10.64 ± 4.05	0.153	-0.170*	0.049

Notes: * - correlations significant at p≤0.05, ** - correlations significant at p≤0.01; *** - correlations significant at p≤0.001.

Besides, an important factor in perceived loneliness was learned helplessness, a belief in one's own inability to competently cope with daily duties and solving new problems, to make sound decisions without the help of others.

3.3. The prevalence of the cultural myth of "female loneliness"

The following attitudes, in contrast to the cognitive biases discussed above, are culturally conditioned and support the existing distribution of gender roles. Stereotypical beliefs about the special social vulnerability of women were quite common among the survey participants. They are present in all age groups and are more pronounced in young married women. Although 74.3% of the respondents agreed that a woman is able to live fully and happily without a permanent male partner, there are strong ideas about the need to be a mother and build a family before reaching a certain age. The severity of gender stereotypes is significantly interconnected with the subjective experience of loneliness (Table 5).

Table 5. Stereotypes about "female" loneliness: sample prevalence and correlation.

Content of the cognitive attitude:	Average trends (on a scale of 1 to 7)	UCLA Loneliness Scale	DOPO-3k	
			Positive loneliness	Dependence on communication
1. Any woman needs someone who can show care and emotional support, a sense of security, confidence, reliability and support in life.	4.89±1.03	0.206*	0.009	0.190*
2. A woman feels lonely when she cannot realize her maternal instinct.	4.65±0.92	0.081	0.007	0.059
3. A lonely woman is more vulnerable than a man, it is more difficult for her to survive loneliness.	4.44±1.12	0.104	-0.091	0.168*
4. A woman is left alone when she has a bad character (hysterical, scandalous), unable to adapt and get along with a man.	3.12±1.07	0.088	0.192*	0.173*
5. It is hardly possible to call adult woman without children successful and happy.	5.31±0.84	0.026	-0.268**	0.106

6. A woman is able to live fully and happily without a man nearby.	5.43±0.84	0.023	0.177*	0.082
7. If a woman has not married and has not had children before a certain age, it is hardly possible to call her life prosperous.	4.85±1.28	0.224**	-0.081	0.088
8. Being a good wife and mother is the main responsibility of a woman to society, as well as to her parents and loved ones.	3.86±1.16	0.151	-0.089	0.004
9. Having a family is not a criterion for the success or failure of a woman's life as a whole.	3.37±1.26	-0.083	0.314***	0.003
10. It is easier for a woman to cope with her loneliness than a man.	3.28±1.47	-0.032	0.312***	-0.056

Notes: * - correlations significant at $p \leq 0.05$, ** - correlations significant at $p \leq 0.01$; *** - correlations significant at $p \leq 0.001$.

3.4. Cognitive predictors of loneliness

In the process of searching for the most informative linear regression models, we found that in groups of different ages, the set and significance of predictors changes. For example, after 40 years, the strength of the influence of the attitude about "female happiness" decreases almost twice ($\beta<40=0.65$ compared to $\beta>40=0.34$, $p \leq 0.05$), the early maladaptive schemes "Abandonment/Instability", "Defectiveness/Shame" become less significant, the significance of the "Punitiveness" factor is completely lost; at the same time, the importance of seeking approval and a sense of success is growing (Figure 3). Such "cognitive shifts" reflect the formation of women's tolerance to experiencing feelings of loneliness.

Loneliness as a negative experience=

under 40 (Adjusted R Square = 0.918):

25.50 (Constant)
+ general severity of dysfunctional attitudes
(β=1.29. p=0.000)
+ Approval/Recognition-Seeking (β=0.88.
p=0.000)
+ Dependence/Incompetence (β=0.84. p=0.000)
+ attitudes about "female happiness" (β=0.65.
p=0.000)
+ Abandonment/Instability (β=0.45. p=0.001)
+ Social Isolation/Alienation (β=0.32.
p=0.011)
+ Self-Sacrifice (β=0.19. p=0.027)
+ Punitiveness (β=0.18. p=0.035)

After 40 (Adjusted R Square = 0.881):

