

The Psychoemotional Dynamics in Gerontogenesis

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Abstract

Introduction: *Gerontogenesis is the stage in which the de-structuring processes that appear simultaneously with age acquire precedence over the processes of ontogenetic development and adaptation. Aging is a complex process that reflects the relationship between hereditary and environmental, the border between the two being the expression of a significant heterogeneity.*

Objectives: *A team of psychologists from the Social Gerontology – GerontoPsychology Research Laboratory of the “Ana Aslan” National Institute of Gerontology and Geriatrics initiated, in 2019, the longitudinal study “Biopsychosocial factors and the dynamics of the gerontopsychological profile – GeRoPsi”. The general objective was to identify the psychological factors and other types of elements involved in the adaptation process, and the analysis of the protective factors that contribute to the conservation of capacities and tools for adaptation and modeling of the environment. Identifying the psychoemotional dynamics that accompanies gerontogenesis is a first step in the longitudinal study and the subject of this article.*

Methods: *The analysis, by quantitative and qualitative methods, of a sample of 1638 people, aged between 65-95 years, gave us a representation of their psychoemotional life in the face of aging and its limitations.*

Results: *The data obtained indicate the presence of specific environmental factors that produce a reactive affective symptomatology in the elderly, with specific impact at psychological, physiological and behavioral-attitudinal levels. Specific to the usual conditions, age-related stress integrates a specific negative affective symptomatology characterized by irritability, age dysphoria in men, and depressive, anxious-depressive symptoms in women.*

Conclusions: *Gerontogenesis involves specific changes in psychoemotional dynamics, and the identification of factors that reduce the existence of negative affective symptoms contributes to better assimilation and adaptation to age and the possibility of developing integrated intervention measures.*

Keywords: *ontogenetic adaptation, aging, biopsychosocial factors, psychoemotional indicators, age dysphoria, anxiety, depression*

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I. Introduction

Adaptation is the constant and perpetual process by which the individual relates to his environment. Not only in the sense of its assimilation but, especially, in the sense of its control and modification. The meaning of adaptation is based on survival and is an agreement between the individual's abilities, the environment they transform and the tools through which they act upon it. Adaptation is the functioning and organization of the body and behavior of the individual in relation to a functional purpose.

Gerontogenesis is the stage of life in which the de-structuring processes that appear with age acquire precedence over the processes of development and ontogenetic adaptation. Aging is characterized by progressive limitations of adaptive capacity, which determine different levels of influence in all functional domains: biological, psychological, social and cultural. Depending on these evolutionary conceptions, most biogerontological theories, up to the middle of the 20th century, integrated the idea of a specific lifespan.

This perception was countered by subsequent evidence and a series of studies that could not reach any defining conclusion in this regard (Marck et al., 2017). The way people age differs from one individual to another and even from the whole body to the cellular level. Most significant is that the progression and process of gerontogenesis is not determined by specific genes. Genetic and non-genetic factors, such as the young age of the mother when she conceived, the lifespan of parents and grandparents, marital status and educational level, even the place and season of birth, according to some recent studies (Gavrilov & Gavrilova, 2015), intervene in the development of the aging process and leave their mark on the longevity of the individual. The literature has long talked about the importance of exposure to the environment that promotes aging. Perls and Puca (2002) noted that the rate of physiological aging is largely determined (50-75%) by non-genetic factors. Moreover, Martin (1987) argued that there must be environmental agents that accelerate the rate of molecular aging and proposed the term "gerontogenic" for these toxic factors that promote gerontogenesis. Among them he identified UV rays, cigarette smoking and age-related stress. According to his theory, the existence of multiple gerontogenic agents, mostly unknown, explains the various forms by which aging translates individually.

Recent studies outline the idea that the aging process changes the relationship between the individual and the environment by changing resilience factors

(Seeman et al., 2001). Daily challenges, adaptation to acute stress activate and train the central nervous system, endocrine system and immune system in order to maintain functional balance. Aging disrupts the homeostatic balance in two directions: exogenous, due to an accumulation of gerontogenic factors, which affects the body's control and tolerance, and endogenous, by diminishing the body capacity due to the accumulation of negative effects over time. The negative effect that acute stress exerts on the neuroendocrine system through the hypothalamic-pituitary-adrenal axis is known (Lavretsky & Newhouse, 2012). When it is stimulated in response to an external challenge, the secretion of stress hormones – cortisol – takes place in order to prepare the body for the best adaptive reaction. The vigilance of the autonomic nervous system causes at the vegetative level an increase of arterial hypertension, a suppression of the anabolic processes and an atrophy of the hippocampus. Repeated exposure to stress in relation to certain factors is associated with an impairment of the body's ability to contain environmental factors.

Gender differences have been identified as being involved in psychoemotional impairment. There is an increased incidence, almost twice as high, of emotional disorders in females after puberty and until the onset of menopause. This difference tends to equalize and even reverse with age to the detriment of males (von Humboldt et al., 2013).

At practical level, a number of clear differences between individuals are obvious. On one hand we have professionally and socially active 80-year-olds who show a generally positive mental tone, and on the other hand 70-year-olds deeply affected by depression and threatened by the prospect of early death. Individual differences in the aging process can be conceptualized as an accumulation of wear and tear caused by daily experiences and major life stressors that interact with the genetic structure (Martin, 1987).

The direction of gerontological research should focus on identifying and understanding how genetic baggage, environmental exposures and the tools they use interact throughout an individual's life, to explain common patterns of aging: increased risk for certain diseases, loss of ability of regeneration and fragility, psychoemotional decompensation, etc.

Aging is a form of stress that the individual must adjust to, a process with profound implications at all levels. Aging is the adaptation from self-sufficiency to a certain degree of helplessness, from a certain feeling of power to certain helplessness and involves a

diminution of personal abilities, an alteration of the possibilities of accommodation on an increasingly less malleable environment (Bebbington et al., 2003). At psychoemotional level, this process is accompanied by a deep dynamic with implications on the two-way adaptation model: the emotional problems of the elderly are adaptation problems, and their presence influences the adaptation process.

