PERSONALITY AS A SUBJECT OF LIFE: PROBLEMS OF HEALTH AND DISEASE

DOI: 10.23888/humJ2019171-93

ПРОЕКТИВНАЯ ИДЕНТИФИКАЦИЯ ПРИ РАСПОЗНАВАНИИ ЭМОЦИЙ ПО ЛИЦУ В ПОЖИЛОМ ВОЗРАСТЕ

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Аннотация. В статье показано, что изменения в способности распознавать эмоции по лицу являются индикатором психического благополучия в пожилом и старческом возрасте. Впервые в отечественной клинической психологии представлена интегративная модель возникновения депрессии П. Лаутена и П. Фонаги, которая в отличие от ранних теорий показывает, что депрессия является результатом взаимодействующих нарушений в системе ответа на стрессовые события, сбоем в системе внутреннего вознаграждения, особенно со стороны привязанности/автономии, а вызвана проблемами понимания психических состояний других людей. Представлены формы когнитивного смещения при распознавании эмоций по лицу в позднем возрасте.

На основе проведенного эмпирического исследования, в котором участвовали три группы респондентов 55-60, 61-74 и 75-90 лет с применением Пенсильванского теста распознавания эмоций (Penn Emotion Recognition Task-40) выделены возрастнo-специфические особенности распознавания эмоций по лицу. Показано, что в пожилом и старческом возрастах при нормальном течении старения наблю-

даются симптомы эмоционально-специфического дефицита: изменения во времени отклика; увеличение частоты ошибок в распознавании эмоций (гнев, печаль и страх); трудности распознавания эмоций при низкой интенсивности, эффект высокого порога интенсивности эмоций. При распознавании экспрессии спокойного лица в пожилом и старческом возрастах, наблюдается приписывание эмоций нейтральному лицу (печаль, злость), что говорит о наличии отрицательного когнитивного смещения или проективной идентификации. Эти процессы с одной стороны, являются индикатором психологического неблагополучия, с другой стабильной личностной чертой, выполняющей функцию группировки и подготовки к негативным событиям.

Систематизирована терапевтическая тактика минимизации дефицита распознавания эмоций в пожилом и старческом возрастах.

Ключевые слова: распознавание эмоций, проективная идентификация, пожилой возраст, старческий возраст, когнитивное смещение

PROJECTIVE IDENTIFICATION IN RECOGNIZING EMOTIONS IN THE FACE IN OLD AGE

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Abstract. The article shows that changes in the ability to recognize emotions in the face are a neurocognitive marker not only of a number of mental and neurological disorders, but can also occur in normal aging. First introduced the integrative model of depression P. Lucena and P. Fonagy that unlike earlier theories showing that depression in the elderly is the result of interacting disturbances in response to stressful events. The

forms of cognitive bias in recognition of emotions in the face at a later age are presented.

On the basis of empirical research, it is shown that in the elderly and senile age there are symptoms of emotionally-specific deficiency. When recognizing the expression of a calm face in the elderly and senile age, there is an attribution of emotions to a neutral face (sadness, anger), which indicates the presence of negative cognitive bias or projective identification. These processes, on the one hand, are an indicator of psychological distress, as well as a stable personality trait that performs the function of grouping and preparing for negative events.

Systematized therapeutic tactics to minimize the deficit of emotion recognition in the elderly.

Key words: emotion recognition, projective identification, old age, cognitive bias, theory of mind

Introduction

Interpretation of the emotional state of other people is an important part of the daily social life of an elderly. Our judgments about other people's emotions can even determine whether we want to interact with them or not. Thus, assessing other people's emotions can warn us of valuable social information, such as whether the person is friendly, trustworthy, or a threat [1]. Assessing emotions, an elderly person naturally pays attention to facial expression and can make quick social judgments even from short-term interaction [2].

