



UNIVERSIDADE DA BEIRA INTERIOR
Ciências Sociais e Humanas

A Validation of the Brief Ageing Perceptions Questionnaire (B-APQ) Among Elderly Portuguese Adults

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Acknowledgments

These last 5 years have been a roller coaster of feelings. Despite all the difficulties, I managed to overcome them, but I could not do it alone. I was lucky to have amazing people right by my side. I thank you all from the bottom of my heart.

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Resumo Alargado

No âmbito do 2º ciclo em Psicologia Clínica e da Saúde, a presente dissertação está organizada em formato de artigo, tal como previsto no regulamento do grau de mestre em Psicologia da Universidade da Beira Interior. Assim, a dissertação teve como objetivo o aprofundamento de conhecimentos e competências de intervenção e de investigação em Psicologia, bem como o desenvolvimento de procedimentos metodológicos que permitiram a validação de um instrumento de avaliação sobre auto-perceções face ao envelhecimento e compreender as diferenças entre perceções, género e orientação sexual.

O estudo é de natureza quantitativa e a sua pertinência deve-se ao aumento mundial da população idosa, principalmente em Portugal, que é atualmente considerado um dos países da União Europeia com uma maior taxa de envelhecimento. Apesar do aumento de investigação nesta temática, é necessário investir mais no conhecimento relativo a esta faixa etária junto da população portuguesa, visto que irá fornecer informação importante que facilitará a planificação de programas de prevenção e intervenção. Conhecer as particularidades do processo de envelhecimento nas minorias sexuais é também uma necessidade, visto que é um assunto pouco estudado em Portugal.

Assim, os objetivos da investigação foram: (1) validar psicometricamente um instrumento de avaliação das auto-perceções face ao envelhecimento; e (2) comparar diferenças nas perceções entre géneros e orientações sexuais. A amostra (N) é de 722 participantes, em que 404 (55.9%) são homens e 318 (44.1%) são mulheres entre os 50 e 95 anos ($M=60.55$; $DP=9.23$). Dos 722 participantes, 76.5% identificaram-se como heterossexuais, 16.6% identificaram-se como homossexuais e 6.9% identificaram-se como bissexuais.

Os resultados do estudo 1 demonstraram que: (1) os índices de ajustamento do modelo foram adequados para todos os 5 fatores da versão portuguesa do modelo do B-APQ; (2) todos os fatores do B-APQ foram associados com o CES-D, o que demonstra uma relação entre auto-perceções e depressão; (3) os fatores 2 e 4 foram associados negativamente com o CES-D; (4) a análise da sensibilidade indicou que todos os itens apresentaram valores adequados; e (5) o alfa de Cronbach foi aceitável para todos os fatores da versão portuguesa do B-APQ, o que indicou que preservou a consistência interna da escala. Assim, devido aos resultados descritos, é possível afirmar que a versão portuguesa do B-APQ é válida e fidedigna, e pode ser aplicada na avaliação de perceções face ao envelhecimento em adultos mais velhos portugueses.

Do estudo 2, os resultados apresentam que: (1) diferenças estatisticamente significativas foram obtidas quando os géneros foram comparados, indicando que as mulheres apresentam maior sintomatologia depressiva; (2) para todos os fatores do B-APQ, não foram encontradas diferenças estatisticamente significativas quando comparados homens e mulheres; (3) foram encontradas diferenças estatisticamente significativas em níveis de depressão relativas à orientação sexual, em que os participantes que se identificam como heterossexuais apresentam maior sintomatologia depressiva; e (4) existem diferenças estatisticamente significativas para os fatores 2 e 4 do B-APQ, em que os participantes que se identificam como homossexuais tiveram uma pontuação mais baixa quando comparados com os indivíduos que se identificam como heterossexuais e bissexuais, o que indicou que estes apresentam perceções face ao envelhecimento mais negativas.

Neste sentido, e de acordo com os resultados obtidos, é necessário que as entidades institucionais percebam a importância de fornecer aos idosos, independentemente do seu género ou orientação sexual, as condições para atingirem um envelhecimento mais positivo e bem-sucedido. A presente dissertação contribui para o aumento de pesquisa na área do processo de envelhecimento, constituindo uma investigação que possibilita uma melhoria de boas práticas por parte dos psicólogos que intervêm com este tipo de população.

A secção final da dissertação inclui o material utilizado durante a investigação (anexo 3), a teoria que fundamentou este estudo (anexo 1) e o comprovativo de submissão do artigo elaborado na revista “*European Journal of Psychological Assessment*” (anexo 2).

Palavras-chave

B-APQ, validação, auto-perceções face ao envelhecimento, adultos mais velhos, género, orientação sexual.

Abstract

For the 2nd cycle in Clinical and Health Psychology, this dissertation is organized in an article format, as foreseen in the regulation of the master's degree in Psychology of the Beira Interior University. The purpose of this dissertation was to deepen the knowledge and skills of intervention and research in psychology, as well as the development of methodological procedures that allowed the validation of an evaluation measurement on self-perceptions regarding aging and to understand the differences between perceptions, sex and sexual orientation.

The study is of a quantitative nature and its relevance is due to the worldwide increase of the elderly population, mainly in Portugal, which is currently considered one of the European Union countries with a higher rate of aging. Despite the increase in research on this subject, it is necessary to invest more in the knowledge related to this age group with the Portuguese population, since it will provide important information that will facilitate the planning of prevention and intervention programs. Knowing the particularities of the aging process in sexual minorities is also a necessity, since it is a subject understudied in Portugal.

Therefore, the objectives of the research were: (1) to validate psychometrically an instrument to evaluate self-perceptions regarding aging; and (2) compare differences in perceptions between sex and sexual orientations. The sample (N) consisted of 722 participants, encompassing 404 (55.9%) males and 318 (44.1%) females between the ages of 50 and 95 years old (mean=60.55; SD=9.23). Of the 722 participants, 76.5% identified themselves as heterosexual, while 16.6% self-identified as homosexual and 6.9% identified themselves as bisexual.

The results of study 1 demonstrated that: (1) the model's goodness-of-fit indices were adequate for all 5 factors of the Portuguese version of the B-APQ model; (2) all factors of the B-APQ were associated with the CES-D, showing the link between aging self-perceptions and depression; (3) factors 2 and 4 were negatively associated with the CES-D; (4) the sensitivity analysis indicated that all items presented adequate scores; and (5) the Cronbach's alphas was acceptable for all factors in the Portuguese version of the B-APQ, indicating that it preserved the scale's internal consistency. Therefore, due to the described results, it is possible to affirm that the Portuguese version of the B-APQ is valid and reliable, and it can be applied when assessing aging perceptions among older Portuguese adults.

From study 2, the results show that: (1) statistically significant differences were obtained when comparing sex, indicating that women present greater depressive symptomatology; (2) for all B-APQ factors, no statistically significant differences were found

between men and women; (3) statistically significant differences in levels of depression based upon sexual orientation where found, with self-identified homosexual participants presenting more depressive symptoms; and (4) there are statistically significant differences for factors 2 and 4 of the B-APQ, as self-identified homosexual participants scored lower than their heterosexual and bisexual counterparts, indicating that they possess more negative aging perceptions.

In this sense, and according to the results obtained, it is necessary that institutional entities perceive the importance of providing the elderly, regardless of their sex or sexual orientation, the conditions to reach a more positive and successful aging. The present dissertation contributes to the increase of research in the area of the aging process, representing an investigation that allows an improvement of good practices by the psychologists who intervene with this type of population.

The final section of the dissertation includes the material used during the investigation (Annex 3), the theory behind this research (Annex 1) and the evidence of the article submission in the journal "*European Journal of Psychological Assessment*" (Annex 2).

Keywords

B-APQ; validation; aging self-perceptions; older adults; sex; sexual orientation.

List of Contents

| | |
|--|-----|
| Chapter 1: Introduction. | 1 |
| Chapter 2: A Validation of the Brief Ageing Perceptions Questionnaire (B-APQ) Among Elderly Portuguese Adults | 3 |
| Abstract. | 3 |
| Introduction. | 4 |
| Methodology. | 6 |
| Participants. | 6 |
| Measurement Instruments. | 7 |
| Procedures. | 8 |
| Results. | 10 |
| Study 1. | 10 |
| Study 2. | 13 |
| Discussion. | 15 |
| Limitations and Future Implications. | 17 |
| Conclusion. | 17 |
| Disclosure Statement. | 17 |
| References. | 18 |
| Chapter 3: Overall Discussion. | 23 |
| Annexs. | 25 |
| Annex 1: Literature Review. | 27 |
| Annex 2: Article Submission. | 65 |
| Annex 3: Online Questionnaire Survey. | 103 |

List of Figures

Figure 1 - Final model of B-APQ

List of Tables

Table 1 - Sociodemographic Characteristics of the Participants

Table 2 - Items and Factors translation to Portuguese

Table 3 - Results for CFA of the model tested of B-APQ

Table 4 - Correlations between CES-D and B-APQ

Table 5 - Distributional characteristics

Table 6 - Internal consistency of the B-APQ's original and Portuguese versions

Table 7 - Differences in depressive symptoms and aging perception factor by genders

Table 8 - Differences in depressive symptoms and aging perception factor by sexual orientations

List of Acronyms

AAQ - Attitudes to Ageing Questionnaire

AMOS - Analysis of Moment Structures

ATOA - Attitudes Towards Own Aging

APQ - Ageing Perceptions Questionnaire

B-APQ - Brief Ageing Perceptions Questionnaire

CES-D - Center for Epidemiologic Studies Depression Scale

CFA - Confirmatory Factor Analysis

CFI - Comparative Fit Index

ERA - Expectations Regarding Ageing

IP - Internet Protocol

RMSEA - Root Mean Square Error of Approximation

SPSS - Statistical Package for Social Sciences

Chapter 1: Introduction

A rise in life expectancy and a decline in birth rate have led to gradual growth of the proportion of the elderly among the world's total population (Mohammadpour, Sadeghmoghadam, Shareinia, Jahani, & Amiri, 2018). With an aged population, a better understanding of the aging process is needed in order to improve the quality of life of the elderly (Moser, Spagnoli, & Santos-Eggimann, 2011), which made it a widely studied topic nowadays. The increase of aging supposes a demographic change and a challenge for both academics and institutions (Shankar, Rafnsson, & Steptoe, 2015).

In the Portuguese society, improvement of the living conditions led to an increased life expectancy, greater longevity and a progressive aging of the Portuguese population (Nunes, 2017b). According to INE (2018), Portugal has become one of the oldest countries in the European Union, where 21.1% of its population is over 65 years old. The progressive aging of the population presents a challenge for the contemporary society, since it has several consequences and whose implications and constant search for solutions constitute one of the major social problems (Mateus, & Alves, 2018).

Aging is an automatic category by which humans naturally define each other (Robertson, Savva, King-Kallimanis, & Kenny, 2015). The society provides beliefs, opinions, attitudes, behavioural patterns and perceptions about age, which allows the incorporation of roles, ideas and patterns of judgments and shared opinions towards a certain age group (Toledo, 2011). In a youth-oriented society, the stigmatization of old age applied to the aging process itself (Shaw & Langman, 2017). Ageism is defined by the development of negative and stereotyped attitudes or behaviors towards a person based only on their age (Schwanen, Hardill, & Lucas, 2012).

When age stereotypes are directed at oneself in old age, they can be classified as self-perceptions of aging (Levy, 2009). In recent years, self-perceptions of aging have gained importance in research, because positive self-perceptions of aging have been shown to predict better health outcomes and lower mortality, whereas negative self-perceptions were found to be associated with ill-health (Levy, Slade, Kunkel, & Kasl, 2002; Wurm, Tesch-Römer, & Tomasik, 2007; Sargent-Cox, Anstey, & Luszcz, 2012a; Wolff, Schüz, Ziegelmann, Warner, & Wurm, 2017). Investigations have found that older individuals' self-perceptions are affected by cultural stereotypes about age (Fernández-Ballesteros et al., 2013).

Successful aging involves the relationship of development, health and adaptive psychosocial mechanisms acting to mitigate against the adversities and the challenges of aging

(Fredriksen-Goldsen, et al., 2014; Greene, Britton, & Shepherd, 2016). The concept of successful aging should be a research and policy priority, since identifying its determinants is crucial to better understand how to intervene in order to achieve it (Whitley, Benzeval, & Popham, 2018).

LGBT older adults share a unique historic place as witnesses to dramatic, rapid and ongoing social changes in the construction of minority sexual and gender identity (Van Wagenen, Driskell, & Bradford, 2013). They have very specific characteristics, particularly as regards the stigmatizing socio-historical context where they were developed which, in turn, shaped and still shapes the way they live, leading them to experience the effects of the double stigma that has an impact on different areas of their lives (Gonçalves, Costa, & Leal, 2018).

In an aging society, it is important to have access to validated measures that assess the particularities of the aging process and give us insight into how to solve related problems. Due to the scarcity of validated instruments for the Portuguese population that assess self-perceptions regarding aging, the current investigation pretends to translate and validate the instrument “Brief Ageing Perceptions Questionnaire” (B-APQ) to elderly Portuguese adults and, as a complementary study, to assess and compare differences in aging perceptions related to sex and sexual orientation, aiming to provide instrumental value at both prevention and intervention levels.

In the next section, chapter 2, a review of the literature was undertaken, directing to explore the definitions and themes necessary for the elaboration of the studies and for the understanding of their results, followed by a description of the methodology approach used. Then, the results of the two studies are debated in depth. Finally, an overall discussion is presented, followed by its limitations, future implications and conclusion.

On chapter 3 is presented an overall discussion of the dissertation, where the results are debated and its suggested the implications of this research in Psychology.

The last section contains the annexes, in which annex 1 includes the literature review annex where all the themes and variables of the investigation are explored and discussed in depth for a better understanding about the research topic. Then, the annex 2 is the article submission evidence, followed by the created website with the measurement instruments used to collect the sample (annex 3).

Chapter 2: A Validation of the Brief Ageing Perceptions Questionnaire (B-APQ) Among Elderly Portuguese Adults

This chapter is based on the article:

Fernandes, S. C. & Pereira, H. (submitted). A Validation of the Brief Ageing Perceptions Questionnaire (B-APQ) Among Elderly Portuguese Adults. *European Journal of Psychological Assessment* (see Annex 2).

Abstract

Portugal is one of the oldest countries in the European Union, and, as a result, it is important to possess measurement instruments that can assess the aging self-perceptions of older Portuguese adults. The primary aim of this study was to translate and validate the B-APQ for use among the elderly Portuguese population. Complementarily, the second part of this study sought to assess differences in aging perceptions among participants based upon sex and sexual orientation. Using a website, older adults between the ages of 50 and 95 (N=722) completed a Portuguese version of the B-APQ, alongside a scale used to measure depression (the CES-D). This study employed Confirmatory Factor Analysis (CFA) to verify the multidimensionality of the B-APQ. We analysed the correlation between the B-APQ and the CES-D to assess convergent and discriminant validity. Cronbach's alpha coefficients were used to measure internal consistency, and a sensitivity analysis of the items was employed through measures of asymmetry and flatness. This study also assessed differences in aging perceptions in relation to sex and sexual orientation. The CFA indicated that the 5 factors of the Portuguese version of the B-APQ model were adequate. The results also showed that all factors of the B-APQ were associated with the CES-D, supporting the existence of convergent and discriminant validity. The Cronbach's alphas were acceptable for all factors, indicating that internal consistency was preserved and that sensitivity presented adequate scores for all items. Regarding sex, statistically significant differences were obtained for depression levels (women present greater depressive symptomatology than men), but no differences were found for all factors of the B-APQ. The results obtained also showed significant differences for

levels of depression based upon sexual orientation (self-identified homosexuals present more depressive symptoms) and for factors 2 and 4 of the B-APQ (self-identified homosexuals scored lower, indicating more negative aging perceptions). In conclusion, the B-APQ is a valid and reliable measurement, which can be used to assess aging self-perceptions among older Portuguese adults. Furthermore, our results confirm that while aging perceptions are independent of influences related to one's sex, sexual orientation was found to have an influence on aging perceptions.

Keywords: B-APQ; validation; aging self-perceptions; older adults; sex; sexual orientation.

Introduction

Currently, the aging process is a widely studied topic. Changes in modern society and enhancements in quality of life have led to a worldwide increase in life expectancy, which has contributed to the population aging process (Mota-Pinto et al., 2011; Nunes 2017a; Nunes 2017b; Mohammadpour et al., 2018). In Portugal, due to lower fertility and increased life expectancy, the population is progressively aging (Ferreira, 2015; Rodrigues et al., 2014). As a consequence, Portugal has become one of the oldest countries in the European Union, where 21.1% of its population is over 65 years old (INE, 2018). By 2050, it is expected that the elderly population will comprise more than one third of the total Portuguese population (Gonçalves, Costa, & Leal, 2019).