As example, a 65-year-old patient who suffered a heart attack five years before is being admitted to the geriatric department. Until then, he was an active person both professionally and socially, he used to be an involved and overworked businessman. He described himself as “a man who tasted the pleasures of life”, being a smoker, a constant alcohol user, with multiple and diverse social interactions, and who weekly attended a club where he played tennis. Following the heart attack, his life changed dramatically, he had to “take a step back” from the management of the company in favor of his partner, he stopped smoking, was forbidden to drink alcohol and play tennis. He spent his time alone at home with his wife, reading, but often experiencing panic attacks. He was admitted to the clinic for specialized treatment and for the evaluation of the psychoemotional state. During his hospitalization he had several meetings with a psychologist, and during one of them he shared, under the expression of an inner rage, how he perceived his recent condition: “I was a manager, I spent time as I wished, I had an active life, I thought I was immortal, and then, I suffered a heart attack...”

Regarding hope, aging comes with a profound impairment: while the memory of the individual is full of past glories, his heart is emptied of hope. The emotional garment that gerontogenesis wears is complex and knows a wide range of possibilities. The physical and psychological decline, the loss of one of the important identities, the professional status, represents a change that is associated with certain feelings of inferiority and inadequacy. Often the old person feels as an addition, feels misunderstood and this can lead to a reaction of increased irritability, a clear attempt to dominate a space increasingly more difficult to control. The recognition of these conditions is important because they can be the preamble or mirror through which clinical entities such as depression, cognitive impairment, or certain somatic disorders are expressed. According to a cross-sectional study, in people aged over 80, a high level of anger is associated with the existence of chronic levels of inflammation and the presence of health problems. This study was conducted by Canadian researchers on 226 subjects and was

published in the *Psychology and Aging* journal (Brown Nicholls, 2019).

In older people, an important relationship occurs between the existence of health problems and emotional problems, the connection being made in both directions. The person's emotional coping abilities to somatic problems diminishes with age and so each additional limitation adds another burden to the emotional level. Coping with feelings of insecurity caused by the existence of somatic diseases adds stress to an already affected body. A study of 50 people over the age of 70 aimed to identify the relationship between hearing disorders, depressive symptoms and quality of life showed that reducing hearing problems leads to an improvement in quality of life and mood. The testing was performed at the initial time and at intervals of 1, 3 and 6 months after, and consisted in the use by subjects of bilateral digital hearing aids and the assessment of the impact on the studied parameters (Boi et al., 2012).

The presence of isolation and loneliness, significantly increased by the loss of the partner and the disappearance of friends, is naturally accompanied by a state of sadness and depression. In a way, the older persons are “left out of life”: their children are older and have their families and responsibilities; as they are retired, they experience a scarcity of social life and all this feeds a sense of inactivity and uselessness, along with an impaired self-image and self-esteem. Losing a partner means losing intimacy, daily support and losing a dynamic life.

According to a recent longitudinal study, the impact of such major stress is associated with severe cognitive effects. The study included 257 people who did not show cognitive impairment, aged between 62 and 89 years, and who fell into three categories: married, widowed and unmarried (single, divorced). The researchers evaluated the beta-amyloid levels and cognitive performance of the subjects at the beginning of the study and at the beginning of each of the four years of longitudinal study. At the end of the study, it was identified that the most pronounced cognitive decline was in widows. It has also been identified that in the case of people with high levels of beta-amyloid, the most severe decline, three times faster, was also for widows (Biddle et al., 2020).

The increasing incidence of health problems associated with the disappearance of people in the same age group has the role of undermining the feeling of invulnerability that, in general, the younger person has. The loss of this feeling accesses an anxious attitude towards the environment and life, an attitude that

translates at somatic level in the appearance and development of psychosomatic disorders. Aging is associated with an interesting relationship between the present emotional problems and the organic symptoms that the person is facing. The disease is a threat to older people, not only because of the physical damage it induces, but also because of the emotional impact it associates with. Each biological limit that occurs accentuates the lived feeling of insecurity and loss. The mechanisms by which anxiety manifests in the elderly are different from young people, precisely because of the factors involved in gerontogenesis. The increased presence of real health problems, and decreased social interactions, influence the appearance and manifestation of anxiety symptoms. A longitudinal study of a sample of 3107 older people in the Netherlands, aged 55 to 85, focusing on identifying the prevalence and risk factors for anxiety disorders, showed that age itself did not correlate with the presence of an anxiety disorder. The presence of certain risk factors makes the difference and associates with, in particular, generalized anxiety and phobic disorders. The study identified that to the known vulnerability factors: female gender, low level of education, traumatic experiences during World War II and external locus of control, are added the factors determined by the stress that occurs with age: retirement and loss of life partner (Beekman et al., 1998).

The emotional problems of the older person appear both as reactions of adaptation to the external reality, less and less friendly, but are also determined by the internal weakening of the adaptation process. Older people tend to be more conservative in keeping the strategies that brought them success in their youth. Their conservatism is the weapon with which they oppose an increasingly ambiguous, new and less competitive environment, a trend that weakens the ability to adapt and tolerate that environment. The flexibility-stiffness dimension has long been suggested as a strong personality factor that could help explain the individual differences that occur in gerontogenesis. In their meta-analysis, Schultz and Searleman (2002) concluded that stiffness decreases between 5 and 18 years, remains fairly stable between the ages of 18 and 60, and increases linearly after the age of 60. Multiple transversal and longitudinal studies have had as object of study its rigidity and dimensions. Following a longitudinal study conducted in Oxford, Ohio, over 20 years, on a sample of 405 subjects over 50 years of age, the role of this rigidity-flexibility dimension in aging-related stereotypes was identified. This leaves its mark on the process of adapting to age. The results obtained

indicate that subjects with a higher initial stiffness developed more negative stereotypes related to age and the aging process. Subjects who manifested more negative stereotypes perceived their aging in a significantly more negative light (Levy, 2008).

Currently, the areas of analysis on which most longitudinal studies focus on gerontogenesis include (Huppert et al., 2000):

- socio-economic factors: educational level, marital status, age, gender, material resources/ income, pension status;
- cognitive functioning: mnemonic, proseic capacity, language, ability to solve problems, crystallized thinking;
- health status and physical performance: emotional functioning, disease status, physical performance with a number of indicators;
- morbidity and mortality factors: correlated behavioral and somatic parameters;
- sociocultural factors: family dynamics, social inclusion, family support, religion as support, age adaptation, healthy behaviors;
- health costs: health insurance, state statement, pension money spent on health services and medicines, family financial support;
- genetic and epigenetic implications: the relationship between health status and certain specific gene sequences, epigenetic changes.