22.64 (Constant)
+ general severity of dysfunctional attitudes
(β=1.32. p=0.000)
+ Dependence/Incompetence (β=1.16.
p=0.000)
+ Approval/Recognition-Seeking (β=0.80.
p=0.000)
+ Failure (β=0.39. p=0.005)
+ Social Isolation/Alienation (β=0.36.
p=0.008)
+ attitudes about "female happiness" (β=0.31.
p=0.013)
+ Abandonment/Instability (β=0.27.
p=0.034)
+ Self-Sacrifice (β=0.17. p=0.036)

Figure 3. Cognitive predictors of women's propensity to experience loneliness:
linear regression equations in different age groups.

At the same time, the set of predictors for the "Positive loneliness" parameter is stable in groups of different ages and marital status:
Positive loneliness =

- woman age (β=0,37, p=0,008)
- general severity of dysfunctional attitudes (β=0,96, p=0,000)
- Approval-Seeking/Recognition-Seeking (β=0,91, p=0,000)
- Negativity/Pessimism (β=0,37, p=0,008)
- Enmeshment/Undeveloped Self (β=0,35, p=0,010)
- Dependence/Incompetence (β=0,31, p=0,012)
- Unrelenting Standards/Hypercriticalness (β=0,18, p=0,035)
- Defectiveness/Shame (β=0,16, p=0,036).

The results obtained open the way to building programs for the development of tolerance to loneliness, which is useful to start as early as possible: during the student period up to 25 years.

4. Discussions

The statistics of loneliness in the female sample is generally consistent with the results obtained earlier in various socio-demographic

groups. According to Russell (1996) the UCLA Loneliness Scale declines even more, to 31.51±6.92, after 65. It is known about the high severity of subjective loneliness in young people: according to the data of numerous surveys of student samples, the average result ranges from 39.5 to 40.1 (Hysinga et al., 2020; Ishmukhametov, 2006; Russell, 1996). These data allow expanding the tendencies we have found in graph 1 and to shift the first peak of the experience of loneliness to the age of 18-25 years.

In their studies, Osin and Leontyev (2013) showed that indicators of loneliness and dependence on communication decrease with age. The authors explained this by the fact that people learn to establish relationships and become more autonomous. Indicators of positive loneliness are high in adolescence, decrease by the age of 25, but then grow again Oleinik (2018) found that the respondents of middle adult age, compared with younger people under 25, is more likely to experience a lack of interaction and emotional closeness with other people, but despite this, they more often want to remain in a situation of loneliness. Our sample is somewhat older than that considered by the authors, but on the whole confirms the tendency towards an increase in positive loneliness at the stage of 30-50 years.

The results confirming the absence of a significant effect of the family situation on perceived loneliness were quite expected. Scientists have repeatedly stated the prevalence of "loneliness in relationships" and "family loneliness" (Kryukova & Ronch, 2012; Perlman & Peplau, 1998; Shitova, 2009). Dissatisfaction with the quality of communication and support in the family is characteristic not only of women, but also of men, adolescents and the elderly. In general, the family as a stable social network does not save a person from stress and tension in interpersonal relationships and from loneliness as a consequence of these experiences (Kryukova, 2016). At the same time, support from family and/or significant people is known to mitigate the negative impact of prolonged loneliness among students (Adamczyk, 2016). Research by Essex and Nam (1987) showed differences determined by marital status: the quality of marital relations dominates in the perception of loneliness among married women, while the quality of close friendship and their health — in divorced women. In the data obtained, attention is drawn to the factor of age, which mediates the perception of a person's social relations.

The revealed mutual influence of factors of age and family situation (having a partner and children) on perceived loneliness in women is obviously due to the existence of unspoken social norms and stereotypes governing the age of marriage and childbirth. The emphasis on romantic

relationships in Western culture is known to increase the level of loneliness in people who are not in stable relationships (Seepersad et al., 2008). The survey confirmed that having a family is still a criterion for the success or failure of a woman's life as a whole.