Among older populations it is important to investigate self-perceptions of aging, as defined by Moser, Spagnoli, & Santos-Eggimann (2011), as these perceptions can be seen as a personal evaluation of one's own aging process, and they can provide insights to help understand how aging affects older adults' lives and how to better meet their needs. Perceptions of old age have often been reported as negative, pessimistic and being related to declining health and functioning (Toledo, 2011; Warmoth, Tarrant, Abraham, & Lang, 2016; Shaw & Langman, 2017; Mateus & Alves, 2018). Negative aging self-perceptions have been found to have an impact on sleep quality (Lin, 2016), depression (Djernes, 2006; Sindi et al., 2012; Freeman et al., 2016), predictions of anxiety related to death (Mohammadpour et al., 2018), mortality predictions (Sargent-Cox, Anstey, & Luszcz, 2013), cognitive decline (Robertson, King-Kallimanis, & Kenny, 2016), declines in walking speed (Robertson, Savva, King-Kallimanis, & Kenny, 2015), the association between frailty and cognitive functioning (Robertson & Kenny, 2016) and delayed health care access (Sun & Smith, 2017). On the other hand, positive aging self-perceptions have been proven to lead to better outcomes, such as better functional health, a positive impact on health changes, being able to enjoy leisure

activities and having an active lifestyle (Levy, Slade, & Kasl, 2002; Wurm, Tesch-Römer, & Tomasik, 2007; Lagacé, Charmarkeh, & Grandena, 2012; Liechty & Genoe, 2013).

Therefore, the importance of assessing aging perceptions is paramount. To assess self-perceptions of aging, Barker, O'Hanlon, McGee, Hickey, & Conroy (2007) developed the Aging Perceptions Questionnaire (APQ), an instrument based on Leventhal's Self-Regulation Model (Leventhal, Nerenz, & Steele, 1984). Despite the fact that the APQ has good psychometric properties, the increasing need for multiple instruments that can be used to assess aging perceptions requires more concise tools that preserve good psychometric characteristics, even if they are subject to item reduction (Goetz, Coste, Lemetayer, Rat, Montel, Recchia, & Guillemin, 2013). With this in mind, Sexton, King-Kallimanis, Morgan, & McGee (2014) created an abbreviated version of the APQ, the Brief Ageing Perceptions Questionnaire (B-APQ). The B-APQ still examines multiple dimensions of aging perceptions, such as timeline chronic, consequences positive, consequences and control negative, control positive and emotional representations, in addition to capturing the complexity of these experiences (Sexton, King-Kallimanis, Morgan, & McGee, 2014).

Regarding aging self-perceptions, differences based on sex have been observed. In some studies, women presented less positive aging self-perceptions when compared to men (Kotter-Grühn, Kleinspehn-Ammerlahn, Gerstorf, & Smith, 2009; Lin, 2016; Parra-Rizo, 2017). Despite a scarcity of studies concerning the relationship between aging self-perceptions and sexual orientation, there is some evidence that self-identified homosexuals/bisexuals have positive perceptions of aging due to the adaptive capacity that they were obliged to develop resulting from the social stigma concerning homosexuality/bisexuality (de Vries & Croghan, 2014; Pereira et al., 2017). Therefore, it is possible that sex and sexual orientation may have a mediating effect on aging perceptions.

The purpose of this study was to translate and validate the B-APQ for use among the elderly Portuguese population and, complementarily, to assess and compare differences in aging perceptions related to sex and sexual orientation, with the overarching goal of providing instrumental value for future applications at both the prevention and intervention levels.

Methodology

Participants

The sample (N) consisted of 722 participants, encompassing 404 (55.9%) males and 318 (44.1%) females between the ages of 50 and 95 years old (mean=60.55; SD=9.23). Just over three-quarters (76.5%) identified themselves as heterosexual, while 16.6% self-identified as homosexual and 6.9% identified themselves as bisexual. Participants' sociodemographic information is displayed in Table 1.

Table 1. Sociodemographic Characteristics of the Participants

| | N | % | Mean | SD |
|-----------------------------------|-----|------|-------|------|
| Age | | | 60.55 | 9.23 |
| Gender | | | | |
| Male | 404 | 55.9 | | |
| Female | 318 | 44.1 | | |
| Marital Status | | | | |
| Single | 102 | 14.1 | | |
| Married | 399 | 55.3 | | |
| Divorced/Separated | 82 | 11.4 | | |
| Widow | 72 | 9.9 | | |
| Live together | 38 | 5.3 | | |
| Relationship/Affective Commitment | 27 | 3.7 | | |
| Other | 2 | .3 | | |
| Place of Residence | | | | |
| Big City | 234 | 32.4 | | |
| Small City | 287 | 39.8 | | |
| Big Urban Place | 78 | 10.8 | | |
| Small Urban Place | 123 | 17 | | |
| Education Level | | | | |
| Up to 9 years of school | 266 | 36.8 | | |
| Up to 12 years of school | 166 | 23 | | |
| University Degree (Bachelor) | 222 | 30.8 | | |
| University Degree (Master/Doctor) | 68 | 9.4 | | |
| Professional Status | | | | |
| Retired | 220 | 30.5 | | |
| Employee | 341 | 47.2 | | |
| Self-Employed | 107 | 14.8 | | |
| Unemployed | 35 | 4.9 | | |

| | | | | |
|-----------------------------|-----|------|------|------|
| Student | 3 | .4 | | |
| Other | 16 | 2.2 | | |
| Socio-Economic Status | | | | |
| Low | 68 | 9.4 | | |
| Medium-Low | 172 | 23.8 | | |
| Medium | 395 | 54.7 | | |
| Medium-High | 79 | 11 | | |
| High | 8 | 1.1 | | |
| Children | | | | |
| Yes | 551 | 76.3 | | |
| No | 171 | 23.7 | | |
| Number of children | | | 2.21 | 1.33 |
| Sufficient monthly income | | | | |
| Yes | 476 | 65.9 | | |
| No | 246 | 34.1 | | |
| Type of residence | | | | |
| Owned house/apartment | 539 | 74.7 | | |
| Rented house/apartment | 153 | 21.2 | | |
| Institution | 21 | 2.9 | | |
| Other | 9 | 1.2 | | |
| Sexual Orientation | | | | |
| Heterosexual | 552 | 76.5 | | |
| Bisexual | 50 | 6.9 | | |
| Homosexual (Gay or Lesbian) | 120 | 16.6 | | |

Measurement Instruments

A Sociodemographic Questionnaire was used to collect personal data, such as age, sex, marital status, place of residence, educational level, professional status, socioeconomic status, filiation, monthly income, type of residence and sexual orientation.

The Brief Ageing Perceptions Questionnaire (B-APQ), developed by Sexton et al. (2014), is a short version of the Aging Perceptions Questionnaire (APQ). It is psychometrically valid for the Irish population over 50 years of age, and possesses a Cronbach's alpha of 0.75. The APQ, created by Barker et al. (2007), is a multidimensional measure with 32 items that assess self-perceptions regarding aging. It contributes to the understanding of the subjective experience of aging and can help with the identification of individuals at risk due to maladaptive perceptions regarding the aging process (Barker et al., 2007). The B-APQ has 17

items and utilizes a 5-point Likert scale, with 1 corresponding to “Strongly Disagree”, 2 to “Disagree”, 3 to “Neither Agree nor Disagree”, 4 to “Agree” and 5 to “Strongly Agree”. The brevity of the questionnaire makes this instrument particularly suitable for use with large scale surveys and to administer to elderly populations and/or populations with low levels of educational attainment.

The Center for Epidemiologic Studies Depression Scale (CES-D) is a scale developed by Leonor S. Radloff (1997) that evaluates depressive symptomatology among the general population. It is a self-administered questionnaire with 20 questions in which respondents answer according to the frequency of each symptom in the week prior to the application of the instrument. Scores range from 0 to 3, with 0 corresponding to a frequency of “Never or Regularly”, 1 to “Occasionally (1-2 days)”, 2 to “Frequently (3-4 days)” and 3 to “Often or Always (5-7 days)”. The sum of the results ranges from 0 to 60, with higher scores indicating more severe depressive symptoms. A score of 16 is used as a cutoff point intended to differentiate nondepressive participants from those with moderate depression, while a score equal to 23 or higher indicates significant depression (Loureiro, 2009). Loureiro’s study (2009) validated the CES-D scale for the Portuguese population.

Procedures

The study began by translating the items of the original version of the B-APQ to Portuguese (see Table 2). For the purposes of data collection, this study created a website that included information introducing the study, the study objectives and an explanation that study participation was voluntary and that all responses were automatically stored in a database in which the anonymity of respondents’ IP (Internet Protocol) addresses was guaranteed. The website also contained the Sociodemographic Questionnaire and the Portuguese versions of the B-APQ and the CES-D, respectively. The study website was disseminated through social networks, mailing lists and Internet forums. The target audience was senior citizens, age 50 or older.

This study used SPSS (Statistical Package for Social Sciences), version 25, and AMOS (Analysis of Moment Structures), version 25, to conduct statistical analyses. In the first part of this study, a confirmatory factor analysis was utilized to meet the objective focused on evaluating construct validity (if the instrument adequately evaluates the desired construct). In order to assess convergent and discriminant validity, this study assessed the correlation between the B-APQ and the CES-D. It also analysed the skewness and kurtosis of each item of the B-APQ, in order to understand the sensitivity level of the instrument. Finally, in order to verify the internal consistency of the questionnaire, this study observed the reliability and, more specifically, the Cronbach’s alphas for each individual factor, as well as for the

instrument as a whole. In the second part of the study, which sought to compare differences in aging self-perceptions in relation to sex and sexual orientation, a t-student test and an ANOVA parametric test were used to accomplish this objective.

Table 2. Items and Factors translation to Portuguese

| | Original Version B-APQ | Portuguese Version B-APQ |
|-----------------|--|---|
| <i>Factor 1</i> | <i>Timeline chronic</i> | <i>Linha do tempo Crónica¹</i> |
| Item 1 | I always classify myself as old | Classifico-me sempre como velho/a |
| Item 2 | I am always aware of the fact that I am getting older | Estou sempre ciente do fato de que estou a ficar mais velho/a |
| Item 3 | I feel my age in everything that I do | Sinto a minha idade em tudo o que faço |
| <i>Factor 2</i> | <i>Consequences-positive</i> | <i>Consequências positivas</i> |
| Item 4 | As I get older I get wiser | À medida de envelheço fico mais sábio/a |
| Item 5 | As I get older I continue to grow as a person | À medida de envelheço continuo a crescer como pessoa |
| Item 6 | As I get older I appreciate things more | À medida de envelheço aprecio mais as coisas |
| <i>Factor 3</i> | <i>Consequences and control negative</i> | <i>Consequências e controlo negativo</i> |
| Item 10 | Getting older makes me less independent | Envelhecer torna-me menos independente |
| Item 11 | As I get older I can take part on fewer activities | À medida que envelheço posso participar em menos atividades |
| Item 12 | As I get older I do not cope as well with problems that arise | À medida que envelheço não lido bem com os problemas que surgem |
| Item 13 | Slowing down with age is not something I can control | Abrandar com a idade não é algo que possa controlar |
| Item 14 | I have no control over the effects which getting older has on my social life | Não tenho nenhum controlo sobre os efeitos que envelhecer tem sobre a minha vida social |
| <i>Factor 4</i> | <i>Control Positive</i> | <i>Controlo positivo</i> |
| Item 7 | The quality of my social life in later years depends on me | A qualidade da minha vida social mais tarde na vida depende de mim |

| | | |
|-----------------|---|--|
| Item 8 | The quality of my relationships with others in later life depends on me | A qualidade dos meus relacionamentos com os outros mais tarde na vida depende de mim |
| Item 9 | Whether I continue living life to the full depends on me | Continuar a viver a vida ao máximo depende de mim |
| <i>Factor 5</i> | <i>Emotional representations</i> | <i>Representações emocionais</i> |
| Item 15 | I get depressed when I think about how ageing might affect the things that I can do | Fico deprimido/a quando penso em como o envelhecimento pode afetar as coisas que eu posso fazer |
| Item 16 | I worry about the effects that getting older might have on my relationships with others | Preocupo-me com os efeitos que o envelhecimento pode ter sobre os meus relacionamentos com os outros |
| Item 17 | I feel angry when I think about getting older | Sinto-me zangado/a quando penso que estou a envelhecer |

1. It was used the term “linha do tempo crónica” for the translation of “timeline chronic” because there is no word that best describes the intended meaning.

Results

Study 1

Validity

Construct Validity. A confirmatory factor analysis (CFA) was conducted using the 5-factor structure to evaluate the construct validity of the instrument, using AMOS software. CFA is a multivariate statistical procedure that tests how well a set of items represent a number of dimensions or factors (Byrne, 2010). CFA specifies the number of dimensions or factors as latent variables to which the corresponding items are subsequently related to (Byrne, 2010).

To assess the quality of the model fit adjustment to the sample data, goodness-of-fit indices such as the Root Mean Square Error of Approximation (RMSEA), the Comparative Fit Index (CFI) and the Chi-Square test (χ^2/df) were used. Table 3 shows the results of the CFA, indicating that the model is suitable for items grouped in theoretically significant factors, which supports the construct validity of the B-APQ (Marôco, 2010), organized according to Figure 1.

Table 3. Results for CFA of the model tested of B-APQ

| Goodness-of-Fit Indices | Results |
|-------------------------|------------|
| χ^2 | 398.179*** |
| df | 109 |
| χ^2/df | 3.76 |
| RMSEA | .061 |
| CFI | .915 |

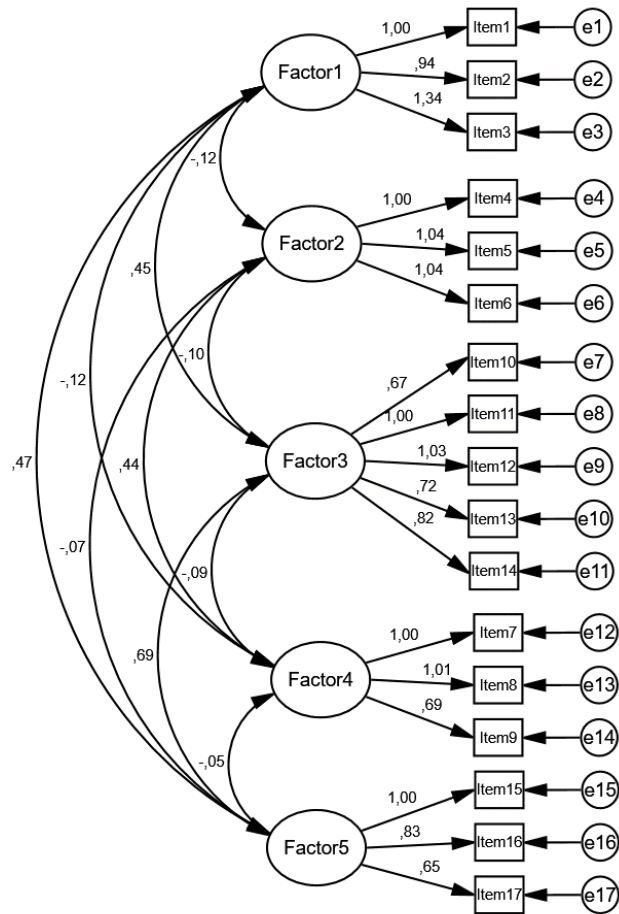


Figure 1.

Convergent and Discriminant Validity. The correlations between the CES-D and the B-APQ are all statistically significant, exhibiting moderate correlation levels (see Table 4) (Cohen, 1988). As expected, factors 2 and 4 were negatively associated with the CES-D because they are positive factors (consequences positive and control positive, respectively), while the CES-D accurately assesses negative (depressive) symptomatology. Moreover, the correlations between factors 2 and 4 and the CES-D are negative, as expected, as the CES-D is an instrument that measures a different construct (see Table 4).

Table 4. Correlations between CES-D and B-APQ

| | CES-D | Factor 1 | Factor 2 | Factor 3 | Factor 4 |
|----------|---------|----------|----------|----------|----------|
| CES-D | | | | | |
| Factor 1 | .340** | | | | |
| Factor 2 | -.083* | -.123** | | | |
| Factor 3 | .321** | 0.460** | -.105** | | |
| Factor 4 | -.117** | -.134** | .507** | -0.080* | |
| Factor 5 | .393** | .380** | -.078* | 0.504** | -.071 |

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

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

Sensitivity

A sensitivity analysis of the items was conducted, which allowed for the evaluation of possible errors in the assessment of each item through measures of asymmetry (skewness) and flatness (kurtosis), according to the respective critical ratios (Kline, 1998). All items presented adequate scores, as shown in Table 5.