The correlative analysis between these factors and the aging process led to the identification of a series of answers that provided a clearer and more appropriate picture of the changes that the latter implies. On the other hand, a number of unanswered questions and several correlations have not yet been carefully studied. There is still no clear picture of how specific socio-cultural factors play an important role in shaping approach strategies. One area in this regard is the correlation between factors of behavioral and social psychology and healthy aging. The interest was rather on detecting deficits that appear with age and was less put on the changes that occur at the emotional level and what their causes are, and internal factors that influence them (Kunkel et al., 2014).

At national level, few longitudinal and short-term studies have been undertaken; the studies have focused on the aging process from the perspective of correlating health status with various variables, demographic and/ or cognitive functioning.

One study focused on the correlation between the existence of regular physical activity and cognitive and affective functioning. The study was conducted over

2 years and was designed in two directions: retrospective and prospective. The final conclusions validated the hypothesis that healthy behavior such as regular physical activity prevents and improves cognitive deficit. It also correlates positively with reducing the symptoms of depression. Moreover, the data obtained confirm the idea that the life environment and the type of professional activity that the older person had, from the perspective of physical effort, is an indirect indicator of the evolution of cognitive deficit in the elderly (Humboldt et al., 2013).

In their approach the psychologist can reveal how, during major stages of the person's evolution, they have established a singular psychological structure, allowing a better management of their relationship with the environment (Drăghici, 2015).

The team of psychologists from the Research Laboratory Social Gerontology – GerontoPsychology of the “Ana Aslan” National Institute of Gerontology and Geriatrics (NIGG) initiated a longitudinal study on the dynamics of the aging process, with duration of five years and conducted on a wide range of subjects hospitalized within the institute. The development of the project with the theme “Biopsychosocial factors and dynamics of gerontopsychological profile – GeRoPsi” is done with the support of the institution and aims to identify psychological factors and other factors that affect the appearance and development of diseases with age and identify protective factors that contribute to that, in order to ensure healthy aging and reduce the health costs involved. The general objective of this approach is to capture a clear and accurate picture of the aging process, as it is perceived and lived in all aspects by the older person in Romania.

The first stage of the study focuses on the psychoemotional dynamics that accompanies gerontogenesis with the identification of correlations between the factors related to age and their emotional imprint. Obtaining a psychoemotional representation showing the connection between emotional challenges and somatic problems faced by the elderly provides a basis for increasing the effectiveness of prevention and intervention strategies and is the general interest of this article.

II. Methodology

As mentioned, the team of psychologists from the Department of Social Gerontology – GerontoPsychology of “Ana Aslan” NIGG initiated, in April 2019, a longitudinal study with duration of five years. The data presented in this article are part of the first stage of the research and contains information collected and

analyzed from 1638 older people. The subjects were hospitalized patients at both clinics of the Institute – Otopeni and Headquarters, from urban and rural environment. The main criteria for inclusion in the study was age, over 65 years.

The subject of this article is the exploration of the psychoemotional dynamics of people over 65, in order to obtain a broad and complex picture of how they relate emotionally to age and its limitations. During the hospitalization at NIGG, the patients included in the study underwent a psycho-cognitive-emotional evaluation by means of specific tools. The evaluation and screening methods used for this purpose included: observation, clinical interview, interview with relatives and the gerontopsychological evaluation form.

The Gerontopsychological Evaluation Sheet represents the main working tool on the basis of which the longitudinal study was developed and was created by the team of psychologists within “Ana Aslan” NIGG. It is a tool that includes several sections – identification data, subjective accounts of the patient's symptoms at emotional, cognitive, behavioral, psychophysiological, personological, and social level, as well as tests and scales used to discriminate the factors involved and detect a diagnostic. Each level that is explored in the sheet has a specific objective and the data obtained are collected using standardized tests and scales. It is a global and complex tool for obtaining both qualitative and quantitative information on how to relate with the person considering their age and life context. It is also an adaptable tool that will be improved and enriched in further stages.

The importance of exploring the emotional level lies in the need to identify the psychoemotional state of the elderly person in order to have a deeper and global understanding of the differentiated and diverse way in which the individual reacts emotionally to aging. The analysis of the affective symptoms manifested in relation to the context of life and age, their classification in a clinical entity, the identification of the intervening factors and of the correlations between the psychoemotional dynamics and the other structural levels: cognitive, behavioral, psychophysiological and social, represent the specific objectives we propose.

The psychometric tools used to evaluate the psychoemotional dynamics were:

- Short Scale for Mood and Geriatric Depression Scale (GDS-15/30) (Yesavage et al., 1982-1983);
- Beck Depression Inventory - II (BDI-II) (Beck, Steer & Brown, Romanian adaptation by David & Dobrea, 2012);

- Hamilton Depression Rating Scale (HDRS) for the evaluation of the emotional and psychophysiological level from Clinical Evaluation System SEC (David, coord., 2007);
- Psychiatric Diagnostic Screening Questionnaire (PDSQ) for the evaluation of behavioral attitudes (Zimmerman, Romanian adaptation by Ciuca & Albu, 2010);
- COPE Questionnaire (Carver et al., 1989) for the identification and evaluation of coping mechanisms.

III. Results

The collected data were subjected to a bivariate analysis using the Pearson correlation coefficient to identify the impact that various factors that intervene with age have on psychoemotional dynamics.

The demographic characteristics of the 1638 subjects follow the current general trends (Table 1).

Table 1. Demographic Characteristics

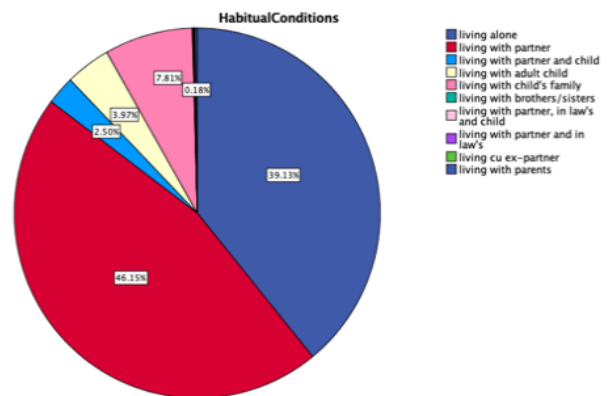
Descriptive Statistics				
	N	Range	Mean	Std. Deviation
F	1638	1	.77	.421
M	1638	1	.23	.421
Gender	1638	1	1.77	.421
Age_group	1638	2	1.59	.637
Age	1638	30	75.18	6.454
Enviroment	1638	1	1.25	.433
Educationallevel	1638	2	1.88	.716
Valid N (listwise)	1638			

The age range ranged from 65 to 95 years (mean = 75.18, SD = 6.45). At the age variable we do not have significant differences for age groups: 65-74 years (49.15%) and 75-84 years (42.67%). We had a low incident number of people over 85 years of age (8.18%), assessed. The distribution according to gender variable indicates a percentage of 76.98% females and 23.02% males. We had an increased incidence of people coming from urban areas 75.09%, compared to 24.91% from rural areas and, depending on the level of education, a relatively homogeneous distribution: 47.31% subjects with secondary education, 32.36% with low education and 20.33% with superior education.