A qualitatively specific type of attitude towards the problem of loneliness is typical for older women; we called it *tolerance towards loneliness*. Almost one third of the respondents in the age groups of 46-50 and 51-55 years old showed high rates of positive loneliness in the absence of painful or negative experiences of it (in younger groups, the same indicator does not exceed 12-16%). This is evidence of accepting loneliness as an existential fact and finding a positive resource in solitude. Earlier, in the research of Shitova (2009), women noted a number of positive effects of loneliness: communication with oneself, comprehension of their "self", autonomy of planning and realization of life goals. The emerging resource of time can be used in different ways: the positive-active type is engaged in a career, creativity, self-development, additional education, etc.; the positive-passive type experiences psychological fatigue from people, therefore, enjoys peace and the opportunity to use free time for rest. Until the age of 35-40, women generally prefer to avoid or overcome the experience of loneliness by immersion in active social contacts, family relationships, and closeness with a romantic partner. This can be both the result of really significant and deep connections with the world and other people, and the manifestation of protective mechanisms (Osin & Leontyev, 2013).

All this allows considering the age between 38-40 and 46-48 years as a kind of transitional period, during which the subjective ideas of women about loneliness and its role in life are transformed. This is quite consistent with the traditional ideas about the transformation of values in the midlife crisis, which usually coincides with a family crisis — the separation of maturing children and the restructuring of marital relations. The results obtained expand the scientific understanding of the passage of these normative crises, taking into account the restructuring of the cognitive structures that determine social behaviour.

Tolerance to loneliness is formed in women gradually with age and indicates personal maturity. This, in turn, helps to reduce dependence on communication as a condition of social and psychological well-being. Therefore, even with an objective decrease in social activity, they do not form the self-image of a lonely person devoid of significant connections. Acceptance of loneliness leads to positive emotions in a situation of solitude; as well as the ability to use own productive resources for self-knowledge and

self-development. Tolerance to loneliness is associated with the denial of dysfunctional attitudes, first of all, beliefs about the determination of self-esteem by external assessments and opinions.

The results obtained convincingly confirm that perceived loneliness in women is associated with the automatic irrational and dysfunctional attitudes that determine the assessment of themselves, other people, and the world around them, thereby provoking the emergence of a sense of social alienation. Dependence on communication causes a cognitive distortion, which consists in the fact that any, even a temporary decrease in social activity, is interpreted as isolation and a lack of meaningful connections with others. This results in constructing the image of the self of a lonely person, which is associated with personal failure and vulnerability. Accordingly, being alone (solitude) is perceived negatively, causes dysphoric emotions and protective behavioural reactions.

Cognitive attitudes were rarely studied in the context of the problem of loneliness before. Melnichuk et al. (2018) carried out a similar work on samples of students. A subjective feeling of social isolation and a negative attitude towards loneliness turned out to be directly related to the severity of irrational beliefs about interpersonal relationships: about the obligatory approval of others and the determination of self-esteem by external assessments (which completely coincides with our results), as well as about the selfishness of others, the responsibilities of loved ones "to understand each other without words", and so on. The subjective problematic nature of loneliness is also associated with the belief that emotional self-disclosure is undesirable. Our work has confirmed the importance of cognitive beliefs about interpersonal relationships, and also revealed additional aspects — perfectionist attitudes, fear of mistakes and failures, etc.

In general, dysfunctional attitudes and early maladaptive schemas are insignificant in healthy adults. Their greatest severity is characteristic of the period of early adulthood; the severity of cognitive distortions decreases with age due to the acquisition of life experience and the development of healthy adaptive responses (Galimzyanova et al., 2016). In particular, with the acquisition of maturity, the tendency to feel abandoned, distrust and expect ill-treatment, experience feelings of shame, failure, dependence and helplessness, suppress emotions and seek the approval of others significantly decreases (compared to the period of 18-25 years). After 40 years, the severity of the "Entitlement/Grandiosity" and "Unrelenting Standards/Hypercriticalness" schemas also decreases. These data may

explain the decrease in the propensity to experience loneliness in older women.