Table 5. Distributional characteristics

| B-APQ | M (min-max) | SD | Skewness | Kurtosis |
|---------|-------------|-------|----------|----------|
| Item 1 | 1.89 (1-5) | 1.171 | 1.123 | .183 |
| Item 2 | 3.53 (1-5) | 1.388 | -.577 | -.958 |
| Item 3 | 2.72 (1-5) | 1.359 | .205 | -1.160 |
| Item 4 | 3.75 (1-5) | 1.131 | -.613 | -.357 |
| Item 5 | 4.21 (1-5) | 1.023 | -1.351 | 1.318 |
| Item 6 | 4.09 (1-5) | 1.075 | -1.166 | .782 |
| Item 7 | 3.80 (1-5) | 1.172 | -.724 | -.345 |
| Item 8 | 3.94 (1-5) | 1.073 | -.913 | .324 |
| Item 9 | 4.01 (1-5) | 1.083 | -.937 | .128 |
| Item 10 | 3.19 (1-5) | 1.332 | -.229 | -1.051 |
| Item 11 | 3.21 (1-5) | 1.323 | -.214 | -1.077 |
| Item 12 | 2.73 (1-5) | 1.279 | .152 | -1.009 |
| Item 13 | 3.22 (1-5) | 1.319 | -.148 | -1.076 |
| Item 14 | 2.65 (1-5) | 1.275 | .278 | -.949 |
| Item 15 | 2.81 (1-5) | 1.419 | .152 | -1.294 |
| Item 16 | 2.96 (1-5) | 1.356 | -.093 | -1.198 |
| Item 17 | 2.24 (1-5) | 1.289 | .742 | -.571 |

Reliability

In this study we considered internal consistency as an index of reliability. Table 6 displays the Cronbach's alpha coefficients for the factors of both the original version and the Portuguese version of the B-APQ. In comparison with the original version of the B-APQ, the Portuguese version shows decreased internal consistency for almost every factor, except for factor 2. However, the Cronbach's alphas continued to be acceptable for all factors in the Portuguese version of the B-APQ (DeVellis, 2011), indicating that it preserved the scale's internal consistency.

Table 6. Internal consistency of the B-APQ's original and Portuguese versions

| | Original Version B-APQ | Portuguese Version B-APQ |
|-------------|------------------------|--------------------------|
| | α | α |
| Factor 1 | .76 | .66 |
| Factor 2 | .78 | .78 |
| Factor 3 | .81 | .70 |
| Factor 4 | .84 | .75 |
| Factor 5 | .75 | .74 |
| All factors | .75 | .73 |

Study 2

Results for aging perceptions by sex

Statistically significant differences were obtained when comparing men and women [$t(712)=-2.64$; $p=.009$], indicating that women present greater levels of depressive symptomatology. For all B-APQ factors, no statistically significant differences were found between men and women (see Table 7).

Table 7. Differences in depressive symptoms and aging perception factor by genders

| | Mean | SD | t(df) | p-value |
|--------------|-------|------|-------------|---------|
| CES-D scores | | | | |
| Male | 37.30 | 6.37 | -2.64 (712) | .009* |
| Female | 38.60 | 6.79 | | |
| Factor 1 | | | | |
| Male | 2.72 | 1.02 | -.085 (711) | .932 |

| | | | | |
|----------|------|------|-------------|------|
| Female | 2.72 | 1.00 | | |
| Factor 2 | | | | |
| Male | 3.97 | .88 | -1.40 (709) | .164 |
| Female | 4.06 | .93 | | |
| Factor 3 | | | | |
| Male | 3.01 | .85 | .33 (712) | .740 |
| Female | 2.99 | .82 | | |
| Factor 4 | | | | |
| Male | 3.87 | .92 | -1.57 (711) | .117 |
| Female | 3.98 | .89 | | |
| Factor 5 | | | | |
| Male | 2.62 | 1.09 | -1.62 (711) | .105 |
| Female | 2.75 | 1.11 | | |

* $<.05$; ** $<.001$

Results for aging perceptions by sexual orientation

Our results found statistically significant differences in levels of depression based upon sexual orientation, with self-identified homosexual participants presenting more depressive symptoms [$F(122.95;43.14)=2.850$; $p=.049$]. There are statistically significant differences for factors 2 and 4 of the B-APQ, as self-identified homosexual participants scored lower than their heterosexual and bisexual counterparts, indicating that they possess more negative aging perceptions (see Table 8).

Table 8. Differences in depressive symptoms and aging perception factor by sexual orientations

| | Mean | SD | F(df) | p-value |
|--------------|-------|------|----------------|---------|
| CES-D scores | | | | |
| Heterosexual | 37.93 | 6.54 | 2.850 | .049* |
| Bisexual | 35.74 | 5.40 | (122.95;43.14) | |
| Homosexual | 38.39 | 7.10 | | |
| Factor 1 | | | | |
| Heterosexual | 2.73 | 1.04 | 1.107 | .331 |
| Bisexual | 2.50 | .90 | (1.13;1.02) | |
| Homosexual | 2.70 | .93 | | |
| Factor 2 | | | | |
| Heterosexual | 4.05 | .89 | 4.919 | .008* |

| | | | | |
|--------------|------|------|-------------|-------|
| Bisexual | 4.07 | .84 | (3.970;.80) | |
| Homosexual | 3.77 | .94 | | |
| Factor 3 | | | | |
| Heterosexual | 3.01 | .90 | .675 | .510 |
| Bisexual | 2.86 | .85 | (.52;.77) | |
| Homosexual | 2.97 | .79 | | |
| Factor 4 | | | | |
| Heterosexual | 3.95 | .89 | 3.761 | .024* |
| Bisexual | 3.95 | 1.09 | (3.07;.82) | |
| Homosexual | 3.70 | .90 | | |
| Factor 5 | | | | |
| Heterosexual | 2.69 | 1.11 | .669 | .512 |
| Bisexual | 2.52 | 1.06 | (.81;1.21) | |
| Homosexual | 2.61 | 1.06 | | |

* $<.05$; ** $<.001$

Discussion

In an aging society, it is important to have access to validated measures that assess the particularities of the aging process and give us insight into how to solve related problems. Due to the scarcity of validated instruments for the Portuguese population that assess self-perceptions regarding aging, the main aim of this study was to translate and validate the B-APQ for older adults. The questionnaire was translated to Portuguese and its psychometric properties and factor structure were evaluated. An assessment of the Portuguese version of the B-APQ's construct validity, convergent validity, discriminant validity, sensitivity and internal consistency, confirms that it is a reliable and valid instrument for evaluating aging self-perceptions among older adults in Portugal. The B-APQ has already been translated and validated for use in other countries, where it has also been shown to possess appropriate psychometric properties (Slotman, Cramm, & Nieboer, 2015; Moghadam et al., 2016; Jaafar, Villiers-Tuthill, Sim, Lim, & Morgan, 2018), indicating that it is a robust measurement instrument applicable to different cultural settings.

The model's goodness-of-fit indices were adequate for all 5 factors of the Portuguese version of the B-APQ model. The results also showed that all factors of the B-APQ were associated with the CES-D, highlighting the link between aging self-perceptions and depression. This finding is supported by previous studies, which suggest that negative aging self-perceptions are predictors of depression symptoms (Djernes, 2006; Sindi et al., 2012; Freeman et al., 2016). An association between self-perception and depression was also found

when the B-APQ was validated in the Malaysian context (Jaafar et al., 2018). In the present study, the Cronbach's alpha for factor 1 was lower than those found for the other factors ($\alpha=.66$). This is probably due to the fact that, among older Portuguese adults, exposure to the perception of timeline chronic circumstances may be influenced by age-related prejudice, which, in turn, creates less consistency in the interpretation of this factor's items (Coelho, 2013). The Cronbach's alpha value for the entire questionnaire was .73, which is similar to the value found for the Persian version of the B-APQ (Moghadam et al., 2016).

Regarding study 2, statistically significant differences were obtained when comparing sex, indicating that women present greater depressive symptomatology. This is supported by several previous studies that aimed to assess differences in depressive symptoms related to sex (Leach, Christensen, Mackinnon, Windsor, & Butterworth, 2008; Essau, Lewinsohn, Seeley, & Sasagawa, 2010; Van de Velde, Bracke, & Levecque, 2010). Women presented more negative levels of depression due to the fact that they were perceived as more fragile, emotional and vulnerable, revealing that gender roles are mediated by social norms. This dual sex pattern is characterized by different expectations for men and women regarding how to manifest their roles in society, which consequently influences how they express depressive symptoms, and seems to be better internalized by women, thus leading them to respond accordingly. Maji (2018) emphasizes the importance of thinking beyond the possible biological factors behind sex differences in regard to depression, stressing the importance of social and cultural problems that place women in a socially disadvantaged position. The influence of sex on aging perceptions was not corroborated for any B-APQ factors, as no factors presented statistically significant differences between men and women. This indicates that aging self-perceptions seem to be independent from sex-related factors, encapsulating a more neutral/universal experience that is not subject to societal influences.

Our research found statistically significant differences for depression levels in relation to sexual orientation, with self-identified homosexuals presenting more depressive symptoms. These findings are in agreement with a previous Portuguese study (Pereira et al., in press). However, it is important to note that only 6.9% of participants in this study identified themselves as bisexual. There are also statistically significant differences for factors 2 and 4 of the B-APQ, as self-identified homosexuals possessed lower scores for these factors, indicating more negative aging perceptions. A Portuguese study of aging perceptions among older gay and bisexual men has shown how homosexuals/bisexuals are intensely subject to social stereotypes and discrimination (Pereira et al., 2018). In another study, Pereira et al. (2019) reported that almost half of participants had experienced discrimination due to their sexual orientation when seeking health or social services. These experiences can lead to high levels of anxiety, depression and suicidal thoughts related to sexual or gender identity (Gonçalves, Costa, & Leal, 2018). Minority stress (Meyer, 1995) and the stigma surrounding homosexuality have serious repercussions on both physical and mental health (Gonçalves,

Costa, & Leal, 2018), which may explain the results regarding the evidence of higher depressive symptomatology in self-identified homosexuals.

Limitations and Future Implications

One of the limitations of this study is the type of data collection that was used. As data were collected online, this study possesses restrictions resulting from the voluntary nature of each individual's participation, as well as due to older adults' low levels of Internet access and technological skills. Another limitation arises from the effect of social desirability bias on questionnaire responses, since people tend to respond according to what is "socially accepted."

Regarding this study's future implications, the authors hope that it will help to improve adaptive care programs that challenge the negative effects of aging perceptions present in prevention and intervention programs targeted at older people, while raising further awareness concerning the differences in depressive symptomatology related to sex and sexual orientation. The results obtained show that the Portuguese version of the B-APQ is valid and reliable, and it can be applied when assessing aging perceptions among older Portuguese adults. Therefore, the use of this measure by health professionals and researchers provides information that can help to improve care for older adults.

Conclusion

As a result of the population aging process in Portugal, it is paramount to possess a validated measurement instrument that is capable of evaluating aging self-perceptions. The B-APQ has been proven to be a valid and reliable measure to assess aging perceptions among older Portuguese adults. This study also showed that aging perceptions are independent of influences deriving from sex, but that sexual orientation had an influence on factors 2 and 4 of the B-APQ, with self-identified homosexuals possessing more negative aging perceptions.

Disclosure Statement

The authors declare no conflicts of interest.

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Chapter 3: Overall Discussion

The dissertation intends to communicate the acquired competences on psychological investigation. It involves the presentation of an empirical study that proves to be relevant to clinical and health psychology, taking into account the literature review in a thematic area, the delimitation of the object of study, the selection of methodologies for its approach, data collection and respective treatment, and relevant bibliography.

This study was carried out considering the objectives of the dissertation curricular unit. The dissertation began with the definition of the objectives of the study, which was the portuguese validation of a measure for the evaluation of self-perceptions regarding aging among older adults and the comparison of differences about aging perceptions between sex and sexual orientations. Several steps were required, such as literature review of the variables, translating the items of the original version of the B-APQ to Portuguese, creation of a website that included the required instruments, dissemination of the website through social networks, mailing lists and internet forums to collect the sample, conducting statistical analyses and comparison and discussion of the results.

Regarding the results of the main study of “A Validation of the Brief Ageing Perceptions Questionnaire (B-APQ) Among Elderly Portuguese Adults” article, it was demonstrated that: (1) the model’s goodness-of-fit indices were adequate for all 5 factors of the Portuguese version of the B-APQ model; (2) all factors of the B-APQ were associated with the CES-D, showing the link between aging self-perceptions and depression; (3) factors 2 and 4 were negatively associated with the CES-D; (4) the sensitivity analysis indicated that all items presented adequate scores; and (5) the Cronbach’s alphas was acceptable for all factors in the Portuguese version of the B-APQ, indicating that it preserved the scale’s internal consistency. Therefore, due to the described results, it is possible to affirm that the Portuguese version of the B-APQ is valid and reliable, and it can be applied when assessing aging perceptions among older Portuguese adults.

As for the complementary study, it was possible to conclude that: (1) statistically significant differences were obtained when comparing sex, indicating that women present greater depressive symptomatology; (2) for all B-APQ factors, no statistically significant differences were found between men and women; (3) statistically significant differences in levels of depression based upon sexual orientation where found, with self-identified homosexual participants presenting more depressive symptoms; and (4) there are statistically significant differences for factors 2 and 4 of the B-APQ, as self-identified homosexual

participants scored lower than their heterosexual and bisexual counterparts, indicating that they possess more negative aging perceptions.

The purpose of this research was mainly to reinforce the importance of perceiving the individual functioning of the aging process through the very self-perceptions of the elderly. Because of the progressive aging of the Portuguese population, this investigation provided a validation of an instrument that evaluates perceptions regarding aging among the elderly (B-APQ). The study is intended to improve adaptive care programs regarding prevention and intervention targeted at older people. Therefore, the use of this measure by health professionals and researchers provides information that can help to improve care for older adults. The role of sex in aging is also emphasized, since the aging process and its implications vary from men to women. These sex differences were also shown in depressive symptomatology, which is consistent with results of previous research, demonstrating the importance of raising further awareness concerning these aspects.

Despite the growing literature in the area of sexual orientation and aging, in Portugal the investigation about this topic is scarce, which leads to the lack of understanding of this population. This investigation had also the intention of support the need to investigate the relationship between aging and sexual minorities, as their particularities provide certain needs and age-related differences. Taking into account these differences will provide more specialized intervention, which will lead to a more positive and successful aging for the elderly. Identifying the perceptions of aging in sexual minorities will also help in the planning of prevention and intervention programs.

The psychology knowing and perceiving the specific mechanisms underlying aging, as well as the inherent implications of this process for people's daily lives, may play a preponderant role in understanding the development of a more positive and healthy aging. Future research should focus on providing new ways of working with older people, respecting their limitations and individuality. Must also provide solutions to the barriers that Portuguese institutions face daily regarding sex and sexual orientation differences, and intervention programs that maximize a successful aging process.

To conclude, it is important to perceive how the aging process is so diverse and felt differently among the elderly. The main objective of institutions should be to provide the elderly with the conditions that lead them to have a successful aging. The present dissertation assumes as a contribution to the increase of the research in this area, constituting an investigation that makes possible the improvement of the good practices of the psychologists that work with this population.

Annexs

Annex 1: Literature Review

1. Aging process

Human aging is a universal and inevitable phenomenon (Parra, Valencia, & Villamil, 2012). Changes in modern society and enhancements in quality of life have led to a worldwide increase in life expectancy, which has contributed to the population aging process (Mota-Pinto et al., 2011; Parra, Valencia, & Villamil, 2012; Nunes 2017a; Nunes 2017b; Mohammadpour et al., 2018). These changes include improved living conditions, the development of technology and scientific knowledge, as well as healthier life styles and the practice of physical activity (Nunes, 2017a; Nunes, 2017c).

As the population ages, a better understanding of the aging process is needed in order to improve the quality of life of the elderly (Moser, Spagnoli, & Santos-Eggimann, 2011; Waites, & Onolemhemen, 2014), which made it a widely studied topic nowadays. In academic studies on old age, efforts have been made in order to analyze, problematize and propose new ways of understanding aging through diverse disciplines, such as medicine, psychology, sociology, anthropology and gerontology (Silva, 2008).

Aging has been defined as a multifactorial process (biological, psychological and social), that causes characteristic changes throughout the life cycle, producing limitations to the adaptability of the person to the environment (Parra, Valencia, & Villamil, 2012; Paúl, 2017). Also, aging is described as a multidimensional process, where each person lives this phase of life in a different way, taking into account their personal history and all the underlying structural aspects such as culture, education, health and economic conditions (Mateus, & Alves, 2018). In addition, the authors emphasize the idea that, although aging is a common process to all individuals, it manifests in a differentiated way through the characteristics of each one, according to the biological constitution, the psychological structure and the surrounding environment.

The biological aging refers to the physical transformations that reduce the efficiency of the functional systems of the organism, resulting from the increasing vulnerability of the elderly and the greater probability of dying (Moreira, 2012; Mateus, & Alves, 2018), which includes structural and functional changes. Structural changes arise essentially at the metabolic and cellular level, resulting in transformations in body image, like cells and tissues, body composition and weight, muscles, bones and skin (Schneider, & Irigaray, 2008; Mateus, & Alves, 2018). Functional changes occur at the level of cardiovascular, respiratory, renal and urinary, gastrointestinal, nervous and sensory, endocrine and metabolic, reproductive and immune systems (Schneider, & Irigaray, 2008; Mateus, & Alves, 2018).