The analysis of the frequency of the usual dynamics indicates an increased incidence of single people: 39.13%, and we found a low share of people living with children and grandchildren: 7.81% (Fig. 1). The correlation with the gender variable shows an increased incidence of females living alone compared to males. We found the existence of inversely

proportional ratio at gender level, so 30.43% of women live alone compared to 18.97% of men, while 40.51% of men live with their partner as opposed to 28.37% of women living with their partner. The age distribution indicates a gradual increase in the number of people living alone with age, while the incidence of those living with their partner decreases.

Figure 1. Habitual Conditions



One aspect that we took into account and analyzed was the subjective symptoms/ distress that the evaluated person expresses and identifies. From this point of view, there is a congruence between the accusations that the person complains about and the diagnosed affective clinical symptoms, which indicates a present critique of their condition (Table 2). Correlation is significant at the 0.01 level (2-tailed).

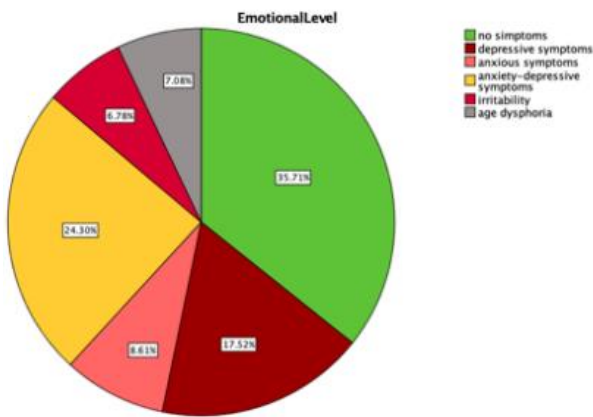
Table 2. Experienced distress and emotional symptoms correlations

		Correlations						
		Emotionalacc usations	depressivesy mptoms	anxioussymp toms	anxietydepre ssivesympto ms	irritability	agedysphori a	
Emotionalaccusations	Pearson Correlation	1	.186**	.008	.141**	-.005	.029	
	Sig. (2-tailed)		.000	.758	.000	.841	.234	
depressivesymptoms	Pearson Correlation	.186**	1	-.141**	-.261**	-.324**	-.127**	
	Sig. (2-tailed)	.000		.000	.000	.000	.000	
anxioussymptoms	Pearson Correlation	.008	-.141**	1	-.174**	-.082**	-.084**	
	Sig. (2-tailed)	.758	.000		.000	.001	.001	
anxietydepressivesymptoms	Pearson Correlation	.141**	-.261**	-.174**	1	-.152**	-.156**	
	Sig. (2-tailed)	.000	.000	.000		.000	.000	
irritability	Pearson Correlation	-.005	-.124**	-.082**	-.152**	1	-.074**	
	Sig. (2-tailed)	.841	.000	.001	.000		.003	
agedysphoria	Pearson Correlation	.029	-.127**	-.084**	-.156**	-.074**	1	
	Sig. (2-tailed)	.234	.000	.001	.000	.003		
N		1638	1638	1638	1638	1638	1638	

** Correlation is significant at the 0.01 level (2-tailed).

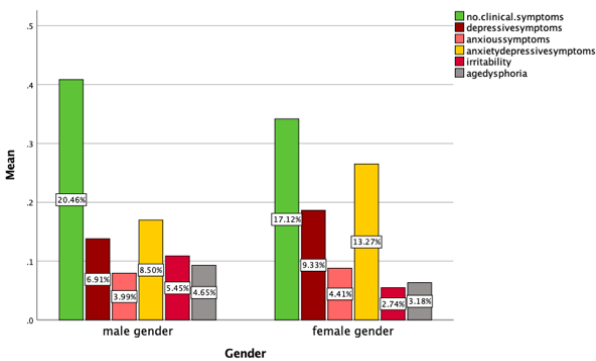
The processed data show an increased incidence of 64.29% of people who show negative affective clinical symptoms: depressive symptoms, anxiety-depression, anxiety, irritability and age dysphoria (Fig. 2).

Figure 2. Emotional level distributions



The correlation with the gender variable of the types of negative affective symptoms identified indicates a higher rate of symptoms of depression, anxiety and anxiety-depression associated with the female gender and a higher presence of irritability and age dysphoria, in males (Fig. 3).

Figure 3. Distribution of affective symptoms by gender

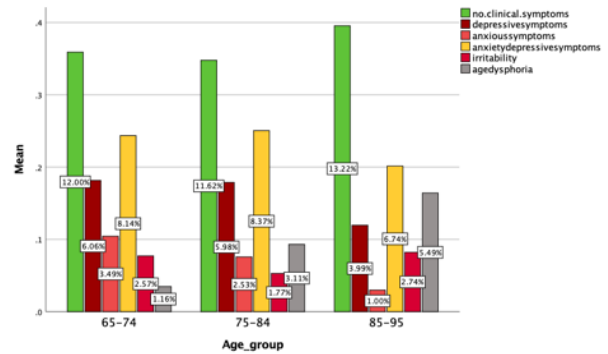


In this study we introduced two concepts that we intend to explore and operationalize in detail in the next stages: age dysphoria and age-related stress. By age dysphoria we imply those natural emotional changes, which occur with age and which do not fit into the picture of a clinical disorder. Confronting the changes that age implies: retirement, the occurrence of health problems, the loss of a partner, modifications in financial income, the prospect of death, has an impact on the emotional dynamics of the elderly. The manifestations of age dysphoria do not fall within the clinical context of a depressive disorder.

