

# Analysis of the Association of Psychological Symptoms with Successful Aging Strategies and Spirituality in Elderly People

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**Abstract**—*Taking into account the increase in longevity and the positive and negative aspects brought by the aging process, the elderly often go through many losses. In this process, elderly people may be affected by physical and psychological problems, leading them to create or not strategies for aging well. The aim of this research is to analyze the association between psychological symptoms with spirituality and strategies for successful aging in the elderly. This study consists of a quantitative, correlational and cross-sectional research. The sample consisted of 49 people over 60 years of age, who actively participated in computing groups in the city of Novo Hamburgo, Brazil. The instruments used were the Selection, Optimization and Compensation Scale (SOC), the Symptom Assessment Scale (SAS-40) and the Spirituality Scale. Descriptive statistical analyzes, correlation by Spearman's test and linear regression by stages were performed. The results showed significant relationships between the psychological symptoms of anxiety, obsessiveness/compulsiveness, psychoticism and somatization. Spirituality, especially hope and optimism, and strategies to promote successful aging, especially optimization, are relevant aspects for the reduction and control of these psychological symptoms. Hope, optimism and optimization are strategies that allow subjects to control the symptoms of psychoticism and obsessiveness. Hope and optimism aid in the control of anxiety and optimization helps in the somatization symptom. Based on these results, our conclusion is that it is necessary to improve public policies to allow the elderly to have opportunities to optimize their potential and develop hope and optimize the promotion of mental health.*

## I. INTRODUCTION

Taking into account the increase in longevity, a perception on the aging process is of utmost importance, which begins from birth and extends throughout life. Mari et al. [1] refer that the perception about one's own health has a great impact on the aging process and is of great

importance to adopt a healthy lifestyle. According to the authors, this perception can be positive or negative, depending on each person. A negative perception of one's own health can lead to pain, discomfort, and illnesses and could be related to cultural, social, psychological and environmental factors. The authors understand that in order to have strategies for aging well, it is necessary for

people to develop a positive perception of their lives, so that they can cope with working in terms of their physical, psychological, social and spiritual well-being.

The strategies for successful aging do not depend only on the individual's own perception and positive acceptance. In fact, this process is not possible without the improvement of public policies. Miranda, Mendes and Silva [2] refer that advances in the field of health and technology are contributing to a better quality of life for elderly people. But it is still necessary that investments in preventive actions throughout the mortality process continue to be made, to solve current challenges and the ones still to come. The authors show that the continuous increase in the elderly population has led the countries to understand more and more about the aging process to seek alternatives to enable the largest possible number of elderly people to be socially and economically integrated and independent. However, in Brazil, there is still a lot of work to be done to respond to these demands.

According to Brito et al. [3] the involvement in social activities has a therapeutic effect, in which it deals with positive and affective relationships. Connecting with other people important to your life can prevent illnesses caused by stress, contributing to health and healing, adding more years to one's life. The absence of social contacts in the lives of the elderly is considered as harmful as conditions such as smoking, high blood pressure, obesity and the loss of physical activity, which can affect or aggravate health problems, not only due to inappropriate habits and diseases, but also by reducing the quantity and quality of social relations.

According to Fernandes [4], loneliness, the act of doing nothing, freedom at all times, becomes a burden, forcing people to rebuild their lives. When this stage is reached, several other threats appear, as the years go by, such as the desire not to become a burden to anyone and the suffering of losses in general, organics, physis, cognitive and of family and friends. It is at this stage that people try to avoid the impression of disability and worthlessness. Rocha [5] says that, as changes in the aging process range from mental aspects, of the very own personality, people's motivations and social skills, that is, from the psychological point of view, aging depends on genetic, pathological, of individual potential with interference from the environment and the socio-cultural context. Therefore, in dealing with some of these issues the elderly may be concerned, they may experience negative feelings and have no support, especially from the ones around them and psychological problems may arise.