Psychological gains and losses occur in all phases of life, but in old age losses far exceed gains (Schaie, 2016). The psychological aging is characterized by the decline of cognitive abilities with age (Schneider, & Irigaray, 2008). Schaie (2016) distinguishes four major patterns that describe most of the observed aging trajectories. The normal aging of psychological functions, the most common pattern, is characterized by maintaining a plateau until the late 50's or early 60's, and then showing modest decline on cognitive abilities through the early 80's, with more marked deterioration in the years before death. In contrast, the successful aging is characterized by individuals who are genetically and socioeconomically advantaged, and maintaining their overall cognitive function until right before their death. The third pattern, those who develop mild cognitive impairment, includes the group of people that experience declines in cognitive function greater than normative decline, which can progress to more severe cognitive problems. Finally, the fourth pattern contains those individuals who, in early or advanced old age, develop dementia and experience severe and diagnosable forms of cognitive impairments.

The social aging is a process where the individuals obtain certain habits and social status to fill the social roles and expectations of people of their age, their culture and their social group, i. e., exists a social role change in which the elderly people are expected to behave in a way that corresponds to the roles determined for them (Schneider, & Irigaray, 2008). It consists of attributes that characterize people and vary according to culture, gender, social class, generations and the conditions of life and work, and inequalities of these conditions lead to disparities in the aging process (Schneider, & Irigaray, 2008). Therefore, old age can be an advantage in a given space and time whereas can lead to social exclusion in another (Lagacé, Charmarkeh, & Grandena, 2012). Culture plays an important role because it defines how society views the elderly and the aging process, which can be seen either as a progression or a regression (Schneider, & Irigaray, 2008; Lagacé, Charmarkeh, & Grandena, 2012).

Old age began to be seen as a stage of life characterized by physical decay from the second half of the nineteenth century and these negative associations are still present nowadays, even with so many resources to prevent disease and delay it, it is feared by many people and seen as an obnoxious stage (Schneider, & Irigaray, 2008). This was shown in a qualitative portuguese study with the objective of analyzing how the elderly people experience their own aging process (Mateus, & Alves, 2018). The 8 participants (4 women and 4 men) perceived old age in a negative way, associating it with dependency, fragility, loneliness and less functional capacity to perform certain activities. To cope with this constraints, the elders reported the use of internal factors such as continuity of their daily activities, although less actively, valuing their lifelong experience and spirituality, and external factors like the preservation and enhancement of social relations. These results can be explained by the internalization of aging stereotypes which "being old" assumes a negative

connotation, referring to the loss of attributes so valued by the social environment and, simultaneously, by the elderly himself (Schneider, & Irigaray, 2008).

An investigation regarding gender differences about the aging experience showed men heavily emphasized the loss of social status that comes with age and women highlighted that aging meant losing one's beauty (Lagacé, Charmarkeh, & Grandena, 2012). These results can also be explained by social stereotypes, where the role of genders is defined by society and individuals internalize them, leading them to act accordingly.

To overcome the conditions that accelerate aging, it is necessary to counteract its natural course and fight against aging stereotypes, integrating the elderly people in society, promoting better living conditions, better access to health care and encouraging healthy behaviours in both food and physical activity (Nunes, 2017b). A correlational study in Korea with 99 older people aiming to identify the influence of expectations regarding aging on physical and mental health status, showed that Korean elders who expected to maintain high levels of health when they were older were more likely to experience better physical and mental health (Kim, 2009). These results demonstrate the importance of maintaining a positive perspective regarding aging and how it affects your attitudes and ways of dealing with it.

The aged population is one of the most important worldwide transformations and Portugal is no exception, in a way that it has seen the growth of the elderly population in recent decades (Nunes, Nunes, & Matos, 2017; Mateus, & Alves, 2018). The phenomenon of the increasing rate of aging is established by the reduction of the young population and the increase of elderly population (Mateus, & Alves, 2018).

The changes in the Portuguese society and the improvement of the living conditions had positive impacts on the health outcomes, leading to an increased life expectancy, greater longevity and a progressive aging of the population (Nunes, 2017b). The greater longevity is associated with better health, education, access to employment, income, and social protection (Quaresma & Ribeirinho, 2016). The reasons for the aging of the population are related to lower fertility, which is the lowest in the European Union, the reduction of the mortality rate and consequent increase in life expectancy, and the reduction of immigration (Nunes, 2017a; Mateus, & Alves, 2018).

In Portugal, as said before, due to lower fertility and increased life expectancy, the population is progressively aging (Ferreira, 2015; Rodrigues et al., 2014). As a consequence, Portugal has become one of the oldest countries in the European Union, where 21.1% of its population is over 65 years old (INE, 2018). The average life expectancy for women is 84,3 years and for men is 78,1 years (INE, 2018). By 2050, it is expected that the elderly

population will comprise more than one third of the total Portuguese population (Gonçalves, Costa, & Leal, 2019).

The phenomenon of the progressive aging of the Portuguese population presents a challenge for the contemporary society, since it has several consequences (economic, health and social) whose implications and constant search for solutions constitute one of the major social problems of the 21st century (Mateus, & Alves, 2018). In a political and economic perspective, the growth of the elderly population means an increase in public costs with health care (chronic disease, acute illness, failure of physiological systems), medicine (increased consumption) and bigger need for care and shelter (Nunes, 2017a).

The Portuguese Government has been raising public awareness of the importance of solidarity between generations and the importance of joining forces from various sectors to generate policies and measures aimed at improving quality of life of the elderly persons (Nunes, 2017a; Bárrios, & Fernandes, 2014). Therefore, new policies for management, monitoring, insertion and control of older people in health and social reintegration, prepared jointly by the Ministry of Health, the Ministry of Labor and Social Security, have been developed in Portugal (Nunes, 2017a).

2. Ageism

Human aging is increasingly understood as a process influenced by several factors such as gender, social class, culture and health patterns of society (Schneider, & Irigaray, 2008). Each society emphasizes its own cultural values and proposes roles to a certain age group, being old age associated with a series of characteristics that conclude a life cycle and an image socially shaken by limitations, diminished by the reduction of physical and mental capacities and an asexual, vulnerable, decadent, regressive stage (Toledo, 2011).

The society conditions a series of beliefs, opinions, attitudes, behavioural patterns and perceptions about age, which allows the incorporation of roles, ideas and patterns of judgments and shared opinions towards a certain age group (Toledo, 2011). Conceptions of old age are nothing more than the result of a social and temporal construction made within a society with its own values and principles (Schneider, & Irigaray, 2008).

Ageism is defined by the development of negative and stereotyped attitudes or behaviors towards a person based only on their age, specially towards old age and/or the aging process (Toledo, 2011; Schwanen, Hardill, & Lucas, 2012; Coelho, 2013). Negative attitudes often have their biased theoretical core, based on the beliefs of society about the human life cycle, emphasizing productivity, activity and usefulness as relevant characteristics (Toledo, 2011).

Being old assumes a negative connotation, referring to the loss of attributes so valued by the social environment and by the elderly himself (Schneider, & Irigaray, 2008). The social image of this age group is trapped under the perception of a cycle of negative change of abilities, a stage of loneliness and pain, of poverty and of suffering from multiple organic, medical, psychological and physical problems (Toledo, 2011). Even many adults who could be considered old based on their chronological age understand “being old” in terms of dependence and decline, making them actively seek to dissociate themselves from such connotations in their practices and conversations with other people (Schwanen, Hardill, & Lucas, 2012).

Stereotypes reflect common misconceptions, such as the elderly are sick, they are cranky and eccentric, generating a distorted image of old age, since it is known that the majority of the elderly are not sick, in addition to presenting dimensions of personality that weave throughout our lives (Schneider, & Irigaray). Associations of being old with inflexibility, dependence and decline remain deeply ingrained in how people speak about older adults (Schwanen, Hardill, & Lucas, 2012).

Ageist stereotypes continue to be a part of commonsense and practices regarding old age (Schwanen, Hardill, & Lucas, 2012). Individuals who are exposed to age stereotypes across life span and the internalization of these stereotypes influences health through physiological, psychological and behavioural pathways (Sindi et al., 2012; Sun & Smith, 2017). Levy (2009, p.333) presents the stereotype embodiment theory:

“It proposes that stereotypes are embodied when their assimilation from the surrounding culture leads to self-definitions that, in turn, influence functioning and health”.

The author states that this theory has four components: the stereotypes become internalized across the life span, can operate unconsciously, gain salience from self-relevance, and utilize multiple pathways. The internalization of stereotypes across the life span affirms that the process of internalizing the age stereotypes that permeate society continues beyond childhood and extends into old age. The unconscious operation of age stereotypes demonstrates that both positive and negative age stereotypes can be activated and influence functioning on an unconscious level. The salience gain from self-relevance states that the process of age stereotypes becoming self-relevant for individuals is facilitated by their encounters with an overabundance of societal cues, usually pejorative, that indicate they are old. Lastly, age stereotypes appear to use their influence along psychological, behavioural, and physiological pathways, such as control beliefs, coping, physiological stress response and health behavior.

Some investigations demonstrate the influence of these pathways on age stereotypes. A study showed an increased heart rate, blood pressure and skin conductance in elders who were exposed to negative aging stereotypes, indicating that these negative stereotypes may contribute to adverse health outcomes in elderly persons (Levy, Hausdorff, Hencke, & Wei, 2000). Levy and Leifheit-Limson (2009) found that the impact of the positive and negative age stereotypes on cognitive and physical functioning was greatest when the content of the stereotypes corresponded to the outcomes. Levy, Zonderman, Slade, and Ferrucci (2011) demonstrated that participants who held negative stereotypes about older adults in midlife had poorer cognitive function on a visual memory test up to 38 years later. Levy (2000) showed behavioural changes linked to negative stereotypes of aging. It was demonstrated less stable handwriting in older people exposed to negative stereotypes when compared to older individuals who were exposed to positive stereotypes.

Women and men experience ageism in different ways and degrees (Handy, & Davy, 2007; McGann, Ong, Bowman, Duncan, Kimberley, & Biggs, 2016). For example, older women were believed to possess conventionally feminine physical characteristics such as being soft, to possess feminine conventionally traits, such as warmth, and to engage in conventionally feminine behaviours such as doing laundry, when compared to older adult men. On contrary,

older men were thought to possess conventionally masculine physical characteristics such as being strong, and to engage in conventionally masculine behaviours such as assuming financial obligations, when compared with older adult women (Wright, & Canetto, 2009).

The gendered ageism is also showed in the heightened importance of bodily appearance, where women are subject to a “double standard of aging” in that they are judged by their ability to achieve and maintain the cultural ideal of female beauty (Clarke, & Griffin, 2008; Lagacé, Charmarkeh, & Grandena, 2012). A study demonstrated that signs such as grey hair or wrinkles can be interpreted differently according to sex, in which may signify authority and power for men in high-status occupations such as judges or politicians (Jyrkinen, & McKie, 2012). Therefore, the reduced status of older people also appears to be due to the contemporary emphasis on youth and beauty (Schneider, & Irigaray, 2008).

3. LGBT aging

As the global population is aging dramatically, so the number of aging lesbian, gay, bisexual and transgender (LGBT) community grows (Fredriksen-Goldsen, & Muraco, 2010). However, estimating the numbers of LGBT people is a difficult task, for reasons such as stigma (de Vries, & Croghan, 2014).

Although the numbers of sexual and gender minority older adults are growing in size rapidly, they still remain invisible and a under-researched topic of the older adult population (de Vries, & Croghan, 2014; Fredriksen-Goldsen, & Kim, 2017). As this population increases, there is a greater need for evidence-based understanding of the issues that are unique to these individuals (Fenkl, 2012).

A few decades ago, the terms aging and LGBT were thought to be incongruous and incompatible (de Vries, & Herdt, 2011, cit. in de Vries, & Croghan, 2014). These populations are worthy of systematic critical attention and will have unique needs as they age (Fredriksen-Goldsen, & Muraco, 2010). Furthermore, the generation of LGBT individuals currently entering old age is different in many important ways from previous generations (Schope, 2005). To understand these needs, it is important to take into account their historical and social contexts, recognizing their culture, politics and social values of the era in which these elders came and lived (Fredriksen-Goldsen, & Muraco, 2010). Studying such disadvantaged groups expands the knowledge of the diversity of experiences and needs of the older population (Fredriksen-Goldsen, & Muraco, 2010).

As the number of LGBT elders grow, so too does the need for cultural competent health care that has the ability to address the unique health need of this population (Landers, Mimiaga, & Krinsky, 2010). Services provided for LGBT older adults often fail to recognize the unique circumstances of their aging (de Vries, & Croghan, 2014).

As Schope (2005) notes, the intervention with LGBT individuals is challenging due to the great diversity within this group, so it is important for social workers and other caregivers to understand the uniqueness of aging on this population. Despite being aware of the importance of knowing the specificities of gender and sexual orientation in relation to health outcomes, the health needs of LGBT elders have been absent in health policy and are rarely considered within the scope of many health care professionals (Murray, Numer, Merritt, Gahagan, & Comber, 2011).

The knowledge of potential health risks of LGBT elders could aid in the development or clarification of health promotion strategies and additional resources to help reducing the potential health disparities within the LGBT population (Blank, Asencio, Descartes, & Griggs, 2009). A better understanding of the LGBT community it is not only the foundation for effective and competent service to meet their needs, but also a consideration on the assumptions underlying policies and services, providing an opportunity to review how to engage and work with the diverse elderly population (de Vries, & Blando, 2004, cit. in de Vries, & Croghan, 2014). As Landers, Mimiaga and Krinsky (2010, p.318) noted:

“Strategies are needed to assist health and human services workers in providing quality, culturally competent care for the aging LGBT population”.

Although some aging issues are comparable between older LGBT’s and their heterosexual counterparts (such as concerns about economic resources, physical decline, unexpected debilitating illness, loss of friends and family, loneliness, social alienation, loss of attractiveness and health care access), LGBT elders also face specific challenges that are directly related to their sexual minority status (Landers, Mimiaga, & Krinsky, 2010; Greene, Britton, & Shepherd, 2016).

A fear shared by elders is being institutionalized in a personal care facility or nursing home if they become unable to take care for themselves, however, LGBT older individuals must cope with additional apprehension about living in a context where sexual orientation is not accounted for, or the possibility of experience discrimination in accessing needed health care and social services (Landers, Mimiaga, & Krinsky, 2010). As Murray, Numer, Merritt Gahagan and Comber (2011) stated, LGBT people may avoid seeking treatment due to perceived or experienced discrimination.

An investigation with a sample of 132 LGBT individuals and 187 heterosexuals showed that most participants suspected that staff and residents of care facilities discriminate against LGBT people (Jackson, Johnson, & Roberts, 2008). The authors suggest that a separation on retirement facilities for LGBT and heterosexual individuals would be beneficial as it would provide a safe and inclusive environment for LGBT people and would have professionals with the knowledge of the needs in LGBT aging.

Studies on caregiving for older adults have contributed to the understanding of the caregiving experience and its aversive effects, however the majority of the investigations use only heterosexual participants, excluding the experiences of those providing care in the LGBT community (Hash, 2006). Therefore, caregivers providing care for the sexual minority older adults may experience a higher level of stress and a sense of isolation, invisibility and

discrimination in their attempts to provide care and to identify support for their own needs, which leads them to keep hidden from view (Brotman et al., 2007).

A qualitative study addressing the experiences of midlife and older gay men and lesbians caring for chronically ill, same-sex partners, with 9 caregivers, demonstrated a perceived experience of loneliness and depression (Hash, 2006). The author also reported that the unique aspects of the experience for gay and lesbian caregivers caring for same-sex partners involved their interactions with formal and informal support. Another qualitative investigation exploring the experiences of 17 caregivers of gay and lesbian seniors showed an impact of felt and anticipated discrimination and the need of support (Brotman et al., 2007).

Later life may bring some particular physical and mental health issues for LGBT older adults (Blank, Asencio, Descartes, & Griggs, 2009; de Vries, & Croghan, 2014). Literature on LGBT aging presents evidence of negative mental health outcomes (Greene, Britton, & Shepherd, 2016), such as higher rates of depression (Fredriksen-Goldsen et al., 2013), lower self-esteem and lower self-image (Herek, 2009).

Some of the risk factors associated with negative mental health in LGBT older adults are experiences of stigmatization and victimization, lack of health care access (Fredriksen-Goldsen, Kim, Barkan, Muraco, & Hoy-Ellis, 2013), chronic health conditions, discrimination (Fredriksen-Goldsen, Hoy-Ellis, Goldsen, Emler, & Hooyman, 2014; Fredriksen-Goldsen, & Kim, 2017), poor physical health (Fredriksen-Goldsen, 2011) and poor general health (Fredriksen-Goldsen, & Kim, 2017).

According to the above-mentioned, high rates of suicidal thoughts and behaviors have been noted, in which is almost 3 times higher for gay and bisexual men and almost 2 times higher for lesbian and bisexual women (Balsam, Rothblum, & Beauchaine, 2005). However, a study with a sample of 220 older lesbian, gay, and bisexual adults showed that support from friends predicted higher mental quality of life and lower depression, anxiety, and internalized homophobia (Masini, & Barrett, 2008). These results demonstrate how social support is a protective factor of mental health on LGBT elders.