The age distribution of affective symptoms (Fig. 4) shows the highest incidence of anxiety symptoms for the 65-74 age group. Anxiety-depressive symptoms show the highest incidence in the age group 75-84 years. Aging is associated with a gradual increase with age of dysphoria at the same time as a decrease in depressive and

anxiety symptoms. The 85-95 age group correlates with the highest share of a generally positive mental tone.

Figure 4. Distribution of affective symptoms by group age



There is a correlation between the usual conditions of living alone or with a partner and specific emotional symptoms. The correlation is significant at 0.01 level (2-tailed) and at the 0.05 level (2-tailed). Men living alone experience a greater proportion of irritability and age dysphoria while being a woman associates with depressive and anxious-depressive symptoms (Fig. 5). The data obtained indicate a higher incidence of emotional symptoms in the case of females living with their partner than those who are single (Fig. 6). The same finding was not identified in the case of males.

Figure 5. Correlation between living alone and affective symptoms

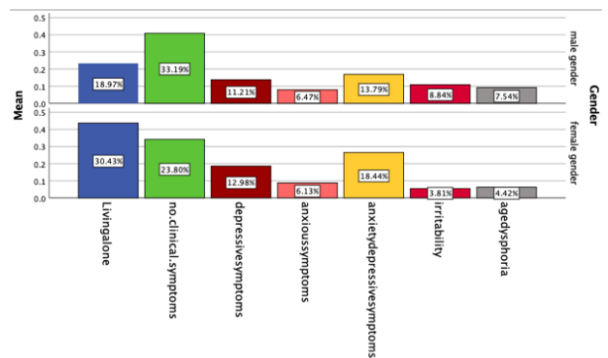
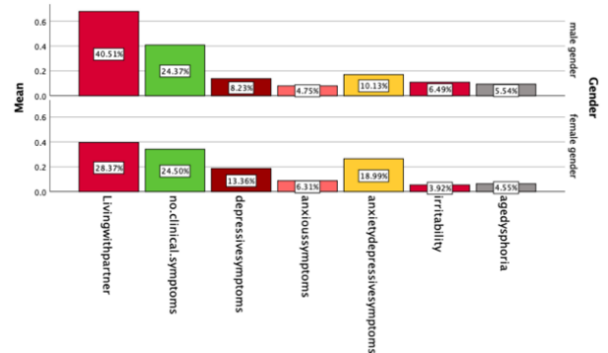
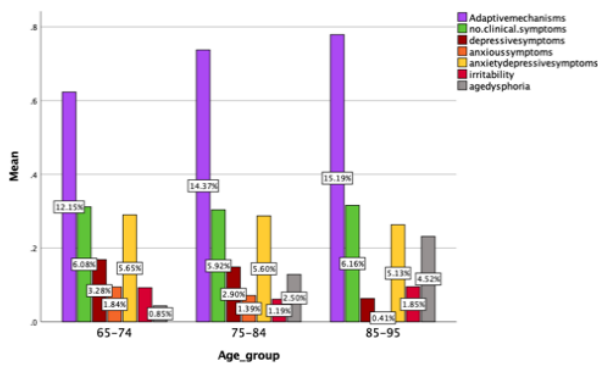


Figure 6. Correlations between living with partner and affective symptoms



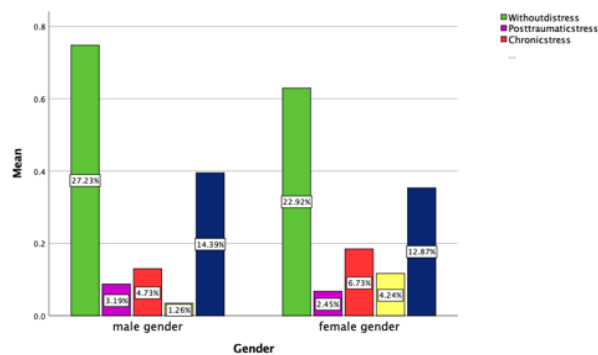
The analysis of the relationship between the presence of adaptive coping mechanisms and the management of depressive, anxious and anxious-depressive affective symptoms indicates the existence of an inversely proportional correlation. The correlation is significant at the 0.01 level (2-tailed). A high level of them is associated with a low rate of affective symptoms. The age group 85-95 years shows the highest presence of adaptive coping mechanisms, compared to the other two groups (Fig. 7). In fact, the lowest presence of negative affective symptoms is observed in this age group.

Figure 7. Correlations between adaptive mechanisms and affective symptoms



The presence of adaptive coping mechanisms correlates with better management of age-related stress and other types of stress. Gender distribution indicates a slightly higher presence of adaptive coping mechanisms in males, which is associated with a lower incidence of the presence of chronic stress, but not of age-related stress.

Figure 8. Different types of stress by gender



Considering the sample, the distribution according to the type of stress indicates a high share of chronic stress: 17.29% and a relatively high share of age-related stress: 35.53%. By age-related stress, the second concept we intend to explore in detail, we imply those situations faced by the person over 65 due to aging

and which leave their mark on all levels of life: somatic, cognitive, emotional, psychophysiological and social. Retirement, associated with declining financial income and loss of professional identity, the emergence of health problems and new age-related limitations, the loss of life partner associated with declining social life, the emergence of future issues associated with the idea of the meaning of life are new issues the elderly face and to which this concept refers. Gender distribution indicates a higher incidence of age-related stress in males and chronic stress in females (Fig. 8).

The presence of age-related stress correlates with the existence of anxious-depressive symptoms, depressive symptoms and age dysphoria (Table 3).

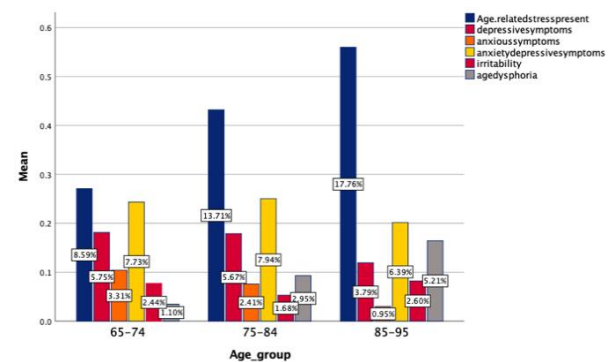
Table 3. Correlation between age-related stress and affective symptoms