The obtained results of the study are important for identifying cognitive distortions and the formation of new adaptive attitudes during therapy. We must understand that early maladaptive schemas usually cannot be erased completely, since they are based on an unconsciously remembered traumatic or frustrating childhood experience. These are rigid self-sustaining mechanisms that force a person to reflect only information that corresponds to the schemas and are perceived as factual, reliable knowledge about himself and the world around him."

They exist in an implicit form and in most cases are not realized, do not manifest themselves until some "trigger" event occurs that activates the scheme. This is often accompanied by a high level of affect and a low level of criticality towards one's state (Galimzyanova et al., 2016; Young et al., 2003). Bedan (2018) clarified that the tendency to loneliness is manifested in the unconscious attachment of the individual to certain emotional, cognitive and behavioural activity in situations that are perceived as "self-generated"; in such conditions, a person is internally mobilized and ready to react with feelings of loneliness.

The study touches upon the problem of gender-oriented stereotypes that affect the perceived loneliness of women. Although numerous scientific theories and empirical data refute the idea of a special female vulnerability to loneliness (and even indicate that men are more problematic), this idea persistently presents in the minds of modern women. This can be explained by the fact that the myth of female loneliness performs important socially regulating and controlling functions, therefore it is cultivated in society. As a result, women speak relatively more about the problem and seek help more often than men, who tend not to complain for fear of the negative social consequences of such recognition (Borys & Perlman, 1985). At the same time, unmarried and childless women feel the social pressures associated with unfulfilled family roles. Although objectively there are more single women at an older age than men, they are most often socially and psychologically well-off: they lead an active social and professional life, communicate closely with relatives and friends, and meet with married partners without advertising their relationship. However, the influence of social stereotypes on individual consciousness complicates the experience of loneliness. Stereotypes affect women themselves, their environment, as well as helping professionals and make it difficult to provide psychological support.

Regardless of the source of occurrence (early traumatic or frustrating experience, socio-cultural conditioning), cognitive distortions prevent a person from satisfying his social needs and lead to adverse consequences for both the individual and the people around him. In the process of cognitive therapy, you cannot go deep into the search for early sources of this experience, but, more importantly, become aware of the specific stimuli that set the schema in action and begin to control own emotional and cognitive reactions. In practical terms, you also need to understand that any training in social skills will be ineffective without preliminary correction of maladaptive cognitive attitudes about interpersonal relationships.

5. Conclusions

The conducted theoretical and empirical research allows drawing conclusions about loneliness as a state of mind:

-       the experience of loneliness is widespread in the sample of adult women, which does not depend on family circumstances (having children, a regular partner or husband), but is reliably associated with age;
-       there are two pronounced peaks of perceived loneliness at the age of 26 and 41-45; tolerance to loneliness increases after 55, this experience acquires a more positive connotation; age also mediates the perception of the family situation;
-       among women, cultivated gender stereotypes about the obligatory family role and social vulnerability of women are widespread, which enhance the subjective perception of loneliness;
-       negative and positive assessments of the experience of loneliness closely correlate with indicators of the severity of dysfunctional attitudes and maladaptive schemas due to early experience; cognitive factors regulate the experience of loneliness to a greater extent than the real family situation;
-       the most influential predictors of vulnerability to loneliness are feelings of abandonment, feelings of self-dependence and incompetence, and seeking social approval; the role of cognitive biases depends on the age of women;
-       tolerance to loneliness, the ability to use its developmental potential are accompanied by the denial of beliefs that the presence and love of another person is necessary for personal happiness, acceptance of one's shortcomings and a decrease in the importance of the opinions and assessments of other people for the formation of self-esteem, as well as the denial of cultural stereotypes about the importance of the family as criteria for the success and well-being of a woman.

Thus, in line with the cognitive approach, it is advisable to consider loneliness as a subjective assessment of the degree of one's non-involvement in contacts with other people, as well as its potential positive or negative impact on the quality of life. This includes cultural norms and rules of interaction, beliefs about the importance of various social roles (in particular, marital and maternal), regulating principles of building relationships, self-identification and assessment of one's social skills. A set of cognitive schemas acquired during life in the form of attitudes, stereotypes, automatic thinking models, assessments, ideals, etc. cause the experience of loneliness as a dysfunctional or potentially resource state.