In terms of physical health, Fredriksen-Goldsen (2011) reported that older lesbians and bisexual women were more likely than their heterosexual counterparts to be obese and to have cardiovascular disease. Other investigations with LGBT older adults also associate poorer health with higher rates of cancer (Chin-Hong et al., 2004), poor nutrition (Blank, Asencio, Descartes, & Griggs, 2009), asthma and diabetes (Adelma et al., cit. in de Vries, & Croghan, 2014). However, Slevin (2008) found no discernible difference in exercise, diet, and health behaviors between older gay and heterosexual men.

The literature demonstrates that social support plays a significant role as it relates to aging (Fenkl, 2012; Lee, & Quam, 2013). In the absence of conventional family support, LGBT elders have come to place a high value on their friendships, what some authors have called “chosen families”, and there is evidence that LGBT older adults identify a greater number of friends than heterosexual individuals (Haber, 2009; de Vries, & Croghan, 2014).

Social support is an increasingly important resource as people age, specially for those individuals that have been marginalized or who might perceive an isolated existence due to lack of familiar support (Fenkl, 2012). In terms of gender, a study from Brennan-Ing, Seidel, Larson, and Karpiak reported that women identified larger social networks when compared to men, perhaps attributable to their inclusion of children and other family members (de Vries, & Croghan, 2014).

Thus, an important direction of research on LGBT aging is the clarification of what specific risk factors and protective factors contribute most to the prediction of LGBT health at midlife and in older adulthood (Greene, Britton, & Shepherd, 2016). Training staff and providers on the unique needs and challenges of LGBT older adults provides a way to attenuate stigma, with the aim of lowering or eliminating the discrimination (Porter, & Krinsky, 2014).

In Portugal, few studies involving LGBT older adults have been conducted. Given the fact that Portugal has become one of the oldest countries in the European Union, very little is known about the older LGBT population (Pereira et al., 2019). A descriptive study of older LBG persons living in Portugal’s capital, Lisbon, showed that the majority of the participants were “out” as gay, lesbian or bisexual, although, more than 58% report that not everyone accepted their sexual orientation and 15% stated that they were not accepted (Pereira et al., 2019). The authors also found that almost half of the participants reported having experienced sexual orientation discrimination in health or social services and 40% have personal knowledge of LGB persons having experienced discrimination in formal care settings.

4. Sexual minority stigma and minority stress

Information about someone's sexual orientation influences social perceptions (Wright, & Canetto, 2009), therefore inequality still remains an ongoing issue for many older adults who identify themselves as LGBT (Greene, Britton, & Shepherd, 2016). The identity, social and physical development of LGBT individuals is still marked by the presence of negative attitudes and the experience of stigma and discrimination (Pereira et al., 2017).

The cultural and socio-political constraints shaped by the historical worlds of the current LGBT cohorts include social stigma surrounding a LGBT identity and a lack of equal rights for same-sex couples and LGBT individuals, which limited the actions of older LGBT adults over their life course (Fredriksen-Goldsen, & Muraco, 2010). Therefore, stigmatization throughout the lifespan may have a causal influence on barriers to care, social isolation and concomitant health disparities (Porter, & Krinsky, 2014). Goffman (1963 cit. in Dunkle, 2018, p.438) defined stigma as:

“A phenomenon in which a person with certain qualities or characteristics that a society deems unacceptable is rejected”.

To date, much of the sexual minority research has been driven by stress-related mental health models such as Minority Stress Model (Fredriksen-Goldsen, & Kim, 2017). This model is one of the most well-founded concepts to explain the health and mental health risk associated with a minority status, especially in sexual minorities (Gonçalves, Costa, & Leal, 2019). The Minority Stress Model (Meyer, 1995; Meyer, 2003) explains the impact of individual, social and contextual variables on mental health among minority people. As Gonçalves, Costa and Leal (2019, p.2) describe:

“This model suggests that health and mental health inequalities that penalize LGBT individuals when compared to heterosexual individuals occur because of a set of constant society-induced stressors, characterized as homophobic and hostile which may negatively affect their mental health”.

The sexual orientation of LGBT persons grants them a minority status and the type of psychological or social stressors that affect this population is designated minority stress (Meyer, 2003; Gonçalves, Costa, & Leal, 2019). Therefore, the minority status leads the LGBT individual to identify with a minority identity that provides additional stressors, such as

rejection, hiding their identity and internalized stigma (Gonçalves, Costa, & Leal, 2019). The minority stress explains that stigma, prejudice and discrimination create a hostile and stressful environment that causes mental health problems (Meyer, 2003).

Social stress might be expected to have a strong impact in the lives of people associated to stigmatized social categories, including categories related to socioeconomic status, race/ethnicity, gender or sexuality (Meyer, 2003). Social stress suggests that conditions in the social environment, not only personal events, are sources of stress that may lead to mental and physical ill effects (Meyer, 2003).

Herek (2009) mentioned the main sources of minority stress include sexual prejudice, referring to internalization of sexual stigma by non-minority persons, self-stigma, being internalization of sexual stigma by minority individuals, felt-stigma, i. e. perceptions of LGBT people derived from stigmatization process, and enacted stigma, when prejudice is expressed openly through actions on the minority individuals.

The existence of stressors requires a person to adapt and respond to the social environment, demonstrating that, according to the Minority Stress Model, the person is an active element in this socio-cultural process in which, although it suffers the physical and mental health negative consequences of stigma and discrimination, it can activate factors that help it to deal with or to minimize the effect of the previous ones (Gonçalves, Costa, & Leal, 2018; Gonçalves, Costa, & Leal, 2019). Even with double stigma, LGBT older adults have shaped a sense of toughness and competence out of a lifetime of surviving as a sexual or gender minority in a heterosexual environment (de Vries, 2006).

As LGBT individuals progress through the life-course, they may face ageism in addition to the social alienation due to their sexual orientation (Murray et al. 2011). Older LGBT individuals live with both the legacy and contemporary experience of homophobia, the fear and hatred of those perceived to be gay, and stigma, complicated by the tension of ageism (Richards, 2011; Porter, & Krinsky, 2014). Therefore, elderly LGBT people, as both a sexual minority and an older age cohort, are particularly vulnerable to double stigma (Gonçalves, Costa, & Leal, 2019). A qualitative Portuguese study verifies this double stigma associated with age and sexual orientation, and also shows that the participants have less social and family support and greater difficulties in accessing health care (Pereira et al., 2017). Gonçalves, Costa and Leal (2018) also notes that gay men 60 years old or older, especially due to dominant stereotypes in society, are more exposed to double stigma.

5. Successful aging

Each stage of life is related to cognitive representations that comprise certain characteristic beliefs and behaviour scenarios about belonging in that particular age group (Craciun, 2012). Worldwide aged populations have important implications for health and economic policies with the growing number of older persons potentially requiring substantial investment in health and long-term care (Bloom et al., 2015). The increasing social and economic affect of late-life disability has resulted in greater awareness in helping elders avoid incapacity (Romo et al., 2013).

The question of what it means to age successfully has worried people over centuries (Craciun, 2012). However, the meaning of success is ambiguous due to the complexity of the human aging process, to the ongoing changes in society and to the characteristics of the older adult population (Iwamasa, & Iwasaki, 2011). The debates about successful aging is whether it can be measured by objective criteria, such as physical functioning and health, or is a value judgment assessed by individual subjective evaluations like acceptance, attitude, adaptation, and emotional wellbeing (Pruchno, Wilson-Genderson, Rose, & Cartwright, 2010; Romo et al., 2013).

Early work on successful aging tended to focus on longevity, absence of disease and good functioning, however recent work has given increased emphasis to the views of older people themselves, who consider these clinical aspects to be less important and prioritize social engagement, wellbeing and independence (Cosco, Prina, Perales, Stephan, & Brayne, 2013; Whitley, Benzeval, & Popham, 2018). According to Young, Frick and Phelan (2009, p.88-89), successful aging is defined as:

“A state wherein an individual is able to invoke adaptive psychological and social mechanisms to compensate for physiological limitations to achieve a sense of well-being, high self-assessed quality of life, and a sense of personal fulfillment even in the context of illness and disability”.

This definition suggests that successful aging is a multidimensional construct surrounding important subjective aspects and objective criteria (Pruchno, Wilson-Genderson, Rose, & Cartwright, 2010; Fredriksen-Goldsen et al., 2014).

Challenges in achieving well-being and happiness in older age, such as the experience of loss of friends and social networks, body deterioration and adjustment to new social roles in retirement are commonly experienced by people of all sexual orientations and gender

identities (Van Wagenen, Driskell, & Bradford, 2013). However, LGBT aging is uniquely influenced by distinguishable stress specific to LGBT experience (Greene, Britton, & Shepherd, 2016). Although considerable research has been conducted on successful aging in general, few studies have examined possible variation in experiences in minority groups (Van Wagenen, Driskell, & Bradford, 2013; Fredriksen-Goldsen et al., 2014).

Since LGBT older adults are marginalized because of their sexual and gender minority status, they are believed to face unique challenges in achieving a happy and healthy older age (Van Wagenen, Driskell, & Bradford, 2013). A study showed a relationship between successful aging, physical and mental health functioning, and social connectivity, while also contextualizing unique experiences of elderly LGBT people including experiences of lifetime victimization and discrimination (Fredriksen-Goldsen et al., 2014; Fredriksen-Goldsen et al., 2015).

Although significant research has been conducted on successful aging in general, successful aging has rarely been studied in diverse and hard to access populations (Fredriksen-Goldsen et al., 2014). More investigation is required to gain necessary information to support the development of appropriate health promotion programs, interventions and policies for the LGBT aging population, exploring the impacts of sexuality on healthy aging and taking into account the diversity of this population (Murray, Numer, Merritt, Gahagan, & Comber, 2011).

6. Aging perceptions

The process of aging is dynamic and perceptions of aging are shaped by social contexts and cultural meanings (Lin, 2016). Attitudes about aging are believed to be a reflection of societal expectations and one's attitude toward aging may influence self-reports of physical and psychological states (Li et al., 2013; Low, Molzahn, & Schopflocher, 2013). Understanding the experience and perception of aging is essential to comprehend the health and behavioral implications of aging and a subjective sense of well-being and individual identity in elderly people (Mohammadpour et al., 2018).

Among older populations it is important to investigate self-perceptions of aging since they can provide insights to help understand how aging affects older adults' lives and how to better meet their needs. Self-perceptions of aging, also referred to as aging perceptions or attitudes towards aging, describe individual's experiences about the aging process and their expectations about the effect and process of getting older (Wolff, et al., 2017). Moser, Spagnoli and Santos-Eggimann (2011, p.675) defined aging self-perceptions as:

“Personal evaluation of one's own aging”.

The process by which individuals develop perceptions about themselves as old individuals draws on two stages of expectations (Moser, Spagnoli, & Santos-Eggimann 2011). According to Levy, Slade and Kasl (2002), firstly there are expectations internalized during the lifetime before old age, including trajectories of attributes that will increase or decrease at different points over the life span. The second stage of expectations arises through encounters that elderly persons have in their everyday life and underlying these meetings there are likely to be negative expectations that can have an adverse impact on the targets.

Through the course of an individual's life, beliefs about aging are formed and shaped by personal experiences and broader societal attitudes, and these opinions are speculated to influence outcomes via behavioural, physiological and psychological pathways, which may affect the health outcomes (Levy, 2009; Freeman et al., 2016). On the same note, Sargent-Cox, Anstey and Luszcz (2013, p.168) affirm:

“Self-perceptions of aging becomes a lens through which age-related changes are interpreted and their causes attributed, and it can result in a self-fulfilling prophecy, particularly surrounding health outcomes in late life”.

The action of internalizing aging stereotypes into constructs of one's self-perceptions in aging has been postulated to result in a “self-fulfilling prophecy” of the stereotype (Levy,

Slade, Kunkel, & Kasl, 2002; Wurm, Tesch-Römer, & Tomasik, 2007; Sindi et al., 2012; Freeman et al., 2016). The “self-fulfilling prophecy” is defined by Robert Merton (1957 cit. in Levy, Slade, & Kasl, 2002, p. 410) as:

“A mechanism that, in the beginning, a false definition of the situation evoking a new behavior which makes the originally false conception true”.

Therefore, self-perceptions of aging have been found to be self-fulfilling, that is, individuals with more positive expectations toward aging are more likely to experience more positive outcomes in the longer term, whereas individuals with more negative self-perceptions of aging are more likely to experience more negative outcomes over time (Wolff, et al., 2017).

Aging self-perceptions include beliefs about one’s own aging and expectations for the future and they can either be positive, such as aging has benefits like increased wisdom and life experience, or negative, like beliefs that ill health and social isolation are inevitable (Robertson & Kenny, 2016). It is worth noting that experiences such as a low level of intellectual functioning or well-being, loneliness or lack of social contacts, feelings of unhappiness and uselessness, as well as depressive symptoms may also influence perceptions of health, age, and aging (Blazer & Hybels, 2004; Cheng, Fung, & Chan, 2009; Moser, Spagnoli, & Santos-Eggimann, 2011; Cramm, & Nieboer, 2017).

Perceptions of old age have often been reported as negative, pessimistic and being related to declining health and functioning (Toledo, 2011; Warmoth, Tarrant, Abraham, & Lang, 2016; Shaw & Langman, 2017; Mateus & Alves, 2018). Evidence across different cultures show that negative self-perceptions of aging are associated with the prediction of mortality (Levy, & Myers, 2005; Kotter-Grünn et al. 2009; Stewart, Chipperfield, Perry, & Weiner, 2012; Sargent-Cox, Anstey, & Luszcz, 2013; Gu, Dupre, & Qiu, 2017) and anxiety of death among the elderly (Mohammadpour et al., 2018). Sargent-Cox, Anstey and Luszcz (2013) affirmed their findings suggest that a single measurement of aging self-perceptions in late life may be very informative of future long-term vulnerability to health decline and mortality and it supports a “self-fulfilling” hypothesis. Negative aging self-perceptions have been also found to have an impact on sleep quality (Lin, 2016), declines in walking speed (Robertson, Savva, King-Kallimanis, & Kenny, 2015), medical conditions (Jang, Bergman, Schonfeld, & Molinari, 2006), medication adherence (Polverino, 2010 cit. in Warmoth, Tarrant, Abraham, & Lang, 2016) and delayed health care access (Sun & Smith, 2017).

Moser, Spagnoli and Santos-Eggimann (2011) investigated the relationship between aging self-perceptions and adverse outcomes including falls, hospitalizations, and disability in persons aged 65-70 years and found a strong association between a negative perception of

aging with difficulties in basic activities of daily living (such as feeding, bathing, dressing, using the toilet, walking across a room, and getting up from bed or lying on a bed) and instrumental activities of daily living (such as housework, shopping, preparing meals, using a phone, managing money, and using a map) in participants who were not disabled at baseline. The authors also reported that low income, living alone, the presence of chronic medical conditions, and depressive feelings were associated with a negative self-perception of aging.

Research indicates negative aging perceptions do not only affect physical health as people age, but also psychological well-being (Robertson et al., 2015). Negative aging self-perceptions have also been found to have an impact on depression (Djernes, 2006; Sindi et al., 2012; Freeman et al., 2016). Sindi et al. (2012), demonstrated that internalized aging stereotypes were associated with increased depressive symptoms and subjective memory complaints. On the same note, Freeman et al., (2016) found that, after adjusting for potential confounders, negative ageing perceptions at baseline predicted the new onset of depression and anxiety at follow-up. The authors affirmed addressing negative perceptions towards aging by developing interventions that activate positive aging perceptions may shift social attitudes and reduce the burden of depression and anxiety among the elderly. Negative aging self-perceptions have also been found to have an impact on cognitive decline (Robertson, King-Kallimanis, & Kenny, 2016) and on the association between frailty and cognitive functioning (Robertson & Kenny, 2016).

However, Wolff et al. (2017) hypothesized that individuals with more negative self-perceptions of aging might experience short-term benefits, as they might be better prepared for negative life events, while at the same time, they might experience worse health in the long-run, because their negative self-perceptions of aging keep them from engaging in health-promoting behaviors. These short-term benefits, however, are more likely to manifest in less stable characteristics of a person rather than in sustaining changes in health behavior or physical functioning. The results of their investigation show that in the case of a serious health event, individuals with more negative self-perceptions of aging reported less negative affects after 6 months but more functional limitations after 2.5 years. In contrast, individuals with less negative self-perceptions of aging reported more negative affects in the short-run but less functional limitations later on.

Positive aging self-perceptions serve to sustain levels of social activity and engagement, improve self-esteem and well-being, and improve biophysiological functioning (Kleinspehn-Ammerlahn, Kotter-Grühn, & Smith, 2008; Lai, 2009). Regarding general health, positive aging perceptions were associated with better self-rated health (Jang et al., 2006; Janecková, Dragomirecká, Holmerová, & Vanková, 2013), better functional health (Levy, Slade, & Kasl, 2002), positive impact on health changes (Wurm, Tesch-Römer, & Tomasik, 2007) and better health status (Kim, 2009). Relative to physical and physiological

performance, more positive beliefs about aging tended to perform better on vision and hearing tests (Kim, & Chiriboga, 2012), were able to walk farther distances at a follow-up of three and six months (Witham, Argo, Johnston, Struthers, & McMurdo, 2006), and less deterioration in physical performance across a 16-year period (Sargent-Cox, Anstey, & Luszcz, 2012a). Positive aging perceptions were also associated with less difficulty and a reduced need for help with daily activities (Kim, & Chiriboga, 2012), being able to enjoy leisure activities (Liechty & Genoe, 2013) and having an active lifestyle (Lagacé, Charmarkeh, & Grandena, 2012).