Among the innumerable psychological problems that can affect the elderly, this study seeks to deepen the topic

in four dimensions that are part of one of the measures applied. They are somatization, anxiety, obsessiveness/compulsiveness and psychoticism. According to Santos, Pereira and Martins [6], somatization is determined by repressed aspects of the unconscious and involves several mechanisms, in particular, the repressed content that can be integrated into the psyche. Costa et al. [7] refer that anxiety is an arrangement of feelings such as fear, apprehension and worry, which causes anxiety and refers to physiological responses to any stimulus that the brain considers dangerous or threatening. According to Maia et al. [8] obsessions are thoughts or ideas, impulses, images, scenes, that is, mental attitudes that invade the conscience in an involuntary and repetitive way. Since compulsions can happen as obsessions or not, they are repeated behaviors or mental acts that each person has as rituals to be followed. According to Sisto and Oliveira [9], psychoticism concerns a predisposition for people to be tough, cold, aggressive, less concerned with others and to tend to be insensitive and hostile.

According to Arrieira et al. [10], the World Health Organization establishes new rules that expand the concept of health. According to the organization, it is no more only the absence of a disease, but also physical, psychological, social and spiritual well-being. Taking these changes into account, more and more research is showing that spiritual beliefs influence the coping with diseases and reiterate that health professionals must obtain a spiritual history of patients with chronic and severe illnesses or disabilities. They document it as it is already done in relation to physical and psychological aspects. As referenced by Thiengo et al. [11], international studies show that health professionals reflect on the need to address and meet the spiritual needs of their patients, regardless of their personal beliefs. But, as they think the issue goes beyond their role, they resist in dealing with it.

In addition, the authors report that in Brazil, courses that approach the subjects of religion and spirituality are rare, but the professionals, in their majority, are in favor of courses that prepare them about themes such as these in their academic training. The authors refer that according to studies, faced with situations of illness, people tend to express their spiritual beliefs. Therefore, both the subject being treated and his family can receive benefits from some spiritual assistance, if there is an awareness of professionals in this context.

This study aimed to analyze the association between the psychological symptoms of somatization, anxiety, obsessiveness/compulsiveness and psychoticism with strategies for successful aging and spirituality in elderly people who actively participate in a computing group in

the city of Novo Hamburgo, in Rio Grande do Sul (RS), Brazil.

## II. METHOD

The present study has a quantitative, descriptive, correlational and cross-sectional design. A survey was conducted in the city of Novo Hamburgo, RS in partnership with the Directorate of Digital Inclusion of the Municipal Administration Secretariat (SEMAD) of the Municipality of Novo Hamburgo, RS, Brazil.

The sample of this study was non probabilistic, chosen by convenience and comprises 49 participants, of both genders, aged over 60 years. In this study, the instruments used to evaluate successful aging strategies were applied through the Selection, Optimization and Compensation Scale (SOC). Successful development and aging are based on goal selection, optimization of means to reach these goals and on the search for compensation when the means to reach the goals are not available. This instrument evaluates the use of life management strategies. The psychological aspects were applied by the Symptom Assessment Scale - 40 (SAS-40), which measures the characteristics of somatization, anxiety, obsessiveness/compulsiveness and psychoticism and, finally, spirituality was evaluated through the Spirituality Scale, which evaluates to what extent people use spirituality, beliefs, hope and optimism.

## III. RESULTS

The results showed that the average age of the sample of 49 elderly men and women, who regularly participate in computing activities promoted by the municipality of Novo Hamburgo, Brazil was 69, 73 years (sd 6.085), with a minimum age of 60 years and the maximum of 84 years. A total of 43 women (87.8%) and 6 men (12.2%) participated in this study. Regarding the level of education, 34.7% of people had incomplete primary education, 16.3% complete primary education, 16.3% incomplete secondary education, 8.2% complete secondary education, 2% technical education 10, 2% incomplete higher education and 12.2% complete higher education.