		Correlations					
		Age related stress present	depressive symptoms	anxious symptoms	anxiety depressive symptoms	irritability	agedysphoria
Age related stress present	Pearson Correlation	1	-.052*	.007	.181**	.014	.293**
	Sig. (2-tailed)		.035	.768	.000	.572	.000
depressive symptoms	Pearson Correlation	-.052*	1	-.141**	-.261**	-.124**	-.127**
	Sig. (2-tailed)	.035		.000	.000	.000	.000
anxious symptoms	Pearson Correlation	.007	-.141**	1	-.174**	-.082**	-.084**
	Sig. (2-tailed)	.768	.000		.000	.001	.001
anxiety depressive symptoms	Pearson Correlation	.181**	-.261**	-.174**	1	-.152**	-.156**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
irritability	Pearson Correlation	.014	-.124**	-.082**	-.152**	1	-.074**
	Sig. (2-tailed)	.572	.000	.001	.000		.003
agedysphoria	Pearson Correlation	.293**	-.127**	-.084**	-.156**	-.074**	1
	Sig. (2-tailed)	.000	.000	.001	.000	.003	
	N	1638	1638	1638	1638	1638	1638

*. Correlation is significant at the 0.05 level (2-tailed).
 **. Correlation is significant at the 0.01 level (2-tailed).

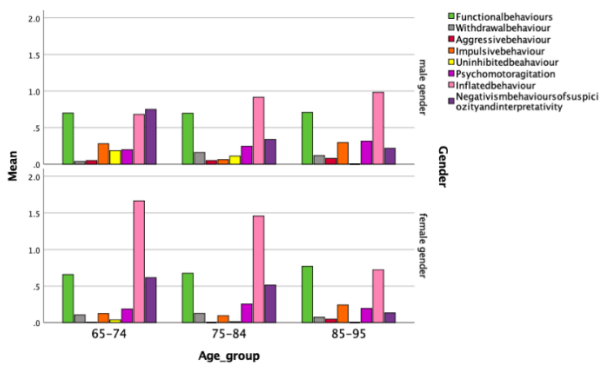
From the age point of view, this type of stress gradually increases with age, simultaneously with age dysphoria (Fig. 9).

Figure 9. Age-related stress and affective symptoms by age group



The distribution of behavioral variables shows the highest incidence for attitudes and behaviors of emotional exacerbation. There is a gradual decrease, with age, of these types of attitudes in females and an increase in males. For both genders there is a decrease with age of suspicious and interpretive behaviors (Fig. 10).

Figure 10. Distribution of behavioral attitudes by group age



The gender distribution of behavioral attitudes indicates a higher share of these types of emotionally exacerbated behavioral attitudes for women: 42.27%. Regarding the emotional level, in the case of women, this emotional exacerbation is associated with depressive and anxious-depressive symptoms, and in the case of men with anxious-depressive symptoms, irritability and age dysphoria (Fig. 11).

Figure 11. Correlation between inflated behavior and affective symptoms

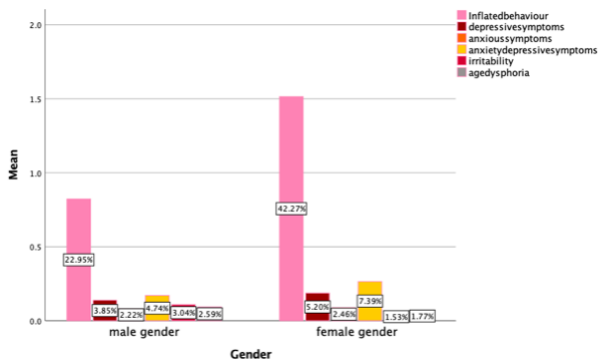
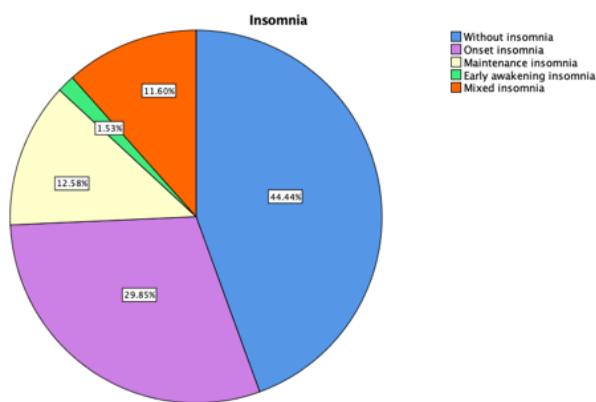


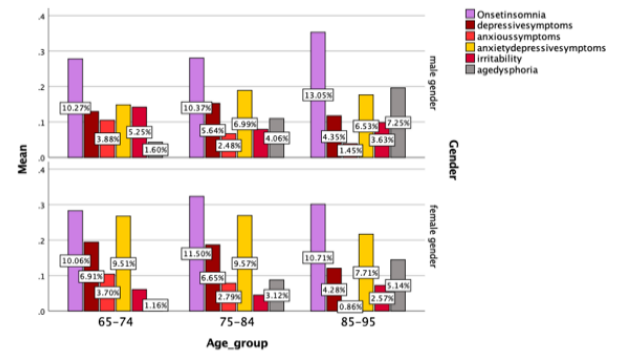
Figure 12. Types of insomnia



The data obtained show a high incidence of people experiencing insomnia (of various types):

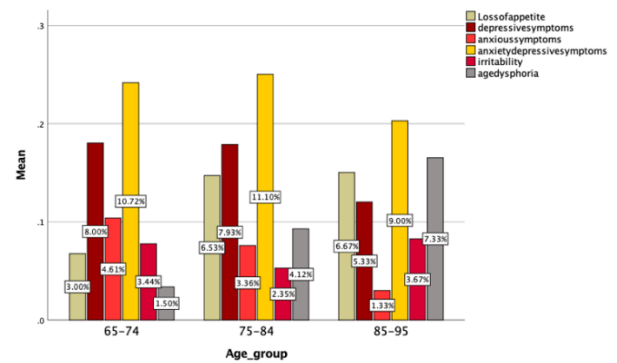
55.56% (Fig. 12). There is a correlation between the emotional level and the different forms of insomnia and between the emotional level and the appetite. Correlation is significant at the 0.01 level (2-tailed).

Figure 13. Correlation between affective symptoms and onset of insomnia



Regarding the emotional level, the presence of initiation insomnia (29.85%) is associated with depressive and anxiety-depressive symptoms. There is no significant difference depending on the gender variable. There is a slight, gradual increase in the incidence of initiation and mixed insomnia as we age (Fig. 13).