Regarding successful aging, research has shown that self-perceptions of aging predict survival and healthy aging, in which older individuals with positive aging self-perceptions lived an average of 7.5 years longer than those with negative self-perceptions of aging (Levy, Slade, Kunkel, & Kasl, 2002; Fernández-Ballesteros et al., 2013). Understanding older adult's self-perceptions of successful aging that are free of an imposed set of objective criteria can help in clinical interactions, in which allows providers to identify the types of intervention that are most appropriate to improve the experience of successful aging and respect elders' values (Romo et al., 2013). Also, the perceptions of aging can serve as a measure to assess the individual's satisfaction with aging and reflects the person's adaptation to the changes associated with aging (Shaw & Langman, 2017). Therefore, self-perception is a key characteristic of many theoretical conceptualizations of successful aging (Romo et al., 2013).

Also concerning aging self-perceptions, differences based on sex have been observed. A study with elderly Chinese residents in Taiwan revealed that women were more likely to feel negative about their aging experience (Lin, 2016). The author explains that perceptions of aging may reflect cultural values and judgments about the stages of life and major turning points. Other investigations showed that compared with men, women showed less positive aging perceptions (Kotter-Grühn, Kleinspehn-Ammerlahn, Gerstorf, & Smith, 2009; Janecková et al., 2013; Parra-Rizo, 2017). However, in some investigations no significant differences were found between sex (Ron, 2007; Chachamovich, Fleck, Laidlaw, & Power, 2008; Moser, Spagnoli, & Santos-Eggimann, 2011).

Despite a scarcity of studies concerning the relationship between aging self-perceptions and sexual orientation, there is some evidence that self-identified homosexuals/bisexuals have positive perceptions of aging due to the adaptive capacity that they were obliged to develop resulting from the social stigma concerning homosexuality/bisexuality (de Vries & Croghan, 2014; Pereira et al., 2017). Therefore, it is possible that sex and sexual orientation may have a mediating effect on aging perceptions. Schope (2005) findings indicate that, comparing gay men and lesbian women, gay men have more negative views of how gay society views getting older and how they view their own growing older.

7. Aging perceptions measures

With perceptions regarding aging being an important and debated subject due to the increase of elderly people in the world's population, several measures were created in order to evaluate these perceptions. The implications of these evaluations are varied (e.g. to improve adaptive care programs and help to intervene with older adults, having in mind their special needs), which reveals the importance of instruments that assess this construct. Some of the measures created for the evaluation of perceptions regarding aging will be described.

The Attitudes Towards Own Aging (ATOA) is a subscale from the Philadelphia Geriatric Centre Morale Scale (Lawton, 1975). It has 5 items ("Things keep getting worse as I get older"; "I have as much pep as I had last year"; "As I get older, I am less useful"; "As I get older, things are better than I thought they would be"; "I am as happy now as I was when I was younger") and has a "yes" or "no" response format. However, Kotter-Grühn et al. (2009) used a 5-point likert scale ("1 - does not apply to me at all"; "5 - applies very well to me") on their investigation. Higher scores indicate more negative perceptions. This subscale is often used in several studies (Levy et al. 2002; Jang, Bergman, Schonfeld, & Molinari, 2006; Kotter-Grühn et al., 2009; Kim et al., 2012; Moser et al., 2011; Sargent-Cox et al., 2012a, 2012b, 2014; Witham, Argo, Johnston, Struthers, & McMurdo, 2006).

The Expectations Regarding Aging (ERA) survey has 2 forms: 36 items (ERA - 36) and 12 items (ERA - 12) (Sarkisian, Hays, Berry, & Mangione, 2002; Sarkisian, Steers, Hays, & Mangione, 2005). The ERA-38 (Sarkisian, Hays, Berry, & Mangione, 2002) is a survey whose purpose is to measure expectations regarding aging. It consists of 10 scales, each representing a domain of expectations: general health (5 items); cognitive function (4 items); mental health (12 items); functional independence (5 items); sexual function (2 items); pain (2 items); sleep (2 items); fatigue (4 items); urinary incontinence (1 item); and appearance (1 item). It uses a 4-point response set (1 - definitely true; 2 - somewhat true; 3 - somewhat false; and 4 - definitely false) and the results range from 0 to 100, with lower scores more consistent with expecting decline in health and functional status and higher scores more consistent with expecting aspects of successful aging. The ERA-12 (Sarkisian, Steers, Hays, & Mangione, 2005) is a 12-item short version, self-administered questionnaire, which was developed to measure three domains of expectations about aging, such as physical health (four items), mental health (four items) and cognitive function (four items). It also uses 4-point Likert scales for responses (1 - definitely true; 2 - somewhat true; 3 - somewhat false; and 4 - definitely false). The scores range from 0 to 100, with higher scores indicating that

elderly persons expect to maintain higher levels of physical health, mental health and cognitive function with age.

The Attitudes to Ageing Questionnaire (AAQ) (Laidlaw, Power, & Schmidt, 2007) is a self-report measure with which older people themselves can express their attitudes to the process of aging. The AAQ consists of 24 items in three domains such as psychosocial loss (8 items); physical change (8 items); and psychological growth (8 items), and suggests a way of conceptualizing and measuring successful aging in individuals. The physical change (vitality) and psychological growth (gains made with age) subscales reflect positive attitudes to aging, with items like “I have more energy than I expected for my age” and “Wisdom comes with age”, respectively. The psychosocial loss subscale includes statements such as “Old age is a time of loneliness” and thus reflects a negative attitude to aging. Respondents are asked to indicate their own feelings about aging using a five-point likert scale (1 - “strongly disagree”; 5 - “strongly agree” for seven of the questions; and 1 - “not at all true”; 2 - “extremely true” for the remainder) and the scores range from 8 to 40, with a higher score indicating a stronger endorsement of the attitude.

The CENVE is an instrument composed of 15 items, taken from Montorio and Izal (1991 cit in Palacios, Torres, & Mena, 2009) and Palmore (1990 cit in Palacios, Torres, & Mena, 2009) tests, and has three factors: health stereotypes (5 items, such as “at the age of 65 health becomes seriously deteriorated”); motivation/social (5 items, such as “they have fewer friends than the younger”; and temper/personality (5 items, such as “they get irritated easily”. It presents a 4-level answer scale (1 - strongly agree; 2 - agree; 3 - disagree; 4 - strongly disagree) and high scores indicate a high level of belief in negative aging stereotypes, while low scores indicate a poor level of belief in the stereotype.

The Ageing Perceptions Questionnaire (APQ) (Barker et al., 2007) is a multidimensional measure with 32 items that assess self-perceptions regarding aging, contributing to the understanding of the subjective experience of aging and can help with the identification of individuals at risk due to maladaptive perceptions regarding the aging process. The APQ assesses self-perceptions of aging along seen distinct domains or subscales that examine views about own aging, such as timeline chronic (items 1-5), timeline cyclical (items 27, 28, 30-32), consequences positive (items 6-8), consequences negative (items 16-20), control positive (items 10-12, 14, 15), control negative (items 21-24), and emotional representations (items 9, 13, 25, 26, 29). Individuals rate their agreement with a series of statements - for example “I am always aware of my age” or “As I get older I can take part in fewer activities” with a five-point response scale (1 - Strongly Disagree; 2 - Disagree; 3 - Neither Agree nor Disagree; 4 - Agree; 5 - Strongly Agree). The negative control and consequences scales were reverse coded, so that higher scores indicated more positive perceptions of aging.

The Brief Ageing Perceptions Questionnaire (B-APQ), developed by Sexton et al. (2014), is a short version of the Aging Perceptions Questionnaire (APQ). The B-APQ has 17 items organized in 5 factors, 3 of which are considered to reflect negative perceptions of aging, such as timeline chronic (items 1-3), consequences and control negative (items 10-14) and emotional representations (items 15-17), and the remaining 2 reflect positive perceptions, consequences positive (items 4-6) and control positive (items 7-9). Utilizes a 5-point Likert scale (1 - Strongly Disagree; 2 - Disagree; 3 - Neither Agree nor Disagree; 4 - Agree; 5 - Strongly Agree) that ask participants to rate their level of agreement with questions about the aging experience and their expectations about aging in the future, and higher scores indicate a greater level of agreement with that domain.

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Annex 2: Article Submission

European Journal of Psychological Assessment
A Validation of the Brief Ageing Perceptions Questionnaire (B-APQ) Among Elderly Portuguese Adults
 --Manuscript Draft--

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| Manuscript Number: | |
| Full Title: | A Validation of the Brief Ageing Perceptions Questionnaire (B-APQ) Among Elderly Portuguese Adults |
| Short Title: | Validation of the Brief Ageing Perceptions Questionnaire (B-APQ) |
| Article Type: | Original Article |
| Keywords: | B-APQ; validation; aging self-perceptions; older adults; sexual orientation. |
| Section/Category: | Miscellaneous/Other |
| Manuscript Classifications: | 2: Test & Equipments - autobiography, behavioral assessment techniques, case formulation, observational methods, personality questionnaires, projective techniques, test design, unobtrusive measures |
| Abstract: | The primary aim of this study was to translate and validate the B-APQ for use among the elderly Portuguese population. Complementarily, the second part of this study sought to assess differences in aging perceptions among participants based upon sex and sexual orientation. Older adults between the ages of 50 and 95 (N=722) completed a Portuguese version of the B-APQ, alongside a scale used to measure depression (the CES-D). This study employed Confirmatory Factor Analysis (CFA) to verify the multidimensionality of the B-APQ. We analysed the correlation between the B-APQ and the CES-D to assess convergent and discriminant validity. Cronbach's alpha coefficients were used to measure internal consistency, and a sensitivity analysis of the items was employed through measures of asymmetry and flatness. This study also assessed differences in aging perceptions in relation to sex and sexual orientation. The CFA indicated that the 5 factors of the Portuguese version of the B-APQ model were adequate. The results also showed that all factors of the B-APQ were associated with the CES-D, supporting the existence of convergent and discriminant validity. The Cronbach's alphas were acceptable for all factors, indicating that internal consistency was preserved and that sensitivity presented adequate scores for all items. |
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| it already been published or is currently under consideration by another journal? | |
| Has this manuscript or another version of it been submitted to this journal previously? | No |
| If the paper has been written by more than one person, can the corresponding author attest that each author has studied the manuscript in the form submitted, agreed to be cited as a coauthor, and has accepted the order of authorship? | No |
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| Is there any conflict of interests concerning the content of this manuscript? | No |
| Does the length of your paper (including abstract, references, tables, and figures) fall within the word limit? | Yes |
| State the word count. as follow-up to "Does the length of your paper (including abstract, references, tables, and figures) fall within the word limit?" | 3000 words |
| Have you ensured that all references to author names and affiliations have been removed from the manuscript and all related documents to ensure an anonymous review process? | Yes |
| Has the manuscript been prepared according to the Publication Manual of the American Psychological Association (6th ed.)? | Yes |
| Does your submission contain electronic supplementary material (ESM)? We explicitly encourage authors to submit the inputs and outputs of their analyses from statistical software packages such as Mplus, R, SAS, SPSS along with a brief explanation as electronic supplementary | No |

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| <p>material (ESM). In case the manuscript is deemed suitable after initial editorial screening, this information will be passed on to external reviewers for comment and feedback, just as other types of ESM are.</p> <p>Important: If the paper is accepted for publication, the authors are required to submit the inputs and outputs of their analyses in the final version of the manuscript along with a brief explanation as electronic supplementary material (ESM).</p> | |
| <p>I am aware that if my paper is accepted for publication, I will have to submit the inputs and outputs of the analyses along with the final version of the manuscript. as follow-up to "Does your submission contain electronic supplementary material (ESM)?"</p> <p>We explicitly encourage authors to submit the inputs and outputs of their analyses from statistical software packages such as Mplus, R, SAS, SPSS along with a brief explanation as electronic supplementary material (ESM). In case the manuscript is deemed suitable after initial editorial screening, this information will be passed on to external reviewers for comment and feedback, just as other types of ESM are.</p> <p>Important: If the paper is accepted for publication, the authors are required to submit the inputs and outputs of their analyses in the final version of the manuscript along with a brief explanation as electronic supplementary material (ESM). "</p> | <p>Yes</p> |
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A Validation of the Brief Ageing Perceptions Questionnaire (B-APQ) Among Elderly Portuguese Adults

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A Validation of the Brief Ageing Perceptions Questionnaire (B-APQ) Among Elderly Portuguese Adults

Abstract

Portugal is one of the oldest countries in the European Union, and, as a result, it is important to possess measurement instruments that can assess the aging self-perceptions of older Portuguese adults. The primary aim of this study was to translate and validate the B-APQ for use among the elderly Portuguese population. Complementarily, the second part of this study sought to assess differences in aging perceptions among participants based upon sex and sexual orientation. Using a website, older adults between the ages of 50 and 95 (N=722) completed a Portuguese version of the B-APQ, alongside a scale used to measure depression (the CES-D). This study employed Confirmatory Factor Analysis (CFA) to verify the multidimensionality of the B-APQ. We analysed the correlation between the B-APQ and the CES-D to assess convergent and discriminant validity. Cronbach's alpha coefficients were used to measure internal consistency, and a sensitivity analysis of the items was employed through measures of asymmetry and flatness. This study also assessed differences in aging perceptions in relation to sex and sexual orientation. The CFA indicated that the 5 factors of the Portuguese version of the B-APQ model were adequate. The results also showed that all factors of the B-APQ were associated with the CES-D, supporting the existence of convergent and discriminant validity. The Cronbach's alphas were acceptable for all factors, indicating that internal consistency was preserved and that sensitivity presented adequate scores for all items. Regarding sex, statistically significant differences were obtained for depression levels (women present greater depressive symptomatology than men), but no differences were found for all factors of the B-APQ. The results obtained also showed significant differences for levels of depression based upon sexual orientation (self-identified homosexuals present more depressive symptoms) and for factors 2 and 4 of the B-APQ (self-identified homosexuals scored lower, indicating more negative aging perceptions). In conclusion, the B-APQ is a valid and reliable measurement, which can be used to assess aging self-perceptions among older Portuguese adults. Furthermore, our results confirm that while aging perceptions are independent of influences related to one's sex, sexual orientation was found to have an influence on aging perceptions.

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Keywords: B-APQ; validation; aging self-perceptions; older adults; sex; sexual orientation.

Introduction

Currently, the aging process is a widely studied topic. Changes in modern society and enhancements in quality of life have led to a worldwide increase in life expectancy, which has contributed to the population aging process (Mota-Pinto et al., 2011; Nunes 2017a; Nunes 2017b; Mohammadpour, Sadeghmoghadam, Shareinia, Jahani, & Amiri, 2018). In Portugal, due to lower fertility and increased life expectancy, the population is progressively aging (Ferreira, 2015; Rodrigues et al., 2014). As a consequence, Portugal has become one of the oldest countries in the European Union, where 21.1% of its population is over 65 years old (INE, 2018). By 2050, it is expected that the elderly population will comprise more than one third of the total Portuguese population (Gonçalves, Costa, & Leal, 2019).

Among older populations it is important to investigate self-perceptions of aging, as defined by Moser, Spagnoli, & Santos-Eggimann (2011), as these perceptions can be seen as a personal evaluation of one's own aging process, and they can provide insights to help understand how aging affects older adults' lives and how to better meet their needs. Perceptions of old age have often been reported as negative, pessimistic and being related to declining health and functioning (Toledo, 2011; Warmoth, Tarrant, Abraham, & Lang, 2016; Shaw & Langman, 2017; Mateus & Alves, 2018). Negative aging self-perceptions have been found to have an impact on sleep quality (Lin, 2016), depression (Djernes, 2006; Sindi et al., 2012; Freeman et al., 2016), predictions of anxiety related to death (Mohammadpour, Sadeghmoghadam, Shareinia, Jahani, & Amiri, 2018), mortality predictions (Sargent-Cox, Anstey, & Luszcz, 2013), cognitive decline (Robertson, King-Kallimanis, & Kenny, 2016), declines in walking speed (Robertson, Savva, King-

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Kallimanis, & Kenny, 2015), the association between frailty and cognitive functioning (Robertson & Kenny, 2016) and delayed health care access (Sun & Smith, 2017). On the other hand, positive aging self-perceptions have been proven to lead to better outcomes, such as better functional health, a positive impact on health changes, being able to enjoy leisure activities and having an active lifestyle (Levy, Slade, & Kasl, 2002; Wurm, Tesch-Römer, & Tomasik, 2007; Lagacé, Charmarkeh, & Grandena, 2012; Liechty & Genoe, 2013).