Reference

Adamczyk, K. (2016). An investigation of loneliness and perceived social support among single and partnered young adults. *Current Psychology*, *35,* 674–689. https://doi.org/10.1007/s12144-015-9337-7

Barreto, M., Victor, C., Hammond. C., Ecclesd, A., Richinsa, M. T., & Qualterd, P. (2021). Loneliness around the world: Age, gender, and cultural differences in loneliness. *Personality and Individual Differences, 169*, 110066. https://doi.org/10.1016/j.paid.2020.110066

Beck, A. T. (1976). *Cognitive therapy and emotional disorders*. Meridian.

Bedan, V. B. (2018). *Indyvidualno-typolohichni osoblyvosti skhylnosti osobystosti do perezhyvannia samotnosti* [Individual typological features of the individual's tendency to experience loneliness] [PhD thesis, South Ukrainian National Pedagogical University n. a. K. D. Ushynsky, Odesa, Ukraine]. Dspace. http://dspace.pdpu.edu.ua/handle/123456789/1595

Borys, S., & Perlman, D. (1985). Gender differences in loneliness. *Personality and Social Psychology Bulletin, 11*(1), 63-74. https://doi.org/10.1177/0146167285111006

Cacioppo S., Grippo A. J., London S., Goossens L., & Cacioppo J. T. (2015) Loneliness: Clinical import and interventions. *Perspectives on Psychological Science*, *10*(2), 238-249. https://doi.org/10.1177/1745691615570616

Cacioppo, J. T., & Patrick, W. (2008). *Loneliness: Human nature and the need for social connection.* W.W. Norton & Co.

Essex, M. J., & Nam, S. (1987). Marital status and loneliness among older women: The differential importance of close family and friends. *Journal of Marriage and Family, 49*(1), 93-106. https://doi.org/10.2307/352674

Filindash, E. V. (2015). *Fenomenolohyia sotsyalno-psykholohycheskoho odynochestva v srede studencheskoi molodezhy* [Phenomenology of socio-psychological loneliness among student youth] [PhD thesis, The State University of Management,

Moscow, Russia].
https://guu.ru/files/dissertations/2016/01/filindash_e_v/dissertation.pdf

Fisher, A. N., & Sakaluk, J. K. (2020). Are single people a stigmatized 'group'? Evidence from examinations of social identity, entitativity, and perceived responsibility. *Journal of Experimental Social Psychology*, *82*, 208-216. https://doi.org/10.1016/j.jesp.2019.103844

Galimzyanova, M. V., Romanova, E. V., & Kasyanik, P. M. (2016). Early maladaptive schemas and schema modes of men and women in different stages of adulthood. *The Bulletin of the St. Petersburg University. Series 12: Psychology, Sociology, Pedagogy, 3*, 109-125. https://cyberleninka.ru/article/n/vyrazhennost-rannih-dezadaptivnyh-shem-i-rezhimov-funktsionirovaniya-shem-u-muzhchin-i-zhenschin-v-period-ranney-sredney-i-pozdney/viewer

Guseinova, N. O. (2014). Samotnist yak resurs osobystisnoho rozvytku [Loneliness as a personal development resource]. *International Chelpanov' Psychological and Pedagogical Reading, 9*, 132-138. https://chelpanov.eeipsy.org/index.php/eeip/article/view/868

Hawkley, L. C., & Cacioppo, J. T. (2010). Loneliness matters: A theoretical and empirical review of consequences and mechanisms. *Annals of Behavioral Medicine*, *40*(2), 218-227. https://doi.org/10.1007/s12160-010-9210-8

Hawthorne, G. (2008). Perceived social isolation in a community sample: its prevalence and correlates with aspects of peoples' lives. *Social Psychiatry and Psychiatric Epidemiology*, *43*, 140-150. https://doi.org/10.1007/s00127-007-0279-8

Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson D. (2015). Loneliness and social isolation as risk factors for mortality: A meta-analytic review. *Perspectives on Psychological Science, 10*(2), 227-237. https://doi.org/10.1177/1745691614568352

Hovorun, T. V., Kiz, O. B., & Kikinezhdi, O. M. (2019). Genderna terapiia yak innovatsiia u roboti psykholoha z molodym podruzhzhiam [Gender therapy as innovation in the work of a psychologist with a young couple]. In N. I. Tavrovetskaya (Ed.), *Innovatsiini tekhnolohii rozvytku psykholohichnykh resursiv osobystosti: kolektyvna monohrafiia* [Innovative technologies for the development of psychological resources of the individual: collective monograph] (pp. 7-27). Vyshemyrsky V. S.