Figure 14. Correlation between loss of appetite and affective symptoms



At emotional level, the presence of a low appetite, the modified type of food appetite with the highest incidence in the elderly (10.81%), correlates with the manifestation of age dysphoria. There is a gradual decrease in appetite with age, associated with the onset and increase of age dysphoria (Fig. 14).

The presence of an affective symptomatology is associated with a change in the interrelational level, especially in the case of females. A modified interrelational level correlates with the presence of stress (age-related stress and chronic stress) and the associated negative affective symptoms. A higher incidence of age-related irritability and dysphoria was identified in males and a

higher presence of anxiety-depressive symptoms in women associated with an interrelated altered plan (Fig. 15-16). Correlation is significant at the 0.01 level (2-tailed). There is a gradual increase in the modified social plan with age, people in the age group 85-95 years manifesting the highest incidence of this modified social plan. Age dysphoria correlates best with the altered relational plan.

Figure 15. Maintained social level and affective symptoms

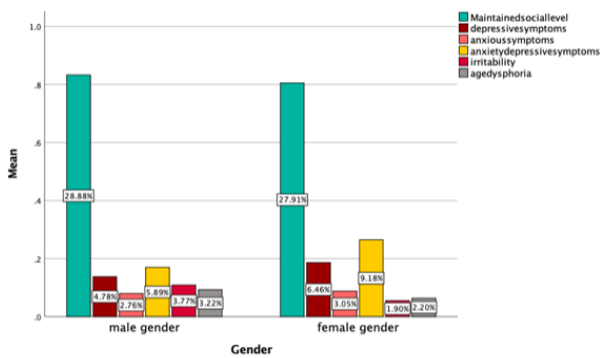
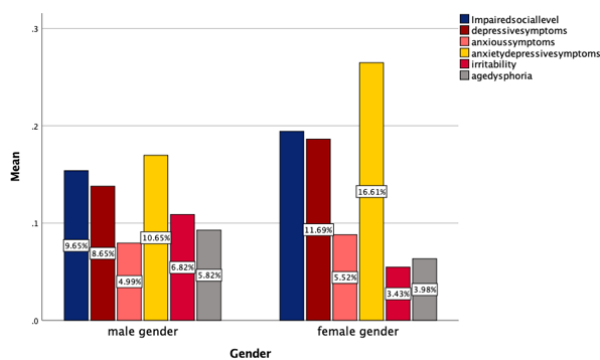


Figure 16. Impaired social level and affective symptoms



At cognitive level, the presence of a mild cognitive deficit is emotionally associated with the existence of depressive, anxious and anxious-depressive symptoms, but is not associated with depressive disorder as a clinical entity.

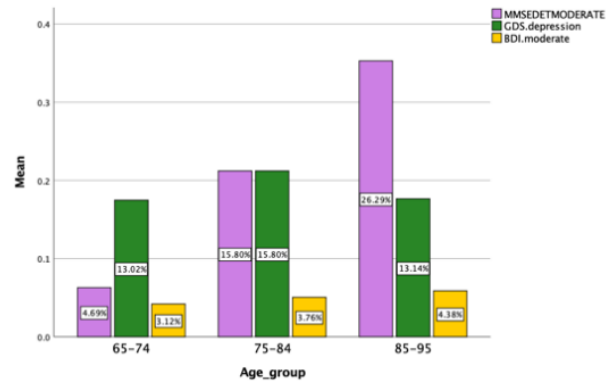
Table 4. Correlation between depressive disorder and moderate and severe cognitive impairment

		Correlations							
		GDS.depression	BDI.moderate	BDI.severe	MMSDET/MODERATE	MMSDET/SEVERE	MuCA.det.moderate	TCA	TCS
GDS.depression	Pearson Correlation	1	.316**	.572**	.091*	-.009	.014	.095*	.092**
	Sig. (2-tailed)		.000	.000	.002	.750	.648	.029	.002
	N	1155	259	263	1155	1155	961	1135	1135
BDI.moderate	Pearson Correlation	-.316**	1	-.072	-.034	-.271**	-.014	-.032	-.049
	Sig. (2-tailed)	.000		.243	.581	.000	.820	.606	.434
	N	259	263	263	263	263	263	260	260
BDI.severe	Pearson Correlation	.572**	-.072	1	.057	-.020	.020	.055	.181**
	Sig. (2-tailed)	.000	.243		.355	.752	.752	.377	.003
	N	259	263	263	263	263	263	260	260
MMSDET/MODERATE	Pearson Correlation	.091**	.034	.057	1	-.024	.109**	.143*	.217**
	Sig. (2-tailed)	.002	.181	.155		.332	.009	.000	.000
	N	1155	263	263	1638	1638	1444	1611	1611
MMSDET/SEVERE	Pearson Correlation	-.009	.271**	-.020	-.024	1	.048	.031	.150**
	Sig. (2-tailed)	.750	.000	.752	.332		.071	.212	.000
	N	1155	263	263	1638	1638	1444	1611	1611
MuCA.det.moderate	Pearson Correlation	.014	.014	.020	.109**	.048	1	-.006	.135**
	Sig. (2-tailed)	.668	.820	.752	.000	.071		.814	.000
	N	961	263	263	1444	1444	1444	1419	1419
TCA	Pearson Correlation	.065*	-.032	.055	.143*	.031	-.006	1	-.067**
	Sig. (2-tailed)	.029	.406	.377	.000	.212	.814		.009
	N	1135	260	260	1611	1611	1419	1611	1611
TCS	Pearson Correlation	.092**	.049	.181**	.217**	.310**	.135**	-.067**	1
	Sig. (2-tailed)	.002	.434	.003	.000	.000	.000	.007	
	N	1135	260	260	1611	1611	1419	1611	1611

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

There are no significant differences in dependence on the gender variable. We find a correlation between depressive disorders, diagnosed, and moderate cognitive impairment. Correlation is significant at 0.01 level (2-tailed) (Table 4).

Figure 17. Moderate cognitive impairment and depressive disorder



The distribution according to the age variable indicates the presence of a moderate, diagnosed cognitive deficit, which correlates with a depressive disorder, especially for the age group 65-74 and 75-84 years (Fig. 17). In the age group 65-74 years, there is a reverse proportional relationship: the presence of a moderate incidence of moderate cognitive deficit is associated with an increased presence of depressive disorder. In the age group 75-84 years, a close correlation was obtained between the two variables and an increase in the incidence of both cognitive deficit and depressive disorder. In the age group 85-95 years, there is an increase in the incidence of moderate cognitive deficit correlated with a decrease in depressive symptoms.