Understanding the emotional states of other people is largely a subjective psychological process that becomes vulnerable at a later age due to the influence of various biopsychosocial factors, which is shown both in our [3, 4, 5, 6] and foreign countries [7, 8, 9, 10, 11] research. For example, an elderly with depression exhibits negative perceptual bias, and as a result, it is better to identify negative than positive emotions [12]. In particular, the negative perceptive bias characteristic of depression also predicts relapse

[13]. These manifestations are called perceptual failures, projective identification, or cognitive biases as tendencies to perceive or notice some aspects of the available sensory data and ignore others [3].

The following forms of cognitive bias are distinguished: personalizing bias; externalizing bias; negativity bias; egocentric bias; positive bias; self-serving bias. Cognitive stress theories argue that cognitive bias in social information processing plays a crucial role in the emergence and maintenance of a number of mental disorders [14]. Older people tend to have greater difficulty and are less accurate in recognizing major facial emotions than younger people [12]. Changes in the ability to understand other people's emotional states in old age have an impact on interpersonal functioning; the regulation of personal behavior with a tendency to violate social norms; and increased vulnerability to social exploitation and fraud. These changes often lead the elderly person to social isolation [11, 15]. Changes in emotion recognition are considered as a cognitive phenotype of a large episode of depression, generalized anxiety disorder, social phobia, PTSD, as well as a marker of the progression of frontotemporal dementia and Alzheimer's disease [7]. We first adapted the proposed P. Lauden and P. Fonagi stress-reward-mentalizing model of depression, which in contrast to early theories shows that depression in old age is the result of interacting disorders in the system of response to stress events, which leads to problems in the system of internal reward, as well as problems of understanding the mental states of other people [16].

Fig. 1. P.Lauten and P.Fonagi Integrative model of the occurrence of depression

In particular, in the elderly and senile age, the presence of daily stress often leads to the inability to overestimate and adjust the negative affect, which leads to the syndrome of remuneration deficiency, the rejection of the controlled use of socio-cognitive processes with a predominance of hypo- or hypermentalization. This automatic, biased, emotionally-conditioned construction of a model of other people's mental States, based on non-reflexive assumptions about themselves and others, leads to depressive anxiety that prevents successful aging. Violations in the mental model when subdepression and more severe forms are observed from the perception of facial emotion, memory for faces and understanding deceit and irony. The severity and duration of depressive episodes exacerbates the lack of recognition of emotions, as well as vice versa [1, 26]. Changes in the recognition of emotions can lead to the development of socio-cognitive disorders, which cause damage to behavioral control, lead to increased irritability, because the emotions of another person cease to act as an indicator for correcting their own behavior [12, 14, 20, 32].

Research procedure

The aim of the study was to study the age-specific features of facial emotion recognition, forms of cognitive bias in the elderly.

Participants of the study. Groups of respondents: 1) 55-60 years – 120 (17 men and 103 women, $M \pm SD$ age = $56,6 \pm 1,8$); 2) 61-74 years – 120 (13 men and 107 women, $M \pm SD$ age = $66,7 \pm 3,9$); and 3) 75-90 years – 50 (11 men and 39 women, $M \pm SD$ age = $79,4 \pm 3,5$) who underwent outpatient examination at the Consultative and Diagnostic center № 2.

Exclusion criteria:

- Complicated by comorbidity. The index of polymorbidity (CIRS-G) > 24 points;
- The presence of chronic disorders in the acute stage, intoxication, expressed cardiovascular diseases that can affect socio-cognitive functions (organ failure, lung disease, autoimmune diseases, acute bacterial, viral infections, systemic dysmetabolic conditions; vitamin deficiency);
- Severe hearing loss (presbycusis) and vision (high refractive errors, diabetic retinopathy, color blindness) that prevents the survey;
- Assessment of cognitive functioning (according to MoCA) < 26 points, indicating the presence of changes in cognitive functioning;
- Neurodegenerative diseases and neurological diseases (tumors, vascular lesions, neuroinfections, epilepsy, traumatic brain injuries);
- Assessment of emotional well-being (GDS-30) > 20 points, indicating a pronounced psychological distress;
- The presence of affective spectrum disorders, psychotic symptoms, hypomanic and manic symptoms;
- The presence of negativity on the part of an elderly person; signs of a formal attitude to the survey, the refusal of a person of late age, his relatives and/or Trustees to participate in the study.