Hysinga, M., Petrie, K. J., Bøe, T., Lønningcd, K. J., & Sivertsenefg, B. (2020). Only the lonely: A study of loneliness among university students in Norway. *Clinical Psychology in Europe*, *2*(1), e2781. https://doi.org/10.32872/cpe.v2i1.2781

Ishmukhametov, I. N. (2006). Psykhometrycheskye kharakterystyky shkalы odynochestva UCLA (versyia 3): yzuchenye studentov vuza [Psychometric characteristics of the UCLA loneliness scale (Version 3): A study of

university students]. *Computer Modelling and New Technologies*, *10*(3), 89-95. http://www.tsi.lv/sites/default/files/editor/science/Research_journals/Computer/2006/V3/9.pdf

Kagan, V. (2000, November 5). Metafyzyka odynochestva [Metaphysics of loneliness]. *Nezavysymyi bostonskyi almanakh "Lebed"*, *194*. http://lebed.com/2000/art2334.htm

Kahan, J., & Žiaková, E. (2019). Social workers' competence metatheory in the context of working with addicts at risk of loneliness due to social isolation. *Journal of Interdisciplinary Research, 9*(2), 107-113. https://www.researchgate.net/publication/346905605_SOCIAL_WORKERS'_COMPETENCE_METATHEORY_IN_THE_CONTEXT_OF_WORKING_WITH_ADDICTS_AT_RISK_OF_LONELINESS_DUE_TO_SOCIAL_ISOLATION

Käll, A., Jägholm, S., Hesser, H., Andersson, F., Mathaldi, A., Tiger, B. et al. (2020). Internet-based cognitive behavior therapy for loneliness: A pilot randomized controlled trial. *Behavior Therapy*, *51*(1), 54-68. https://doi.org/10.1016/j.beth.2019.05.001

Kasyanik, P. M. & Romanova, E. V. (2016). *Dyahnostyka rannykh dezadaptyvnykh skhem* [Diagnostics of early maladaptive schemes]. Polytechnic University Publishing. https://doi.org/10.18720/SPBPU/2/i17-183

Kiseleva, K. (2013). *Kohda vybyraiut odynochestvo* [When people choose loneliness]. Psychologies.ru https://www.psychologies.ru/articles/kogda-vyibirayut-odinochestvo

Kiz, O. B. (2017). Gender correlation of family being as a condition of the life realization of future married couple. *Sciences of Europe 2*(22), 43-55. http://www.europe-science.com/wp-content/uploads/2020/10/VOL-2-No-22-22-2017.pdf

Korchagina, S. G. (2008). *Psykholohyia odynochestva* [Psychology of loneliness]. The Psychological-Social Institute of Moscow.

Kozlov, N. I. (2013). *Zhenskoe odynochestvo* [Women's loneliness]. Psychologus. https://www.psychologos.ru/articles/view/zhenskoe-odinochestvo

Kryukova, T. L, & Ronch, A. M. (2012). Determynanty odynochestva y sovladanyia s nym v supruzheskykh otnoshenyiakh [Determinants of loneliness and coping with it in marital relationships]. *The Bulletin of the Kostroma State University named after N. A. Nekrasov. Series: Pedagogy, Psychology, Social Work, 18*(4), 129-135. https://vestnik-pip.ksu.edu.ru/archive-ru.html

Kryukova, T. L. (2016). Kohnytyvnaia psykholohyia sovladanyia s odynochestvom [Cognitive psychology of coping with loneliness]. *Psikhologicheskie Issledovaniya, 9*(49), 1. http://www.psystudy.ru/index.php/num/2016v9n49/1338-kryukova49.html