Table 1 shows that in relation to the variables studied, the psychological symptoms that stand out the most are somatization and obsessiveness/compulsiveness. Regarding the strategies for successful aging (SOC), we noted that the most used strategy is the loss-based selection. Finally, spirituality demonstrated a similar result for both the beliefs and hope/optimism.

Table 1: Descriptive analysis of the psychological symptoms, successful aging strategies and spirituality (N=49)

Variable	Min.	Max.	Mean	Sd
Somatization	0	20	7.98	4.49
Anxiety	0	12	3.31	3.38
Psychoticism	0	11	3.02	3.05
Obsessiveness/Compulsiveness	0	18	6.88	3.83
SOC	3	11	7.35	1.96
Elective Selection	0	3	1.88	0.90
Loss-Based Selection	0	3	2.14	0.76
Optimization	0	3	1.65	0.72
Compensation	0	3	1.67	0.92
Spirituality	9	20	16.30	2.94
Beliefs	2	4	3.39	0.64
Hope/Optimism	2	4	3.17	0.68

In this study, correlation analyzes were performed by using the Spearman test to evaluate the association of psychological variables. Therefore, associations were found between the somatization and anxiety variables ( $\rho=0.407$ ;  $p=0.004$ ), psychoticism ( $\rho=0.430$ ;  $p=0.002$ ) and obsessiveness/compulsion ( $\rho=0.449$ ;  $p=0.001$ ). The psychological symptom of anxiety also showed a relation with psychoticism ( $\rho=0.559$ ;  $p=0.000$ ) and obsessiveness/compulsion ( $\rho=0.634$ ;  $p=0.000$ ). And psychoticism had a relation with obsessiveness/Compulsion Psychotherapy ( $\rho=0.529$ ;  $p=0.000$ )

Table 2 shows the continuation of the correlation analyses of the Psychological Symptoms (PS) of Somatization (S), Anxiety (A), Psychoticism (P) and Obsessiveness/Compulsiveness (O/C) with the statistics of successful aging (SOC) subdivided into the strategies of elective selection (ES), loss-based selection (LBS), optimization (O) and compensation (C), as well as with spirituality (S) subdivided into the Beliefs (B) and Hope/Optimism (H/O). The outcomes pointed out that somatization is applied inversely to successful aging rates, that is, the more the elderly manage to improve the use of successful aging experiences, the less they will develop somatization symptoms. In relation to anxiety and psychoticism, we identified that the decrease of these symptoms is positively related to the increase in spirituality, in particular hope/optimism. Finally, the reduction in obsessiveness/compulsion symptoms is related to the increase of the skills and abilities optimization strategy, as well as hope/optimism.

Table 2. Bivariate correlations of psychological variables with strategies for successful aging and spirituality (N=49)

PS		SOC	ES	LBS	O	C	S	B	H/P
S	rho	-0.314 *	-0.214	-0.183	-0.232	0.001	-0.217	-0.117	-0.219
	p	0.028	0.141	0.208	0.108	0.995	0.143	0.435	0.140
A	rho	-0.031	-0.089	0.037	-0.002	-0.056	-0.350 *	-0.231	-0.363 *
	p	0.832	0.543	0.801	0.988	0.702	0.016	0.118	0.012
P	rho	-0.110	-0.160	-0.024	-0.061	-0.038	-0.508 **	-0.260	-0.582 **
	p	0.452	0.273	0.872	0.679	0.797	0.000	0.077	0.000
O/C	rho	-0.248	-0.212	-0.154	-0.284 *	0.033	-0.231	-0.108	-0.291 *
	p	0.085	0.144	0.290	0.048	0.820	0.119	0.471	0.048

\* correlation is significant at  $\leq 0.05$   
 \*\* correlation is significant at  $\leq 0.05$

Table 3 shows a linear regression analysis carried out by the stepwise method, with a significance level of  $\leq 0.05$ , with the somatization psychological symptom variable (dependent, explained) directly related to the psychoticism variable and indirectly related to the optimization strategy (independent, explanatory).