Research methods. Penn Emotion Recognition Task-40 from web-based self-administered Computerized Neuropsychological Battery [5, 19]. The stimulus situation consisted of 40 consecutive static color images of people's expressions – 8 emotionally

neutral facial expressions, 16 persons with low and 16 persons with high intensity of positive and negative emotions (fig.2).

Fig. 2. Patterns of expression intensity in the Pennsylvania emotion recognition test

Respondents were asked to determine the emotion experienced by the person in the photo of the 5 proposed answers (fig.3).

Fig. 3. Algorithm for carrying out the Pennsylvania test of recognition of emotions

During the test series, a respondent is presented with a photo-standard of expression, and the experimenter asked to choose one emotion from the proposed list on the left, which better describes the emotional state of the person. Photos Etalon exhibited for an unlimited time. In the case of correct recognition of the emotional state of a respondent moved to the implementation of the main series of surveys. Facial expressions were demonstrated by different models and in random order. Each photo-standard was

exhibited for unlimited time, which reduces the requirements for working memory. Return to the previous photo standards was excluded [19].

Results

Respondents aged 75-90 years coped with the task of determining emotions on the expression of another person's face (30 correct answers out of 40 possible) compared to the elderly – 55-60 (34 correct answers out of 40) and 61-74 years (32 correct answers out of 40). In the 55-60 and 61-74 age groups, female faces are better recognized than male faces. There is emotional heterogeneity in the recognition of emotions. Emotion of joy was well recognized in respondents 55-60 years (8 correct answers out of 8), 61-74 years (7 correct answers out of 8) and 75-90 years (7 correct answers out of 8), which indicates hypersensitivity to positive emotions.

Table 1.

Recognition of simple emotions (according to ER40) in three age groups of respondents

ER40 components	55-60 (A)		61-74 (B)		75-90 (C)		p
	n=120		n=120		n=50		
	M	SD	M	SD	M	SD	
Time spent on the correct answer (MS)	2214	655	2382	474	2954	517	AC*, BC*
Total emotion recognition index (number of correct answers, total) [40]	33,7	3,2	31,9	2,1	30,4	2,6	AB**, AC**, BC*
Subcomponents							
Female face [20]	18,5	1,3	17,8	0,8	15,6	2,1	AC**, BC**
Male face [20]	17,8	1,9	16,4	2,0	15,1	1,3	AB*, AC**, BC*
Happiness[8]	7,9	0,11	7,4	0,57	7,2	0,46	-
Anger [8]	5,1	1,5	4,6	1,1	4,1	0,97	AC*
Fear [8]	6,3	1,1	6,1	1,2	5,1	0,87	AC*, BC*
Sad [8]	6,8	1,2	6,1	1,3	5,1	1,1	AC*,BC*
Emotionally neutral persons [8]	6,4	1,2	5,9	1,7	5,2	1,6	AC*
Low (weak) intensity of emotions [20]	14,3	1,9	12,1	1,1	11,4	1,2	AB**, AC**, BC*
High (strong) intensity of emotion [20]	16,1	1,2	14,6	1,6	13,6	1,7	AB**, AC**, BC*

The greatest difficulties are observed in determining the recognition of negative simple emotions: anger, fear and sadness, which indicates a hyposensitivity to negative emotions. There were difficulties in determining emotionally neutral persons in respondents 55-60 years (6 correct answers out of 8) and 75-90 years (5 correct answers out of 8). More errors were observed in the identification of negative emotions than in the recognition of positive emotions (fig. 4).

Fig. 4. Errors in recognition of simple emotions in respondents of three age groups

When recognizing the expression of a calm face, respondents of three age groups were observed to attribute other emotions, which is consistent with the data by E.M. Weiss [1] that calm faces are often evaluated by people of later age as expressing different emotions. In most cases, a calm face was attributed a negative valence, that is, an emotion of sadness, to a lesser degree of anger (fig. 5).