Leonova, I. M. (2020). Specific features of experiencing the feeling of loneliness by women from different social groups. *Ukrainian Psychological Journal, 1*(13), 139-156. https://doi.org/10.17721/upj.2020.1(13).9

Long, C. R., & Averill, J. R. (2003). Solitude: An exploration of benefits of being alone. *Journal for the Theory of Social Behaviour, 33*(1), 21-44. https://doi.org/10.1111/1468-5914.00204

Manakova, E. A. (2018). Oprosnyk perezhyvanyia odynochestva [Questionnaire of experiencing loneliness]. *Siberian Journal of Psychology, 69*, 149-171. https://doi.org/10.17223/17267080/69/9 or http://journals.tsu.ru/psychology/&journal_page=archive&id=1743&article_id=38896

Melnichuk, A. S., Kozlovskaya, S. N., & Nikiforova, O. Y. (2018). Vzaymosviaz perezhyvanyia odynochestva y yrratsyonalnykh ubezhdenyi o mezhlychnostnykh otnoshenyiakh u studentov [The relationship between the experience of loneliness and irrational beliefs about interpersonal relationships among students]. *Akmeologiya, 4,* 13-18. https://cyberleninka.ru/article/n/vzaimosvyaz-perezhivaniya-odinochestva-i-irratsionalnyh-ubezhdeniy-o-mezhlichnostnyh-otnosheniyah-u-studentov

Moustakas, C. (1972). *Loneliness and love.* Prentice-Hall.

Napryeyenko, O., Napryeyenko, N., Marazziti, D., Loganovsky, K., Mucci, F., Loganovskaja, T., & Tsekhmister, Y. (2019). Depressive syndromes associated with alcohol dependence. *Clinical Neuropsychiatry, 16*(5-6), 174-180. http://doi.org/10.36131/clinicalnpsych2019050603

Neumoeva, E. V. (2005). *Odynochestvo kak psykhycheskyi fenomen y resurs razvytyia lychnosty v yunosheskom vozraste* [Loneliness as a mental phenomenon and a resource for personality development in adolescence] [PhD thesis, Tyumen State University, Tyumen, Russia]. Dissercat. https://www.dissercat.com/content/odinochestvo-kak-psikhicheskii-fenomen-i-resurs-razvitiya-lichnosti-v-yunosheskom-vozraste

Oleinik, N. O. (2018). Spetsyfika funktsionuvannia struktury perezhyvannia samotnosti v rannomu ta serednomu doroslomu vitsi [The specifics of the function of the structure of experiencing self-reliance in the early and middle adulthood]. In V. O Y. Blynova (Ed.), *Sotsiokulturni ta psykholohichni vektory stanovlennia osobystosti* [Socio-cultural and psychological vectors of the personality formation] (pp. 253-278). Vyshemyrsky V. S.

Osin, E. N., & Leontyev, D. A. (2013). Dyfferentsyalnyi oprosnyk perezhyvanyia odynochestva: struktura y svoistva [Differential questionnaire of feelings of loneliness: structure and properties]. Psychology. *Journal of the Higher School of Economics, 10*(1), 55-81. https://psy-journal.hse.ru/2013-10-1/78931776.html

Perlman, D., & Peplau, L. (1998). Loneliness. In H. S. Friedman (Ed.), *Encyclopedia of mental health,* Vol. 2 (pp. 571-581). Academic Press.