Table 3: Multiple linear regression of the somatization variable in elderly people who regularly participate in digital inclusion groups (n = 49)

Model	Nonstandard coefficients		Standardized coefficients		Collinearity statistics		
	B	Error	Beta	T	Sig.	Tolerance	VIF
(Constant)	7.923	1.399		5.665	0.000		
Psychoticism	0.733	0.162	0.545	4.522	0.000	1.000	1.000
Optimization	-1.528	0.720	-0.256	-2.123	0.039	1.000	1.000

In this model, a 0.361 R-squared ( $R^2$ ) was obtained. This determination coefficient is a measure of the efficiency of the regression equation. It indicates that 36.1% of the changes in the somatization symptom can be explained by the changes in the psychoticism symptom and the optimization strategy. In this group, it is clear that the control of somatization is associated with the control of psychoticism and the increase in the successful aging strategy of optimization.

Table 4 presents a linear regression analysis carried out, by the stepwise method, with the psychoticism psychological variable directly related to the obsessivity/compulsiveness, somatization and optimization variables and indirectly related to hope/optimism.

In this model, a 0.632 R-squared ( $R^2$ ) was obtained, indicating that 63.2% of the changes in the psychoticism symptom can be explained by changes in the other variables. Consequently, in this sample, the control of the psychoticism symptom is associated with the control of the obsessiveness/compulsiveness and somatization symptoms, as well as to the decrease of the use of

optimization and the increase or the hope/optimism strategies.

Table 4: Multiple linear regression of the psychoticism variable in elderly people who regularly participate in computing groups (n = 49)

Model	Nonstandard coefficients		Standard coefficients		Collinearity statistics		
	B	Error	Beta	T	Sig.	Tolerance	VIF
(Constant)	4.255	2.031		2.095	0.042		
Hope/Optimism	-1.962	0.454	-0.435	-4.317	0.000	0.862	1.160
Obsessiveness / Compulsiveness	0.264	0.092	0.322	2.873	0.006	0.696	1.437
Somatization	0.237	0.081	0.319	2.917	0.006	0.730	1.369
Optimization	0.878	0.433	0.198	2.025	0.049	0.919	1.089

Table 5 presents a linear regression analysis performed by the stepwise method, with the obesity/compulsivity psychological variable directly related to the psychoticism and anxiety variables and indirectly related to the optimization variable.

Table 5: Multiple linear regression of the obsessiveness/compulsiveness variable in elderly people who regularly participate in computing groups (n = 49)

Model	Nonstandard coefficients		Standard coefficients		Collinearity statistics		
	B	Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	6.233	1.134		5.495	0.000		
Psychoticism	0.465	0.154	0.381	3.032	0.004	0.723	1.383
Anxiety	0.426	0.137	0.391	3.105	0.003	0.721	1.388
Optimization	-1.411	0.581	-0.260	-2.430	0.019	0.995	1.005

In this model, a 0.50 R-squared ( $R^2$ ) was obtained, which indicates that 50.9% of the changes in the obsessiveness/compulsion symptom can be explained by changes in the other variables. Therefore, in this sample of elderly people who practice computing activities regularly in the municipality of Novo Hamburgo, the results demonstrated that the control of the obsessiveness/compulsion symptoms is associated with the control of psychoticism and anxiety, as well as with increasing the optimization strategy to promote successful aging.

#### IV. DISCUSSION

In the present study, conducted with elderly people who actively participate in digital inclusion groups in the municipality of Novo Hamburgo, the relation between psychological symptoms of somatization, anxiety, obsessiveness/compulsiveness, psychoticism and the relation of these symptoms with the development of successful aging and spirituality was evaluated.

In the correlation and linear regression analyzes with one variable, the psychological symptom of somatization,



a relation with anxiety, psychoticism, obsessiveness and successful aging strategies was found, especially with optimization. According to Santos, Pereira and Martins [6], somatization appears as a result of experiences or emotional content, which for some reason is not verbalized or released and end up manifesting in the body as a symptom, revealing negative, repressed and unconscious content. Therefore, psychological illnesses can affect a large number of elderly people due to losses in general, the idle time that a retirement may bring, as well as the lack of people to live with.

The construction process of the elderly is related to a network of physical, psychological, social, economic, cultural and spiritual factors. According to Rocha [5], the old age is accompanied, in most cases, by feelings beyond the alterations of the body. Old age can occur associated with a series of psychological changes that eventually block adaptation to new roles. The author refers that at this stage, the subjects begin to reflect on what they did, or stopped doing, and on the meaning of their achievements, each one with their subjectivity. And this process gives rise to concerns and, consequently, negative feelings that, due to the lack of support by close people or from a support network, result in changes in biological and psychological factors, leading to depressive conditions, hypochondria, somatization, low self-esteem, among others. In the present study, we identified that the elderly people who do not present somatization as a symptom are able to organize themselves internally and socially, thus avoiding anxiety, obsessiveness/compulsiveness and psychoticism, but, most importantly, they are able to develop good strategies to adapt to new roles and use their time wisely, thus minimizing the impacts caused by preoccupations and negative feelings related to the aging process. Therefore it becomes important to this group the use of the optimization strategy to age well.

In this sense, Antunes and Almeida [12], demonstrate that the educational groups currently occupy the role of preparing the elderly by optimizing their skills for phases in which the living conditions undergo changes, enabling them to face new challenges, facilitating the access to knowledge and training in various areas and culture. The elderly people who participated in this research attend a computing group on a weekly basis, as well as other activities offered by the municipality, demonstrating a good strategy for aging. However, these attitudes of the elderly and society do not impede the perception of losses, which, when improperly worked, individually or collectively, may lead to the somatization of many symptoms associated with anxiety, obsessiveness/compulsiveness and psychoticism.

Rodrigues and Martins [13] refer to public policies, and argue that due to the increase in the elderly population, strategies and practices that guarantee this population a better quality of life have been discussed more frequently. Accessibility, mobility, social relationships, opportunities to participate in the management of the city, access to culture, innovation, improved skills, among other aspects, lead to successful aging. Also regarding public policies, Roque [14] says that, although there is more and more awareness of these improvements and more and more the elderly are inserted in educational and social groups, they experience difficulties in adapting to the new phase of life, in which they have to exchange professional activities for other actions, as well as to do something with all their free time. According to authors, even though the elderly people in our study actively participate in the computing group, those who have somatic symptoms attend only once a week the activities. However, on the remaining days of the week that may be at home, without a positive perspective, or even in need of other forms of interaction through which they could further expose their feelings and understand these psychological symptoms. In the end, this process is the result of a scarcity of strategies for aging.

The dimension of the psychological symptoms of anxiety demonstrated an association with the psychological symptoms of obsessiveness/compulsiveness, psychoticism and somatization, as well as spirituality, especially with hope and optimism, which becomes a protective factor for this type of symptom. These results corroborate with the study proposed by Baumont [15], which refers to anxiety as a physiological response to stimuli that the brain considers dangerous or threatening. It is an adaptive response used by people to protect themselves from threats or dangers. As Carvalho [16] comments, anxiety can also result from pleasant events, especially when they involve waiting, stimulating the person to act. The anxiety symptoms that appear the most are: insomnia, tension, anguish, irritability and difficulty in concentrating. According to the author, it is possible that anxious people tend to anticipate their inability to face stressful events and ask questions about their intellectual ability.

Colussi, Pichler and Grochot [17] refer that the family, caregivers and friends are present in the development process and the conception of aging happens through the perception of particularities of each family organization, social economic conditions and cultural, moral and spiritual values. According to the authors, the decrease in functional capacity and performance at work, the cognitive decline, the diseases and intergenerational conflicts are inherent obstacles to the aging process. When one faces a great number of negative factors in aging, Silva [18] says

that spirituality can be a coping resource for adverse situations, composing emotional and motivational aspects in the search for meaning in life. In regard to the emotional aspects, feelings of hope, comfort, affection and support should be included. In the motivational aspects, on their turn, a positive perception about life is to be included.

In this sense, elderly people in our sample, may participate in the computing group be due to anxiety, seeking new opportunities, hope and optimism. However, if they get frustrated with the activities, especially in relation to cognitive deficits, their experience can be negative. This situation can extend to other experiences in their lives, as these elderly people are active, independent and participate in different activities. However, the borders between the satisfaction with activities, the developed experiences and frustration may impact on determining the relation found in this study with somatization, obsessiveness/ compulsiveness and psychoticism. Therefore, strategies that enhance hope and optimism are relevant to the mental health of this group of elderly people.

In the correlation and linear regression analyzes with the psychological variable of obsessiveness/ compulsiveness, a relation was found with anxiety and somatization and the strategies for promoting successful aging, mainly with optimization and spirituality in relation to hope and optimism. Lima [19] states that obsessions are characterized as frequent, persistent thoughts, impulses or images, understood as unwanted, that end up causing suffering and anxiety to the individual. Compulsiveness refers to mental or repetitive acts that the person feels forced to perform in response to an obsession. Seabra et al. [20] demonstrate how resources of obsession and compulsion are symptoms of excessive and exaggerated, endless doubts, undesirable thoughts that cause disturbance, accumulation of useless objects and specific object alignment. The authors report that these symptoms can appear and disappear, or even improve or worsen throughout life. In this study, obsessiveness/compulsiveness appeared suggesting symptoms and not necessarily catering for all the symptoms described above to configure an obsessive or compulsive condition.

Kreuz and Franco [21] refer that human aging is a process that involves learning, development and maturation. However, the elderly individual, as time goes by, when facing with different losses, needs to perform an intense emotional understanding. According to the authors, even if aging depends on people's positive perception of this process, or the body and health suffer the impacts of degenerations and end up aging, becoming more and more likely to develop diseases. This situation raises concerns

that are, in a way, constant for the elderly. The results demonstrate that some participants in this study present symptoms of obsessiveness/compulsiveness, suggesting that they are excessively worried with their own aging process, noticing some physical and cognitive declines.

Furthermore, according to Kreuz and Franco [21], old age associated with diseases and unproductivity is still a frequent concept for the elderly, and is not perceived as a normal phase of development. Aging is experienced in a unique way. It is processed differently for each person, even if deeply culture-based. According to Aragão et al. [22], the interpersonal relationships, which are formed throughout a subject's life, are necessary to support the elderly to face the difficult situations that appear in old age, as they give resilience and enable people to use psychological resources to get around their emotional problems. Social relations are related to the execution of health controls, to the sense of stability and psychological well-being. By participating in computing groups, as well as of other available strategies, whether offered by the municipality or not, the elderly enhance their possibilities of coping strategies to face a successful aging process.

In line with these assumptions, Soares and Amorim [23] refer to the importance that spiritual/religious aspects can have in the development of a successful aging process. It seems important to consider that, when reaching an old age, the anxiety triggered by the understanding of finitude, causes a greater development of spirituality, which, in turn, presents feelings of gratitude for life, as well as hope, thus facilitating the confrontation with the aging process. The capacity of having hope and optimism about life seems to be related to the perception of a healthier life. According to the results obtained in this research, some of the elderly people studied showed symptoms of obsessiveness/compulsiveness, but, in those cases, the ability to develop optimization strategies was considered low, as well as hope and optimism thoughts. This situation demonstrates that these optimization and optimism difficulties, combined with the adversities in the aging process, can develop symptoms of greater rigidity on the tasks performed. These situations lead the elderly to fail to carry out their activities, causing frustration and the development of more symptoms of anxiety, somatization and social isolation.

The psychological symptom of psychoticism shows a significant relationship with anxiety, obsessiveness/ compulsiveness, somatization, strategies for promoting successful aging, especially with optimization and spirituality, specifically with hope and optimism. According to Sisto and Oliveira [9], psychoticism is one of the three traits used by psychologist Hans Eysenck in his P-E-N personality model that refers to psychoticism,

extraversion and neuroticism. Generally, people who have psychotic resources tend to feel more lonely and easily create problems with others, are reckless and take pleasure in disturbing others. They can be described as more self-centered and anti-social and are usually impulsive and have little feeling of empathy.

Santos et al. [24] it also states that the aging process has as one of its characteristics difficulties of adaptation or readaptation, so it is important that public policies direct their attention to this population and the transformations that this process brings, allowing the elderly to participate actively in the society. The communication skill in the aging process is quite valuable. Given the innumerable changes through which elderly people undergo, the difficulty of communication can cause social exclusion.

According to Lemos [25], spirituality helps subjects in decision-making scenarios, assists in the process of accepting suffering and has an important role in physical and mental health. Spirituality feeds hope and optimism, decreasing negative feelings and sadness, leads the person to feel more satisfied with the small things achieved. Sá et al. [26] also state that spirituality represents an important means of emotional support that reflects the significant shape in people's physical and mental health. The preservation of spirituality in the lives of the elderly acts as a coping resource for the main stressful issues, such as changes and losses. In this study, a small part of the sample demonstrated characteristics of psychoticism, in contrast, showed a decrease in spirituality, hope and optimism. This result may suggest that, due to the fact that these elderly people have negative predispositions influenced by the difficulties that affect the coming of old age, they cannot be optimistic and expected to reach their objectives, thus, they are incapable of action in favor of developing their spirituality. These elderly people, in addition to not being able to engage socially, are not able to have an adequate view of reality, with pleasure and optimism and, consequently, are unable to optimize their skills.

In the present study, we suggest that some of these elderly people who actively participate in the computing group may have gone through changes and had difficulties adapting to them, imparting a more negative view of life. In the context of computing itself they were challenged to learn something that, many times, they had not had any type of previous experience. Therefore, the importance of working along educational activities was identified, promoting optimization and optimism strategies and not allowing attitudes of social exclusion or anxiety and somatization to be strengthened.

## V. CONCLUSION

Longevity has both positive and negative aspects. A clear and optimistic perception of life, combined with coping strategies on losses and gains promote the development of psychological symptoms during the successful aging process of elderly people. On another perspective, a negative perception leads people not to have hope and optimism and also to be unable to develop strategies that compensate losses, which, in turn, causes physical and psychological diseases. Throughout the development process a balance between losses and gains is necessary and learning to deal with this proposition of successful aging is very important for the development of mental health of the elderly.

The results showed that the psychological symptoms of anxiety, obsessiveness/compulsiveness, psychoticism and somatization demonstrated a significant association. However, spirituality, especially hope and optimism, and strategies to promote successful aging, especially optimization, are relevant aspects for reducing and controlling these psychological symptoms analyzed in our sample of elderly people. Hope, optimism and optimization are strategies that allow people to control the symptoms of psychoticism and obsessiveness/compulsiveness. Hope and optimism aided in the control of anxiety and optimization in the somatization symptom.

The results of this study demonstrate the importance of developing public policies aimed at developing and implementing activities to promote spirituality strategies and optimizing the skills of the elderly to achieve compensation for possible losses that may occur concurrently with the development/aging process. In this sense, the importance of activities such as digital inclusion is reinforced, which promotes, combined with other activities, potentialities for the optimization of skills in old age. This study presented some limitations as it was conducted with people who participate in computing groups. A wider sample may be considered, so the relation between the psychological symptoms, the strategies for successful aging and spirituality in the elderly population of Novo Hamburgo or even in more than one city may be better understood.

Thus, we suggest new studies to be carried out with the aim of identifying differences in psychological symptoms, such as verifying the relations with other variables, both psychological and social. It is important to attain more and more knowledge about the elderly population so that improvements in public policies are increasingly implemented. Therefore, elderly people may age with quality of life.

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