Fig. 5. The phenomenon of projective identification in respondents of three age groups

Occasionally in the elderly (55-60 and 61-74 years) there was an attribution of fear, which indicates an increased sensitivity to stress (according to P. Luyten, P. Fonagy [16]). In older age groups, emotions are better recognized when they are high than low intensity expression. High intensity of expression contributes to better recognition of fear, anger and sadness (fig.6).

Fig. 6. Emotion Recognition depending on the intensity of facial expression in respondents of three age groups.

Note. Min-low intensity of expression of facial expressions, Max-high intensity of expression of facial expressions.

More errors in the recognition of emotions observed in the group of respondents senile (75-90 years) in contrast to the elderly. Thus, the difficulties in recognizing emotions were combined into the symptoms of emotional-specific deficiency: a long time in recognizing emotions; an increase in the frequency of errors; difficulties in recognizing emotions at its low expressive intensity; difficulties in recognizing the male and female faces of other people of different ethnic groups; false attribution.

Discussion

The study allowed us to identify the presence of partial changes in the recognition of emotions in the face at a later age, which should be considered as a natural process taking place in conditions of emotional stress, situations of novelty, increased uncertainty, frustration and malevolent intentions on the part of other people. When recognizing the expression of a calm face in respondents of three age groups, we observed errors in the form of attribution of emotions to a neutral person, which indicates the presence of false attribution, attributive projection or conscious attribution. These mental phenomena are understood as the process whereby a person treats another person not as an individual with his or her own qualities, but as he or she would treat himself or herself. Parts of the self of an elderly person are split off and projected into objects where they constantly live, which leads to the risks of developing a pathological organization of the person [20]. Projective identification protects the elderly from grief, depressive anxiety, can be an indicator of getting stuck on paranoid-schizoid and/or depressive position of perception of the world [20]. Recall that most of the respondents of elderly and senile ages experience symptoms of subdepressive, which may be depressive realism or hypermasculinity, when neutral and emotional stimuli is attributed with negative emotional valence. The central role of such projective identification is the creation of pathologi-

cal object relations [20]. In our study, elderly and senile people, in most cases, attributed the emotion of sadness, less anger and less fear to a calm face. Attribution of later age people to a neutral person more saturated, actual emotional experiences to some extent can be considered as confirmation of the hypothesis of mood congruence, according to which a negative perceptual shift on the one hand can be an indicator of a depressive episode, as well as a stable personality trait performing the function of grouping and preparing for negative events [21]. Negative projective identification in emotion recognition can be an epiphenomenon during a depressive episode, serving as a marker of mental state [12]. When we talk about the process of mentalization, it is evaluated not in artificial test conditions, but in the context of human relations [22]. It can be assumed that attributing negative emotions to a neutral person at a later age is a projective identification to protect against depressive anxiety. Feelings, thoughts that cannot be consciously accessed are projected onto another person. At the heart of this epiphenomenon can be care or the pursuit of traumatic ghosts [2], a reminder of the traumatic situation, the awakening of actual experiences, losses in a person of late age. Another person's neutral face for an elderly person with subdepression may act as a projection of the abuser, or a figure of anxious or insecure attachment.

Changes in cognitive-affective schemes at a later age in the form of attribution of sadness to a neutral person are associated with the strategy of hyperactivation of attachment [23], i.e. attempts to find an object of security [16]. However, the relation to this object is based on the type of symbiotic type of object relations, in which the true separateness is not experienced. The attribution of sadness is an indicator of a depressive position (by J. Steiner [20]). Attributing anger to a neutral person is associated with the deactivation of attachment [23], the denial of the need for attachment, the conviction of one's own autonomy and independence in an attempt to lower the level of stress. The belief that others cannot provide support and comfort is an indicator of the paranoid-schizoid position (by J. Steiner [20]), leading to increased anxiety and rigidity. Avoidance and neglect also correlate with attachment styles [23]. The attribution of sadness