Pressman, S. D., Cohen, S., Miller, G. E., Barkin, A., Rabin, B.S., & Treanor, J. J. (2005). Loneliness, social network size, and immune response to influenza vaccination in college freshmen. *Health Psychology*, *24*(3), 297-306. https://doi.org/10.1037/0278-6133.24.3.297

Richard, A., Rohrmann, S., Vandeleur, C. L., Schmid, M., Barth, J., & Eichholzer, M. (2017). Loneliness is adversely associated with physical and mental health and lifestyle factors: Results from a Swiss national survey. *PLoS ONE*, *12*(7), e0181442. https://doi.org/10.1371/journal.pone.0181442

Rokach, A. (2018). The effect of gender and culture on loneliness: A mini review. *Emerging Science Journal, 2*(2), 59-64. https://doi.org/10.28991/esj-2018-01128

Rokach, A., Bacanli, H., & Ramberan, G. (2000). Coping with loneliness: A cross-cultural comparison. *European Psychologist*, *5*(4), 302-311. http://doi.org/10.1027//1016-9040.5.4.302

Russell, D. W. (1996). UCLA loneliness scale (Version 3): Reliability, validity, and factor structure. *Journal of Personality Assessment*, *66*(1), 20-40. https://doi.org/10.1207/s15327752jpa6601_2

Sadler, W., & Johnson, T. B. (1980). From loneliness to anomie. In J. Hartog, J. Audy, & Y.A. Cohen (Eds.), *The anatomy of loneliness* (pp. 34-64). International University Press.

Seepersad, S., Choi, M.-K., & Shin, N. (2008). How does culture influence the degree of romantic loneliness and closeness? *The Journal of Psychology*, *142*(2), 209-216. https://doi.org/10.3200/JRLP.142.2.209-220

Shamionov, R. M., & Grigoryev, A. V. (2019). The image of socially active individual in the representations of student youth. *International Journal of Cognitive Research in Science, Engineering and Education*, *7*(1), 15-20. https://doi.org/10.5937/ijcrsee1901015S

Shitova, N. V. (2009). *Sotsyalno-psykholohycheskye osobennosty odynokykh zhenshchyn* [Socio-psychological features of single women] [PhD thesis, Kursk State University, Kursk, Russia]. Dissercat. https://www.dissercat.com/content/sotsialno-psikhologicheskie-osobennosti-odinokikh-zhenshchin

Storr, A. (2005). *Solitude: A return to the self.* Free Press.

Tornstam, L. (1993). Loneliness in marriage. *Journal of Social and Personal Relationships*, *9*(2), 197-217. https://doi.org/10.1177/0265407592092003

Tsvetkova, N. A. (2014). Personal characteristics of single women seeking psychological help. *Woman in Russian Society, 3(*72), 61-72. https://womaninrussiansociety.ru/article/tsvetkova-n-a-personal-characteristics-of-single-women-seeking-for-psychological-help-pp-61-71/

Weiss, R. S. (1973). *Loneliness: The experience of emotional and social isolation.* The MIT Press.

Young, J. E. (1982). Loneliness, depression and cognitive therapy: theory and application. In L. A. Peplau & D. Perlman (Eds.), *Loneliness: A sourcebook of current theory, research and therapy* (pp. 1-18). Wiley.

Young, J. E., Klosko, J. S., & Weishaar, M. E. (2003). *Schema therapy: A practitioner's guide.* Guilford Press.

Zakharova, M. L. (2013). Shkala dysfunktsyonalnykh otnoshenyi kak metod yssledovanyia kohnytyvnykh yskazhenyi [The dysfunctional relationship scale as a method for studying cognitive biases]. In A. G. Berdnikova, N. V. Dmitrieva, S. Y. Ivanova, T. N. Levan, T. V. Pavlovets, & S. D. Yakusheva (Eds.), *Lychnost, semia y obshchestvo: voprosy pedahohyky y psykholohyy: sbornyk statei po materyalam XXIX mezhdunarodnoi nauchno-praktycheskoi konferentsyy* [Personality, family and society: the questions of pedagogy and psychology: the collection of materials of the XXIX international scientific practical conference] (pp. 68-76). SiBAK.

Zavorotnykh, E N. (2009). *Sotsyalno-psykholohycheskye osobennosty odynochestva kak subektyvnoho perezhyvanyia* [Socio-psychological features of loneliness as a subjective experience] [PhD thesis, St. Petersburg State University, St. Petersburg, Russia] Dissercat. https://www.dissercat.com/content/sotsialno-psikhologicheskie-osobennosti-odinochestva-kak-subektivnogo-perezhivaniya