IV. Discussions and perspectives

The main objective of this article was to identify the impact that various factors involved in the dynamics of the aging process have on psychoemotional aspects. The variation of the usual conditions occurring with age was one of the factors we considered. The data obtained comply with general data at European level, in the sense that there is an increased incidence of people living alone, especially among women. The differences, depending on the gender variable, identified at the psychoemotional level raise the question of whether women do not tolerate loneliness more easily, and hence even aging and its limitations.

The data obtained show that men bear a greater proportion of age-related stress (unlike women), which contain less functionally. They have a harder time

managing their age and limits and emotionally associate with irritability and age dysphoria. The conversely ability of females can be an explanation, along with the excess mortality of men, to explain the high incidence of women living alone. Once alone, they no longer seek to enter into partnerships and activate their coping mechanisms in order to adapt as effectively as possible. An argument in this regard was identified in the relatively lower extent of the presence of age dysphoria, on one hand, and in the fact that the incidence of more pronounced affective symptoms occurs in females living with their partner, on the other side. This finding, which we consider to be very important, is supported by other studies. Thus, according to a study conducted in 2002 in several European countries, on the influence of living conditions on life satisfaction, it is shown that women living with a partner are less satisfied with their lives than men (Gaymu, Springer & Stringer, 2012).

Age dysphoria is a concept that we propose and that we will operationalize and validate in the next stages of the longitudinal study. Age dysphoria refers to the psychoemotional reactions that occur in the process of adaptation to aging, in particular, related to the identification of an existential meaning. The literature is poor in addressing this topic and existing data often refer to the depressive disorder that occurs in response to aging. A study conducted in Sweden on 520 participants explored the phenomenon of existential problems that befall in the older people (Palmér et al., 2019). The main method of investigation was to conduct an interview that focused on the existential aspects which the person perceives and relates to his age. The questions from which the interview started were: "What does it mean for you to be older?", "What is the most important thing in your daily life?", "What does it mean to be healthy in old age?", "What do you think about the end of life?". The results obtained indicate the existence of a transition and a process of adaptation to age. This adaptation varies from person to person and from period to period, associating with different emotions, from ambiguity to uncertainty. This process either blocks the person's coping resources or opens up the opportunity to identify new ways to adapt. As we specified in the results concerning age dysphoria, we understand the cluster of emotional feelings such as: sadness, ideas and feelings of frustration and acceptance, diminishment of control and stress tolerance, loss of an existential meaning that cannot be clinically classified as a depressive disorder. The correct identification and framing of the elderly person's emotional feelings direct appropriate intervention strategies. We started from the idea and

validated the fact that age dysphoria correlates with the stress associated with age and in fact it is the affective symptom that best correlates with aging.

The association of a certain specific affective symptomatology according to the gender and age variable outlines the possibility of an adaptation of the intervention strategies and of a more targeted approach. The predilection of females to experience depressive and anxiety-depressive symptoms and adopt emotionally exacerbated behaviors, and of males for irritability and age dysphoria may add a degree of specificity to the interventions.

Age-related stress is the second concept we propose for validation and operationalization in the next stages. We believe that aging comes with a series of changes and challenges and is accompanied on an emotional level by a series of specific feelings that can be experienced as stress, to which the person must adapt. This hypothesis is supported by the identified inner psychoemotional dynamics. Thus, the onset of old age is accompanied by anxiety symptoms, which subsequently with age experience a decrease. We believe that entering a new stage of life that involves profound changes in identity: retirement, children leaving home, the occurrence of health problems, induces an emotional state of fear and brings with it a lot of worries. The new and the change are thus associated with a higher incidence of anxiety.

The anxious symptomatology that accompanies the onset of old age is replaced by an anxious-depressive symptomatology whose peak is in the stage 75-84 years, and which in turn will be replaced by an increased incidence of age dysphoria in the age group 85-95 years. The addition of age-related stress to other stresses that the person is experiencing should be considered in approaching the elderly person. Finding the impact that aging has on the psychophysiological and inter-relational levels is an additional argument in considering age-related stress.

We further aim to explore in depth the types of adaptive coping mechanisms involved and to identify other factors that intervene and explain the different ways in which people age.

V. Conclusions

The obtained data show that aging is accompanied emotionally by a specific symptomatology and that there are a number of individual differences that occur in the process of adaptation to age, depending on a number of factors: gender, usual conditions, the existence of adaptive coping mechanisms.

- Increased incidence of older people living alone – 39.13% in the sample of 1638 subjects.
- Increased incidence of females living alone – 43.69% compared to 23.34% of males living alone.
- Males are emotionally associated with irritability and age dysphoria.
- Females show, from an emotional point of view, to a greater extent, depressive and anxious-depressive symptoms.
- Confrontation with a new stage of life (age group 65-74 years) is associated with increased anxiety symptoms.
- The age group 75-84 years is associated with an increased incidence of anxiety-depressive symptoms.
- Emotionally exacerbated attitudes and behaviors have the highest incidence in the behavioral sphere explored. Distribution according to the gender variable indicates a gradual decrease with age in females and a gradual increase with age in males.
- Age dysphoria increases gradually with age.
- Increased incidence of age-related stress – 33.53% in people included in the study.
- Age dysphoria correlates most with age-related stress.
- The presence of adaptive coping mechanisms is associated with better stress management by reducing anxiety, depressive and anxiety-depressive symptoms.
- Increased incidence – 55.56% of people experiencing insomnia.
- Increased incidence – 29.85% of initiation insomnia associated with depressive and anxiety-depressive symptoms.
- Aging is associated with a loss of appetite at the same time as the onset and increase of age dysphoria.
- The interrelational sphere undergoes changes in relation to the stress associated with age and the related negative affective symptoms.

Another category of factors that we considered in this article was the presence of adaptive coping mechanisms and the way in which they place their stance on the management of psychoemotional dynamics generated by gerontogenesis. The presence of adaptive mechanisms leads to a better containment of the stresses that the person faces, by alleviating an irritating affective symptomatology. However, it seems that they have a reduced influence in the management of age dysphoria and implicitly of the stress associated with age, especially in the case of males. This finding opens a wide range of questions about the most appropriate ways to intervene in the management of negative emotions generated by aging.

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