and anger to neutral persons is consistent with the study of W. Kunzmann, [10], which showed that sadness represents the assessment of the situation of aging as loss, awareness of the finiteness of life and unattainable goals. Loss and desire of age to the one who provided care [24]. The attribution of anger should be assessed as an indicator of reassessment of threat situation. According to the integrative model of depression, the presence of this phenomenon indicates a failure or distortion in the cognitive-affective schemes “Self” and “Others”. It points to the reward deficit syndrome [16], which is accompanied by changes in sociocultural expectations, autonomy and a sense of subjectivity, the lack of a safe process of attachment, a sense of social loss and rejection. This syndrome is accompanied by hyperactivity of the hypothalamic-pituitary-adrenal axis, which contributes to a change in the activity of the prefrontal region of the brain, which leads to hypermentalization, as hyperexcitation in order to protect themselves from the malicious intentions of other people. This increases the risks of developing a large episode of depression [17, 23].

To correct and prevent the deficit of emotion recognition, it is recommended to apply a comprehensive clinical and psychological approach (fig.7).

Fig. 7. Therapeutic tactics of minimizing the lack of recognition of emotions (by C.J. Harmer et al. [18])

It is shown that the appointment of SSRI therapy (citalopram, reboxetine) for three months minimizes the negative cognitive bias in the perception of emotions in the face [9, 18]. Additionally, the cognitive bias modification protocol (CBM) should be used, both at the level of thoughts and communicative behavior. This protocol of cognitive behavioral psychotherapy includes a number of methods designed for manipulative bias in cognitive processing of social information. For example, the shift of attention to the threat is a feature of anxiety disorders and can be reduced by perceptual retraining procedures [8]. One should start with the causal status of the actual forms of cognitive bias for the patient. With the help of cognitive techniques, external indicators, a flexible “reading” of mental states, intentions, scenarios of other people's behavior is formed. The use of different scenarios (unforeseen situations) in the role-playing game allows to work together with a specialist cognitive-behavioral skill of flexible cognitive bias [10].

Conclusions

- Positive emotions are better recognized in the elderly and senile age. In old age (75-90 years) there are great difficulties in recognizing negative emotions in the expression of persons compared to the elderly (55-60 and 61-74 years).
- The following symptoms of changes in the processing of emotional information at a later age: changes in response time; increase in the frequency of errors in the recognition of emotions (anger, sadness and fear); difficulties in recognizing emotions at low intensity, the effect of a high threshold of intensity of emotions.
- In the elderly, the recognition of emotions in the face are observed: false attribution, negative perceptual bias or congruence effect of mood (sadness, fear), which should be considered as a component of the syndrome of “reward deficit”, which was formed to strengthen mental resources in order to protect themselves from the negative intentions of other people and is an indicator of increased sensitivity to stress.
- At a later age, in the recognition of emotions, the following forms of socio-cognitive compensatory mechanisms are observed: the phenomena of positive perceptual bias and gender bias.

There is no conflict of interest.

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Дата поступления / Paper received: 14.01.2019

Дата принятия в печать / Paper accepted: 25.03.2019

ССЫЛКА ДЛЯ ЦИТИРОВАНИЯ:

Мелехин А.И., Игнатенко Ю.С. Проективная идентификация при распознавании эмоций по лицу в пожилом возрасте [Электронный ресурс] / А.И. Мелехин, Ю.С. Игнатенко // Личность в меняющемся мире: здоровье, адаптация, развитие: сетевой журн. 2019. Т. 7. № 1 (24). Режим доступа: <http://humjournal.rzgmu.ru/art&id=363> (дата обращения: чч.мм.гггг).

REFERENCE FOR CITING:

Melehin A.I., Ignatenko Yu.S. Proektivnaja identifikacija pri raspoznavanii jemocij po licu v pozhilom vozraste [Projective identification in recognizing emotions in the face in old age] [Electronic resource] / A.I. Melehin, Yu.S. Ignatenko // *Lichnost' v menyayushchemsya mire: zdorov'ye, adaptatsiya, razvitiye: setevoy zhurnal* [Personality in a changing world: health, adaptation, development: network journal]. 2019. V. 7. No. 1 (24). Access mode: <http://humjournal.rzgmu.ru/art&id=363> (date of reference: hh.mm.yyyy).