Therefore, the importance of assessing aging perceptions is paramount. To assess self-perceptions of aging, Barker, O'Hanlon, McGee, Hickey, & Conroy (2007) developed the Aging Perceptions Questionnaire (APQ), an instrument based on Leventhal's Self-Regulation Model (Leventhal, Nerenz, & Steele, 1984). Despite the fact that the APQ has good psychometric properties, the increasing need for multiple instruments that can be used to assess aging perceptions requires more concise tools that preserve good psychometric characteristics, even if they are subject to item reduction (Goetz, Coste, Lemetayer, Rat, Montel, Recchia, & Guillemin, 2013). With this in mind, Sexton, King-Kallimanis, Morgan, & McGee (2014) created an abbreviated version of the APQ, the Brief Ageing Perceptions Questionnaire (B-APQ). The B-APQ still examines multiple dimensions of aging perceptions, such as timeline chronic, consequences positive, consequences and control negative, control positive and emotional representations, in addition to capturing the complexity of these experiences (Sexton, King-Kallimanis, Morgan, & McGee, 2014).

Regarding aging self-perceptions, differences based on sex have been observed. In some studies, women presented less positive aging self-perceptions when compared to men (Kotter-Grühn, Kleinspehn-Ammerlahn, Gerstorf, & Smith, 2009; Lin, 2016; Parra-Rizo, 2017). Despite a scarcity of studies concerning the relationship between aging self-

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perceptions and sexual orientation, there is some evidence that self-identified homosexuals/bisexuals have positive perceptions of aging due to the adaptive capacity that they were obliged to develop resulting from the social stigma concerning homosexuality/bisexuality (de Vries & Croghan, 2014; Pereira et al., 2017). Therefore, it is possible that sex and sexual orientation may have a mediating effect on aging perceptions.

The purpose of this study was to translate and validate the B-APQ for use among the elderly Portuguese population and, complementarily, to assess and compare differences in aging perceptions related to sex and sexual orientation, with the overarching goal of providing instrumental value for future applications at both the prevention and intervention levels.

Methodology

Participants

The sample (N) consisted of 722 participants, encompassing 404 (55.9%) males and 318 (44.1%) females between the ages of 50 and 95 years old (mean=60.55; SD=9.23). Just over three-quarters (76.5%) identified themselves as heterosexual, while 16.6% self-identified as homosexual and 6.9% identified themselves as bisexual. Participants' sociodemographic information is displayed in Table 1.

Measurement Instruments

A Sociodemographic Questionnaire was used to collect personal data, such as age, sex, marital status, place of residence, educational level, professional status, socioeconomic status, filiation, monthly income, type of residence and sexual orientation.

The Brief Ageing Perceptions Questionnaire (B-APQ), developed by Sexton et al. (2014), is a short version of the Aging Perceptions Questionnaire (APQ). It is

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psychometrically valid for the Irish population over 50 years of age, and possesses a Cronbach's alpha of 0.75. The APQ, created by Barker et al. (2007), is a multidimensional measure with 32 items that assess self-perceptions regarding aging. It contributes to the understanding of the subjective experience of aging and can help with the identification of individuals at risk due to maladaptive perceptions regarding the aging process (Barker et al., 2007). The B-APQ has 17 items and utilizes a 5-point Likert scale, with 1 corresponding to "Strongly Disagree", 2 to "Disagree", 3 to "Neither Agree nor Disagree", 4 to "Agree" and 5 to "Strongly Agree". The brevity of the questionnaire makes this instrument particularly suitable for use with large scale surveys and to administer to elderly populations and/or populations with low levels of educational attainment.

The Center for Epidemiologic Studies Depression Scale (CES-D) is a scale developed by Leonor S. Radloff (1997) that evaluates depressive symptomatology among the general population. It is a self-administered questionnaire with 20 questions in which respondents answer according to the frequency of each symptom in the week prior to the application of the instrument. Scores range from 0 to 3, with 0 corresponding to a frequency of "Never or Regularly", 1 to "Occasionally (1-2 days)", 2 to "Frequently (3-4 days)" and 3 to "Often or Always (5-7 days)". The sum of the results ranges from 0 to 60, with higher scores indicating more severe depressive symptoms. A score of 16 is used as a cutoff point intended to differentiate nondepressive participants from those with moderate depression, while a score equal to 23 or higher indicates significant depression (Loureiro, 2009). Loureiro's study (2009) validated the CES-D scale for the Portuguese population.

Procedures

1 The study began by translating the items of the original version of the B-APQ to
2 Portuguese (see Table 2). For the purposes of data collection, this study created a website
3 that included information introducing the study, the study objectives and an explanation
4 that study participation was voluntary and that all responses were automatically stored in
5 a database in which the anonymity of respondents' IP (Internet Protocol) addresses was
6 guaranteed. The website also contained the Sociodemographic Questionnaire and the
7 Portuguese versions of the B-APQ and the CES-D, respectively. The study website was
8 disseminated through social networks, mailing lists and Internet forums. The target
9 audience was senior citizens, age 50 or older.

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24 This study used SPSS (Statistical Package for Social Sciences), version 25, and
25 AMOS (Analysis of Moment Structures), version 25, to conduct statistical analyses. In
26 the first part of this study, a confirmatory factor analysis was utilized to meet the objective
27 focused on evaluating construct validity (if the instrument adequately evaluates the
28 desired construct). In order to assess convergent and discriminant validity, this study
29 assessed the correlation between the B-APQ and the CES-D. It also analysed the
30 skewness and kurtosis of each item of the B-APQ, in order to understand the sensitivity
31 level of the instrument. Finally, in order to verify the internal consistency of the
32 questionnaire, this study observed the reliability and, more specifically, the Cronbach's
33 alphas for each individual factor, as well as for the instrument as a whole. In the second
34 part of the study, which sought to compare differences in aging self-perceptions in
35 relation to sex and sexual orientation, a t-student test and an ANOVA parametric test were
36 used to accomplish this objective.

Results

Study 1

Validity

Construct Validity. A confirmatory factor analysis (CFA) was conducted using the 5-factor structure to evaluate the construct validity of the instrument, using AMOS software. CFA is a multivariate statistical procedure that tests how well a set of items represent a number of dimensions or factors (Byrne, 2010). CFA specifies the number of dimensions or factors as latent variables to which the corresponding items are subsequently related to (Byrne, 2010).

To assess the quality of the model fit adjustment to the sample data, goodness-of-fit indices such as the Root Mean Square Error of Approximation (RMSEA), the Comparative Fit Index (CFI) and the *Chi-Square* test (χ^2/df) were used. Table 3 shows the results of the CFA, indicating that the model is suitable for items grouped in theoretically significant factors, which supports the construct validity of the B-APQ (Marôco, 2010), organized according to Figure 1.

Convergent and Discriminant Validity. The correlations between the CES-D and the B-APQ are all statistically significant, exhibiting moderate correlation levels (see Table 4) (Cohen, 1988). As expected, factors 2 and 4 were negatively associated with the CES-D because they are positive factors (consequences positive and control positive, respectively), while the CES-D accurately assesses negative (depressive) symptomatology. Moreover, the correlations between factors 2 and 4 and the CES-D are negative, as expected, as the CES-D is an instrument that measures a different construct (see Table 4).

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Sensitivity

A sensitivity analysis of the items was conducted, which allowed for the evaluation of possible errors in the assessment of each item through measures of asymmetry (skewness) and flatness (kurtosis), according to the respective critical ratios (Kline, 1998). All items presented adequate scores, as shown in Table 5.

Reliability

In this study we considered internal consistency as an index of reliability. Table 6 displays the Cronbach's alpha coefficients for the factors of both the original version and the Portuguese version of the B-APQ. In comparison with the original version of the B-APQ, the Portuguese version shows decreased internal consistency for almost every factor, except for factor 2. However, the Cronbach's alphas continued to be acceptable for all factors in the Portuguese version of the B-APQ (DeVellis, 2011), indicating that it preserved the scale's internal consistency.

Study 2

Results for aging perceptions by sex

Statistically significant differences were obtained when comparing men and women [$t(712)=-2.64$; $p=.009$], indicating that women present greater levels of depressive symptomatology. For all B-APQ factors, no statistically significant differences were found between men and women (see Table 7).

Results for aging perceptions by sexual orientation

Our results found statistically significant differences in levels of depression based upon sexual orientation, with self-identified homosexual participants presenting more depressive symptoms [$F(122.95;43.14)=2.850$; $p=.049$]. There are statistically significant

1 differences for factors 2 and 4 of the B-APQ, as self-identified homosexual participants
2 scored lower than their heterosexual and bisexual counterparts, indicating that they
3 possess more negative aging perceptions (see Table 8).
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7 8 **Discussion** 9

10 In an aging society, it is important to have access to validated measures that assess the
11 particularities of the aging process and give us insight into how to solve related problems.
12 Due to the scarcity of validated instruments for the Portuguese population that assess self-
13 perceptions regarding aging, the main aim of this study was to translate and validate the
14 B-APQ for older adults. The questionnaire was translated to Portuguese and its
15 psychometric properties and factor structure were evaluated. An assessment of the
16 Portuguese version of the B-APQ's construct validity, convergent validity, discriminant
17 validity, sensitivity and internal consistency, confirms that it is a reliable and valid
18 instrument for evaluating aging self-perceptions among older adults in Portugal. The B-
19 APQ has already been translated and validated for use in other countries, where it has
20 also been shown to possess appropriate psychometric properties (Slotman, Cramm, &
21 Nieboer, 2015; Moghadam et al., 2016; Jaafar, Villiers-Tuthill, Sim, Lim, & Morgan,
22 2018), indicating that it is a robust measurement instrument applicable to different
23 cultural settings.
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45 The model's goodness-of-fit indices were adequate for all 5 factors of the
46 Portuguese version of the B-APQ model. The results also showed that all factors of the
47 B-APQ were associated with the CES-D, highlighting the link between aging self-
48 perceptions and depression. This finding is supported by previous studies, which suggest
49 that negative aging self-perceptions are predictors of depression symptoms (Djernes,
50 2006; Sindi et al., 2012; Freeman et al., 2016). An association between self-perception
51 and depression was also found when the B-APQ was validated in the Malaysian context
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(Jaafar et al., 2018). In the present study, the Cronbach's alpha for factor 1 was lower than those found for the other factors ($\alpha=.66$). This is probably due to the fact that, among older Portuguese adults, exposure to the perception of timeline chronic circumstances may be influenced by age-related prejudice, which, in turn, creates less consistency in the interpretation of this factor's items (Coelho, 2013). The Cronbach's alpha value for the entire questionnaire was .73, which is similar to the value found for the Persian version of the B-APQ (Moghadam et al., 2016).

Regarding study 2, statistically significant differences were obtained when comparing sex, indicating that women present greater depressive symptomatology. This is supported by several previous studies that aimed to assess differences in depressive symptoms related to sex (Leach, Christensen, Mackinnon, Windsor, & Butterworth, 2008; Essau, Lewinsohn, Seeley, & Sasagawa, 2010; Van de Velde, Bracke, & Levecque, 2010). Women presented more negative levels of depression due to the fact that they were perceived as more fragile, emotional and vulnerable, revealing that gender roles are mediated by social norms. This dual sex pattern is characterized by different expectations for men and women regarding how to manifest their roles in society, which consequently influences how they express depressive symptoms, and seems to be better internalized by women, thus leading them to respond accordingly. Maji (2018) emphasizes the importance of thinking beyond the possible biological factors behind sex differences in regard to depression, stressing the importance of social and cultural problems that place women in a socially disadvantaged position. The influence of sex on aging perceptions was not corroborated for any B-APQ factors, as no factors presented statistically significant differences between men and women. This indicates that aging self-perceptions seem to be independent from sex-related factors, encapsulating a more neutral/universal experience that is not subject to societal influences.

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Our research found statistically significant differences for depression levels in relation to sexual orientation, with self-identified homosexuals presenting more depressive symptoms. These findings are in agreement with a previous Portuguese study (Pereira et al., in press). However, it is important to note that only 6.9% of participants in this study identified themselves as bisexual. There are also statistically significant differences for factors 2 and 4 of the B-APQ, as self-identified homosexuals possessed lower scores for these factors, indicating more negative aging perceptions. A Portuguese study of aging perceptions among older gay and bisexual men has shown how homosexuals/bisexuals are intensely subject to social stereotypes and discrimination (Pereira et al., 2018). In another study, Pereira et al. (2019) reported that almost half of participants had experienced discrimination due to their sexual orientation when seeking health or social services. These experiences can lead to high levels of anxiety, depression and suicidal thoughts related to sexual or gender identity (Gonçalves, Costa, & Leal, 2018). Minority stress (Meyer, 1995) and the stigma surrounding homosexuality have serious repercussions on both physical and mental health (Gonçalves, Costa, & Leal, 2018), which may explain the results regarding the evidence of higher depressive symptomatology in self-identified homosexuals.

Limitations and Future Implications

One of the limitations of this study is the type of data collection that was used. As data were collected online, this study possesses restrictions resulting from the voluntary nature of each individual's participation, as well as due to older adults' low levels of Internet access and technological skills. Another limitation arises from the effect of social desirability bias on questionnaire responses, since people tend to respond according to what is "socially accepted."

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Regarding this study’s future implications, the authors hope that it will help to improve adaptive care programs that challenge the negative effects of aging perceptions present in prevention and intervention programs targeted at older people, while raising further awareness concerning the differences in depressive symptomatology related to sex and sexual orientation. The results obtained show that the Portuguese version of the B-APQ is valid and reliable, and it can be applied when assessing aging perceptions among older Portuguese adults. Therefore, the use of this measure by health professionals and researchers provides information that can help to improve care for older adults.

Conclusion

As a result of the population aging process in Portugal, it is paramount to possess a validated measurement instrument that is capable of evaluating aging self-perceptions. The B-APQ has been proven to be a valid and reliable measure to assess aging perceptions among older Portuguese adults. This study also showed that aging perceptions are independent of influences deriving from sex, but that sexual orientation had an influence on factors 2 and 4 of the B-APQ, with self-identified homosexuals possessing more negative aging perceptions.

Disclosure Statement

The authors declare no conflicts of interest.

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Table 1. Sociodemographic Characteristics of the Participants

| | N | % | Mean | SD |
|-----------------------------------|-----|------|-------|------|
| Age | | | 60.55 | 9.23 |
| Gender | | | | |
| Male | 404 | 55.9 | | |
| Female | 318 | 44.1 | | |
| Marital Status | | | | |
| Single | 102 | 14.1 | | |
| Married | 399 | 55.3 | | |
| Divorced/Separated | 82 | 11.4 | | |
| Widow | 72 | 9.9 | | |
| Live together | 38 | 5.3 | | |
| Relationship/Affective Commitment | 27 | 3.7 | | |
| Other | 2 | .3 | | |
| Place of Residence | | | | |
| Big City | 234 | 32.4 | | |
| Small City | 287 | 39.8 | | |
| Big Urban Place | 78 | 10.8 | | |
| Small Urban Place | 123 | 17 | | |
| Education Level | | | | |
| Up to 9 years of school | 266 | 36.8 | | |
| Up to 12 years of school | 166 | 23 | | |
| University Degree (Bachelor) | 222 | 30.8 | | |
| University Degree (Master/Doctor) | 68 | 9.4 | | |
| Professional Status | | | | |
| Retired | 220 | 30.5 | | |
| Employee | 341 | 47.2 | | |
| Self-Employed | 107 | 14.8 | | |
| Unemployed | 35 | 4.9 | | |
| Student | 3 | .4 | | |

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|-----------------------------|-----|------|------|------|
| Other | 16 | 2.2 | | |
| Socio-Economic Status | | | | |
| Low | 68 | 9.4 | | |
| Medium-Low | 172 | 23.8 | | |
| Medium | 395 | 54.7 | | |
| Medium-High | 79 | 11 | | |
| High | 8 | 1.1 | | |
| Children | | | | |
| Yes | 551 | 76.3 | | |
| No | 171 | 23.7 | | |
| Number of children | | | 2.21 | 1.33 |
| Sufficient monthly income | | | | |
| Yes | 476 | 65.9 | | |
| No | 246 | 34.1 | | |
| Type of residence | | | | |
| Owned house/apartment | 539 | 74.7 | | |
| Rented house/apartment | 153 | 21.2 | | |
| Institution | 21 | 2.9 | | |
| Other | 9 | 1.2 | | |
| Sexual Orientation | | | | |
| Heterosexual | 552 | 76.5 | | |
| Bisexual | 50 | 6.9 | | |
| Homosexual (Gay or Lesbian) | 120 | 16.6 | | |

Table 2. Items and Factors translation to Portuguese

| | Original Version B-APQ | Portuguese Version B-APQ |
|-----------------|---|---|
| <i>Factor 1</i> | <i>Timeline chronic</i> | <i>Linha do tempo Crónica¹</i> |
| Item 1 | I always classify myself as old | Classifico-me sempre como velho/a |
| Item 2 | I am always aware of the fact that I am getting older | Estou sempre ciente do fato de que estou a ficar mais velho/a |
| Item 3 | I feel my age in everything that I do | Sinto a minha idade em tudo o que faço |
| <i>Factor 2</i> | <i>Consequences-positive</i> | <i>Consequências positivas</i> |
| Item 4 | As I get older I get wiser | À medida de envelheço fico mais sábio/a |
| Item 5 | As I get older I continue to grow as a person | À medida de envelheço continuo a crescer como pessoa |
| Item 6 | As I get older I appreciate things more | À medida de envelheço aprecio mais as coisas |
| <i>Factor 3</i> | <i>Consequences and control negative</i> | <i>Consequências e controlo negativo</i> |
| Item 10 | Getting older makes me less independent | Envelhecer torna-me menos independente |
| Item 11 | As I get older I can take part on fewer activities | À medida que envelheço posso participar em menos atividades |
| Item 12 | As I get older I do not cope as well with problems that arise | À medida que envelheço não lido bem com os problemas que surgem |
| Item 13 | Slowing down with age is not something I can control | Abrandar com a idade não é algo que possa controlar |
| Item 14 | I have no control over the effects which getting older has on my social life | Não tenho nenhum controlo sobre os efeitos que envelhecer tem sobre a minha vida social |
| <i>Factor 4</i> | <i>Control Positive</i> | <i>Controlo positivo</i> |
| Item 7 | The quality of my social life in later years depends on me | A qualidade da minha vida social mais tarde na vida depende de mim |

| | | | |
|----|-----------------|--|------------------------------------|
| 1 | Item 8 | The quality of my relationships with others in | A qualidade dos meus |
| 2 | | later life depends on me | relacionamentos com os outros mais |
| 3 | | | tarde na vida depende de mim |
| 4 | | | |
| 5 | Item 9 | Whether I continue living life to the full | Continuar a viver a vida ao máximo |
| 6 | | depends on me | depende de mim |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | <i>Factor 5</i> | <i>Emotional representations</i> | <i>Representações emocionais</i> |
| 11 | | | |
| 12 | Item 15 | I get depressed when I think about how ageing | Fico deprimido/a quando penso em |
| 13 | | might affect the things that I can do | como o envelhecimento pode afetar |
| 14 | | | as coisas que eu posso fazer |
| 15 | | | |
| 16 | | | |
| 17 | | | |
| 18 | Item 16 | I worry about the effects that getting older | Preocupo-me com os efeitos que o |
| 19 | | might have on my relationships with others | envelhecimento pode ter sobre os |
| 20 | | | meus relacionamentos com os |
| 21 | | | outros |
| 22 | | | |
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| 26 | Item 17 | I feel angry when I think about getting older | Sinto-me zangado/a quando penso |
| 27 | | | que estou a envelhecer |
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31 1. It was used the term “linha do tempo crónica” for the translation of “timeline chronic”
32 because there is no word that best describes the intended meaning.
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Table 3. Results for CFA of the model tested of B-APQ

| Goodness-of-Fit Indices | Results |
|-------------------------|------------|
| χ^2 | 398.179*** |
| df | 109 |
| χ^2/df | 3.76 |
| RMSEA | .061 |
| CFI | .915 |

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Table 4. Correlations between CES-D and B-APQ

| | CES-D | Factor 1 | Factor 2 | Factor 3 | Factor 4 |
|----------|---------|----------|----------|----------|----------|
| CES-D | | | | | |
| Factor 1 | .340** | | | | |
| Factor 2 | -.083* | -.123** | | | |
| Factor 3 | .321** | 0.460** | -.105** | | |
| Factor 4 | -.117** | -.134** | .507** | -0.080* | |
| Factor 5 | .393** | .380** | -.078* | 0.504** | -.071 |

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

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

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Table 5. Distributional characteristics

| B-APQ | M (min-max) | SD | Skewness | Kurtosis |
|---------|-------------|-------|----------|----------|
| Item 1 | 1.89 (1-5) | 1.171 | 1.123 | .183 |
| Item 2 | 3.53 (1-5) | 1.388 | -.577 | -.958 |
| Item 3 | 2.72 (1-5) | 1.359 | .205 | -1.160 |
| Item 4 | 3.75 (1-5) | 1.131 | -.613 | -.357 |
| Item 5 | 4.21 (1-5) | 1.023 | -1.351 | 1.318 |
| Item 6 | 4.09 (1-5) | 1.075 | -1.166 | .782 |
| Item 7 | 3.80 (1-5) | 1.172 | -.724 | -.345 |
| Item 8 | 3.94 (1-5) | 1.073 | -.913 | .324 |
| Item 9 | 4.01 (1-5) | 1.083 | -.937 | .128 |
| Item 10 | 3.19 (1-5) | 1.332 | -.229 | -1.051 |
| Item 11 | 3.21 (1-5) | 1.323 | -.214 | -1.077 |
| Item 12 | 2.73 (1-5) | 1.279 | .152 | -1.009 |
| Item 13 | 3.22 (1-5) | 1.319 | -.148 | -1.076 |
| Item 14 | 2.65 (1-5) | 1.275 | .278 | -.949 |
| Item 15 | 2.81 (1-5) | 1.419 | .152 | -1.294 |
| Item 16 | 2.96 (1-5) | 1.356 | -.093 | -1.198 |
| Item 17 | 2.24 (1-5) | 1.289 | .742 | -.571 |

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Table 6. Internal consistency of the B-APQ's original and Portuguese versions

| | Original Version B-APQ | Portuguese Version B-APQ |
|-------------|------------------------|--------------------------|
| | α | α |
| Factor 1 | .76 | .66 |
| Factor 2 | .78 | .78 |
| Factor 3 | .81 | .70 |
| Factor 4 | .84 | .75 |
| Factor 5 | .75 | .74 |
| All factors | .75 | .73 |

Table 7. Differences in depressive symptoms and aging perception factor by genders

| | Mean | SD | t(df) | p-value |
|--------------|-------|------|-------------|---------|
| CES-D scores | | | | |
| Male | 37.30 | 6.37 | -2.64 (712) | .009* |
| Female | 38.60 | 6.79 | | |
| Factor 1 | | | | |
| Male | 2.72 | 1.02 | -.085 (711) | .932 |
| Female | 2.72 | 1.00 | | |
| Factor 2 | | | | |
| Male | 3.97 | .88 | -1.40 (709) | .164 |
| Female | 4.06 | .93 | | |
| Factor 3 | | | | |
| Male | 3.01 | .85 | .33 (712) | .740 |
| Female | 2.99 | .82 | | |
| Factor 4 | | | | |
| Male | 3.87 | .92 | -1.57 (711) | .117 |
| Female | 3.98 | .89 | | |
| Factor 5 | | | | |
| Male | 2.62 | 1.09 | -1.62 (711) | .105 |
| Female | 2.75 | 1.11 | | |

*<.05; **<.001

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Table 8. Differences in depressive symptoms and aging perception factor by sexual orientations

| | Mean | SD | F(df) | p-value |
|--------------|-------|------|-------------------|---------|
| CES-D scores | | | | |
| Heterosexual | 37.93 | 6.54 | 2.850 | .049* |
| Bisexual | 35.74 | 5.40 | (122.95;43.14) | |
| Homosexual | 38.39 | 7.10 | | |
| Factor 1 | | | | |
| Heterosexual | 2.73 | 1.04 | 1.107 (1.13;1.02) | .331 |
| Bisexual | 2.50 | .90 | | |
| Homosexual | 2.70 | .93 | | |
| Factor 2 | | | | |
| Heterosexual | 4.05 | .89 | 4.919 (3.970;.80) | .008* |
| Bisexual | 4.07 | .84 | | |
| Homosexual | 3.77 | .94 | | |
| Factor 3 | | | | |
| Heterosexual | 3.01 | .90 | .675 | .510 |
| Bisexual | 2.86 | .85 | (.52;.77) | |
| Homosexual | 2.97 | .79 | | |
| Factor 4 | | | | |
| Heterosexual | 3.95 | .89 | 3.761 (3.07;.82) | .024* |
| Bisexual | 3.95 | 1.09 | | |
| Homosexual | 3.70 | .90 | | |
| Factor 5 | | | | |
| Heterosexual | 2.69 | 1.11 | .669 | .512 |
| Bisexual | 2.52 | 1.06 | (.81;1.21) | |
| Homosexual | 2.61 | 1.06 | | |

*<.05; **<.001

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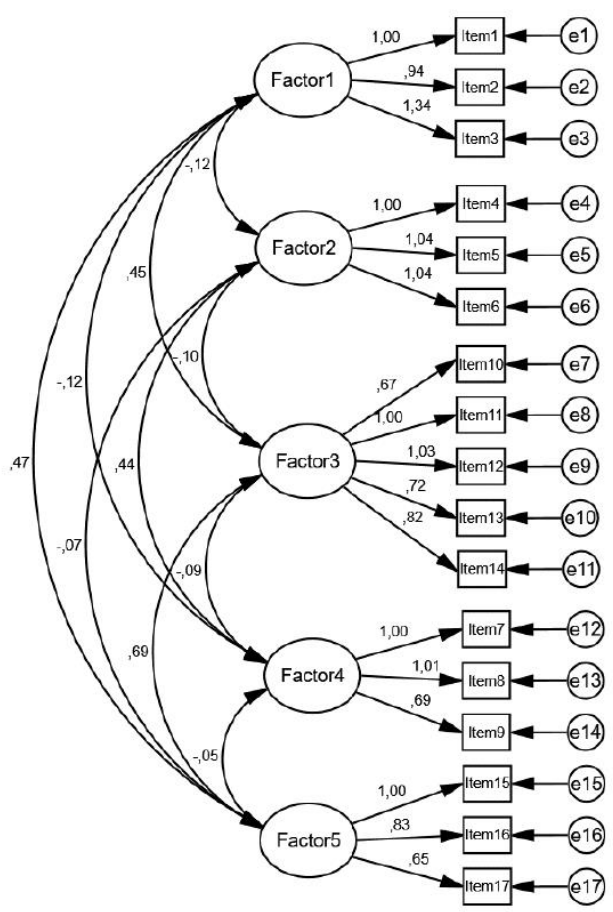


Figure 1.

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Figure 1 - Final model of B-APQ

Annex 3: Online Questionnaire Survey

Estudo sobre Perceções face ao Envelhecimento

O objetivo desta investigação é avaliar as perceções face ao envelhecimento, saúde mental e qualidade de vida em pessoas com mais de 50 anos. Trata-se de um estudo ibérico levado a cabo por investigadores da Universidade da Beira Interior (UBI - Portugal) e da Universidade de Castilla-La Mancha (UCLM - Espanha). Esta é a versão portuguesa.

Para tal, contamos com a sua colaboração através do preenchimento do inquérito que aqui se apresenta (que é anónimo e confidencial) e que demora apenas cerca de 15 minutos.

A sua participação é muito importante.

Desde já muito obrigado pela sua colaboração!

...

A equipa:

Prof. Doutor Henrique Pereira (UBI)

Prof. Doutor Juan Pedro Serrano (UCLM)

Prof^a. Doutora Rosa Marina Afonso (UBI)

Prof^a. Doutora Graça Esgalhado (UBI)

Prof. Doutor Samuel Monteiro (UBI)

Contacto- E-mail: hpereira@ubi.pt

CONSENTIMENTO INFORMADO: Ao iniciar, está ciente dos objetivos desta pesquisa e aceita disponibilizar as suas respostas unicamente para tratamento estatístico. Garantimos que os seus dados apenas serão utilizados para este fim.

Para iniciar o preenchimento, carregue no botão "SEGUINTE".





Questionário Sociodemográfico

1.

A sua idade?

Para participar, terá que ter 50 ou mais anos de idade.

2.

O seu género sexual?

Marcar apenas uma oval.

Homem

Mulher

3.

O seu estado marital atual?

Indique a opção que melhor descreve o seu estado atual.

Marcar apenas uma oval.

Solteiro(a)

Casado(a)

Divorciado(a)/Separado(a)

Víuvo(a)

Unido(a) de facto

Tenho um namoro/compromisso afetivo

Outra: _____

4.

Qual é o seu local de residência?

Marcar apenas uma oval.

Uma grande cidade

Uma pequena cidade

Um grande meio rural

Um pequeno meio rural

5. **Qual é o seu nível de escolaridade?**
Marcar apenas uma oval.
- Até 9 anos de escolaridade
 - Até 12 anos de escolaridade
 - Formação universitária (Licenciatura/Bacharelato)
 - Formação universitária (Mestrado/Doutoramento)
6. **Qual é a sua situação profissional?**
Marcar apenas uma oval.
- Reformado(a)
 - Trabalhador(a) por conta de outrem
 - Trabalhador(a) por conta própria
 - Desempregado(a)
 - Estudante
 - Outra: _____
7. **Qual é o seu estatuto sócio-económico?**
Marcar apenas uma oval.
- Baixo
 - Baixo-médio
 - Médio
 - Médio-alto
 - Alto
8. **Tem filhos?**
Marcar apenas uma oval.
- Sim
 - Não
9. **Se tem filhos, quantos tem?**
Se não tem filhos, passe à frente.

10. **Considera que o seu rendimento mensal é suficiente para os seus gastos diários?**
Marcar apenas uma oval.
- Sim
 - Não

11.

Em que tipo de residência vive?*Marcar apenas uma oval.*

- Casa/apartamento própria(o)
- Casa/apartamento alugada(a)
- Instituição (ex: lar, internato, residência sénior, etc.)
- Outra: _____

12.

Como se identifica relativamente à sua orientação sexual?*Marcar apenas uma oval.*

- Heterossexual
- Bissexual
- Homossexual (Gay ou Lésbica)

Questionário Breve de Percepções face ao Envelhecimento (B-APQ)

13.

Marcar apenas uma oval por linha.

| | 1. Discordo Totalmente | 2. | 3. Não concordo nem discordo | 4. | 5. Concordo Totalmente |
|--|------------------------|-----------------------|------------------------------|-----------------------|------------------------|
| Classifico-me sempre como velho (a) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Estou sempre ciente do facto de que estou a ficar mais velho(a) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Sinto a minha idade em tudo o que faço | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| À medida que envelheço fico mais sábio(a) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| À medida que envelheço continuo a crescer como pessoa | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| À medida que envelheço aprecio mais as coisas | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| A qualidade da minha vida social mais tarde na vida depende de mim | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| A qualidade dos meus relacionamentos com os outros mais tarde na vida depende de mim | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

<https://docs.google.com/forms/d/1ZeLCK7pL1pkWYbVxyCe1A0DrY77B5fBA5rWR...> 09-10-2018

14.

Marcar apenas uma oval por linha.

| | 1. Discordo Totalmente | 2. | 3. Não concordo nem discordo | 4. | 5. Concordo Totalmente |
|--|------------------------|-----------------------|------------------------------|-----------------------|------------------------|
| Continuar a viver a vida ao máximo depende de mim | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Envelhecer torna-me menos independente | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| À medida que envelheço posso participar em menos atividades | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| À medida que envelheço não lido bem com os problemas que surgem | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Abrandar com a idade não é algo que eu possa controlar | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Não tenho nenhum controlo sobre os efeitos que envelhecer tem sobre a minha vida social | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Fico deprimido(a) quando penso em como o envelhecimento pode afetar as coisas que eu posso fazer | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Preocupo-me com os efeitos que o envelhecimento pode ter sobre os meus relacionamentos com os outros | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Sinto-me zangado(a) quando penso que estou a envelhecer | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Depressão (CES-D)

A seguir encontra uma lista das maneiras como se pode ter sentido ou reagido durante a última semana.

Assinale o modo como se identifica com os seus sentimentos tendo em conta que as opções significam:

- Nunca ou raramente - menos de 1 dia da semana passada;
- Ocasionalmente - 1 ou 2 dias da semana passada;
- Com muita frequência - 3 ou 4 dias da semana passada;
- Quase sempre ou sempre - 5 ou 7 dias da semana passada.

15.

Marcar apenas uma oval por linha.

| | Nunca ou raramente | Ocasional-mente | Com muita frequência | Quase sempre ou sempre |
|--|-----------------------|-----------------------|-----------------------|------------------------|
| Fiquei aborrecido(a) com coisas que habitualmente não me aborrecem | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Não me apeteceu comer; estava sem apetite | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Senti que não consegui livrar-me da neura ou da tristeza, mesmo com a ajuda dos amigos ou da família | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Senti que valia tanto como os outros | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Tive dificuldades em manter-me concentrado(a) no que estava a fazer | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Senti-me deprimido (a) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Senti que tudo do que fazia era um esforço | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Senti-me confiante no futuro | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Pensei que a minha vida tinha sido um fracasso | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Senti-me com medo | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

16.

Marcar apenas uma oval por linha.

| | Nunca ou raramente | Ocasional- mente | Com muita frequência | Quase sempre ou sempre |
|---|-----------------------|-----------------------|-------------------------|------------------------------|
| Dormi mal | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Senti-me feliz | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Falei menos do que o costume | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Senti-me sozinho(a) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| As pessoas foram desagradáveis ou pouco amigáveis comigo | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Senti prazer ou gosto na vida | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Tive ataques de choro | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Senti-me triste | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Senti que as pessoas não gostavam de mim | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Senti falta de energia | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |