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DE ABREU**

**Gerotranscendence, Religiosity and Life Satisfaction:  
a Study with Clergy and Consecrated Religious vs  
General Public**



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**Gerotranscendência, Religiosidade e Satisfação com a  
Vida: um estudo com Clero e Religiosos Consagrados vs  
Público Geral**

Dissertação apresentada à Universidade de Aveiro para cumprimento dos requisitos necessários à obtenção do grau de Mestre em Gerontologia Aplicada, realizada sob a orientação científica do Prof. Doutor Oscar Ribeiro, Professor Auxiliar do Departamento de Educação e Psicologia da Universidade de Aveiro e coorientação científica da Prof. Doutora Lia Araújo, Professora Adjunta da Escola Superior de Educação do Instituto Politécnico de Viseu.

*"The truth is lived, not taught"*  
Hermann Hesse

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**keywords**

Gerotranscendence; religiosity; life satisfaction; older adults

**abstract**

Gerotranscendence, as a theory, explains the psychosocial changes in later life and postulates the transition from a materialistic and rationalistic perspective to a more cosmic and transcendent view of life accompanying the process of aging. Despite some studies showing the association of gerotranscendence with religiosity and satisfaction with life, the extent of available empirical evidence is still limited. This study aims to add to the available knowledge on the association between these constructs by studying a specific subgroup of older adults, namely nuns and priests, by comparison with the general public, i.e., with no consecrated life. Specifically, this study aims to (a) to analyze if there is a difference in gerotranscendence levels between committed Clergy and Consecrated Religious (CCR) and non-Clergy nor Consecrated Religious (non-CCR), (b) to examine if religiousness is significantly related to gerotranscendence, (c) and to verify if satisfaction with life is significantly related to gerotranscendence. A total of 55 participants were recruited using a nonprobability sampling method and were asked to fulfill a questionnaire with sociodemographic information and to complete three scales, one for each construct: gerotranscendence, life satisfaction and religiosity. Differences between groups were calculated as well as correlation levels between the scale's scores. Results showed that the CCR group presented significantly higher scores in all instruments and that all correlations between scales were significantly positive. Differences between groups evidence the importance of reflection on life, religiosity, attitudes towards death and life satisfaction. These findings support the idea that in order to achieve the gerotranscendence mindset shift one has to align the way of thinking into a more transcendental perspective. There is a complex relationship between all constructs that can be potentially established through cognitive issues (i.e., the way of thinking and beliefs) in which all three constructs can be integrated.

## palavras-chave

Gerotranscendência; religiosidade; satisfação com a vida; idosos.

## resumo

Gerotranscendência, enquanto teoria, explica as mudanças psicossociais do envelhecimento e elucida sobre a mudança de uma perspectiva materialista e realista para uma visão de vida mais cósmica e transcendente. Apesar de alguns estudos apresentarem uma associação da gerotranscendência com religiosidade e satisfação com a vida, o alcance dessas evidências ainda é limitado. O objetivo deste estudo é acrescentar ao conhecimento já existente sobre a associação entre esses construtos, ao focar-se num subgrupo específico de pessoas mais velhas, padres e freiras, em comparação com o público geral, i.e., sem uma vida consagrada. Especificamente, procura-se (a) analisar se existem diferenças nos níveis de gerotranscendência entre os dois grupos - Clero e Religiosos Consagrados, CCR e não-CCR; (b) examinar se níveis mais elevados de religiosidade correspondem a níveis mais elevados de gerotranscendência; e (c) examinar se níveis mais elevados de satisfação com a vida também se associam significativamente com níveis mais elevados de gerotranscendência. Um total de 55 participantes foram recrutados por meio de métodos de amostragem não-probabilísticos e foram solicitados a preencher um questionário com informações sociodemográficas e a responder a três escalas, uma para cada um dos construtos sob análise: gerotranscendência, satisfação com a vida e religiosidade. As diferenças entre os grupos foram calculadas, assim como os níveis de correlação entre as pontuações das escalas. Os resultados revelaram que o grupo CCR apresentou resultados significativamente mais altos em todos os construtos e que todas as correlações foram significativamente positivas. As diferenças entre os grupos evidenciam a importância da reflexão sobre a vida, religiosidade, atitudes relacionadas com a morte e satisfação com a vida. Essas implicações apoiam a ideia de que para atingir a mudança de pensamentos da gerotranscendência, é preciso um ajuste para uma perspectiva mais transcendental. Existe uma relação complexa entre os construtos e as questões cognitivas (i.e., forma de pensar e crenças) parecem estabelecer uma integração entre todos eles.

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**abbreviations**

CCR – Clergy and Consecrated Religious

DUREL – Duke University Religion Index

GST – Gerotranscendence Scale

IR – Intrinsic Religiosity

Non -CCR- Non-Clergy and Consecrated Religious

NORA – Nonorganizational Religiosity

ORA – Organizational Religiosity

SWLS – Satisfaction with Life Scale

## Introduction

Among the theories that explain the psychosocial changes in later life, the gerotranscendence theory advocates the idea of a mindset shift in a *cosmic dimension* comprising existential changes, a *self-dimension* referring to a change in the view of the present self, and a *social dimension* concerning a change in personal relationships matters (Tornstam, 2011; 2005). Therefore, gerotranscendence is considered a final stage of a natural developmental process represented by a shift in one's view of life towards achieving maturity and wisdom and even though it is possible for everyone, it is not an automatic process since it can be impeded or enhanced according to distinctive life experiences (Wang, 2011; Wang et al., 2015).

The psychosocial changes that come with age might also comprehend an increased religiosity, especially due to the high rates of religious involvement and an enlarged prevalence of religious activity. A recent review study about spirituality, religiosity and aging across the thirteenth most populous countries in the world showed that adults aged 60 and older consider themselves more religious than those under 60 years old, and that they also contemplate upon the meaning or purpose of life, suggesting that aging can support an increased religiosity in different cultures (Zimmer et al., 2016). The increased religiosity for older adults can be related to benefits in different areas such as physical and mental health, well-being, life satisfaction, social support, and psychosocial responses by promoting humility, compassion, gratitude, wisdom and altruism (Krause, 2003; Wink & Dillon, 2003; Zimmer et al., 2016).

The word "gerotranscendence" is associated with aging and transcendence, which "refers to the capacity to exceed the limitations and restrictions encountered in life" (Wang et al., 2015, p. 124) being also related with the existence of God (Jewell, 2014). This relation brings the assumption that religiosity might be a factor that increases gerotranscendence in older adults, thereby some studies assessed religiosity through sociodemographic questions and found that religious affiliations could be associated to higher gerotranscendence levels (Braam, Galenkamp, Derkx, Aartsen, & Deeg, 2016; Read, Braam, Lyyra, & Deeg, 2014; Wang et al., 2015).

A recent study with oral narrative history from centenarians aimed to assess evidence of psychosocial theories of age within oral history narratives, and gerotranscendence appeared as the second most frequent psychosocial theory present in centenarians' speech; authors also noticed that the gerotranscendent discourse was associated with reflections towards life and

that such reflections were related to religiosity and spirituality (Heinz, Cone, da Rosa, Bishop, & Finchum, 2017).

Tornstam (2011), a pioneer in the field of study, wrote a note in his paper highlighting that the meta-perspective shift that happens in gerotranscendence is usually accompanied by an increase in life satisfaction. This correlation had already been exemplified by a Dutch study with 928 participants in which authors were able to associate the cosmic dimension, the feeling of coherence and meaning in life (Braam, Bramsen, van Tilburg, van der Ploeg, & Deeg, 2006). An experimental study from Taiwan investigated the effects of a gerotranscendence support group on gerotranscendence perspective, depression, and life satisfaction on 76 institutionalized older adults, and its findings suggest that after participating in such a support group, participants' gerotranscendent perspective and life satisfaction were enhanced, and depression reduced (Wang, Lin, & Hsieh, 2011).

Considering the close relationship gerotranscendence seems to have with religiosity and that some studies were able to connect both subjects as a secondary result by assessing them only through sociodemographic information (Abreu, Araújo & Ribeiro, 2019), it is important to further understand if such relationship really exists and, if so, the strength of such an association. Hence, this study aims to add to the available knowledge on the association between these constructs by studying a specific subgroup of older adults, namely nuns and priests, that have a stronger commitment with religious aspects, in comparison with the general public, i.e., older adults with no consecrated life. Specifically, this study aims to (a) to analyze if there is a difference in gerotranscendence levels between committed Clergy and Consecrated Religious (CCR) and non-Clergy nor Consecrated Religious (non-CCR), (b) to examine if religiousness is significantly related to gerotranscendence, (c) and to verify if satisfaction with life is significantly related to gerotranscendence.

## **1. Theoretical background**

### **1.1 What is gerotranscendence?**

Gerotranscendence is a theory developed by Lars Tornstam and it emerged against a background of different aging theories. It stands out because instead of focusing in only one psychosocial aspect, Tornstam emphasized both a mental and behavioral transformation that happens in three levels: a cosmic dimension, a self-dimension (coherence), and a social dimension (solitude) (Tornstam, 2005, 2011).

In the cosmic dimension, the perception of time is altered, and can lead to a return to childhood that often means a reinterpretation of events and situations. The return to childhood also can lead into a feeling of reconciliation, especially with parents. This reinterpretation of childhood and the transcendence of time might facilitate a higher connection with earlier generations by having an increased feeling of being a part of the flow of the family generations. As these feeling increases, there is a sensation of being part of something bigger than oneself, which leads to a sense of connection with the universe and life in general.

By having a higher connection with relatives that are already dead, and by having the consciousness of being part of the universe, those individuals who develop towards gerotranscendence see life as a flow and learn how not to fear death (as long it does not involve pain) since it is seen as a part of the vital process. The cosmic dimension also involves a different type of happiness. As there is a rising focus on a sense of collectiveness and a decreasing concern about the future, happiness is more associated with transcendent and transient moments. These characteristics become stronger due to the shift in understanding life and by having the feeling of a cosmic connection with the universe (Tornstam, 2005, 2011).

The first characteristic of self-dimension within Tornstam's theory is self-confrontation. In a broad sense, it means discovering characteristics that were not noticed before, since late life would be a period of time when one has the opportunity to review life and to understand oneself truly and better. Once that happens, the perception of the personality becomes more adjusted to reality, escaping from having an egocentric perception or a low self-esteem. There are also differences in the body perception, because as one grows older the meaning of the body changes into a more functional view rather than to an aesthetic view. This dimension is also entitled "coherence" especially due to its characteristics about ego-integrity. Tornstam uses it as a sense of unity, that modifies the way of understanding life leading to a kinder and more mature way of thinking about it. Tornstam also noticed that in some cases tranquility and solitude could be a prerequisite for ego-integrity (Tornstam, 2005, 2011).

Considering these changes in the way one perceives life and oneself, the social dimension can explain the importance of solitude for gerotranscendence. Since there is a mindset shift, gerotranscendent older adults usually value people and activities that are important and meaningful, and when it does not happen, they feel a need to spend more time with themselves (solitude) when they can think about questions related to the other dimensions. This thought and behavior also bring the idea of abandoning social masks and increasing a feeling of being more honest with oneself.

Another characteristic of the social dimension is what Tornstam entitles emancipated innocence, which refers to a “capacity to break away from certain social convention” (Tornstam, 2005, p.66). Following this idea, there is a different attitude towards material assets in which one believes that materialistic needs have a stagnating function; the author even points out the religion viewpoint of asceticism “as one of the paths to insight and wisdom” (Tornstam, 2005, p.67). Everyday wisdom is the last characteristic from this dimension; it refers to the assumption of not knowing it all and being careful at giving advices as one recognizes the tenuous line to discern a wise and an unwise advice.

## **1.2 How gerotranscendence relates to age and life satisfaction**

Since the gerotranscendence theory postulates about a mindset shift in late life, aging can be considered a crucial factor for its development. In 1994, Tornstam described a longitudinal study with data collected in 1986 and 1990 with 912 respondents in which he found no major differences in gerotranscendence levels in Danish participants with age between 74 to 100 years old; in his Swedish study with participants from 20 to 85 years old, however, the author verified higher levels of gerotranscendence in people aged 75+ (as cited in Jewell, 2014). These results are in line with those observed in Read et al.'s study (2014) that associated cosmic transcendence with higher age, religious affiliation, depressive symptoms, and the existence of previous negative life events. In fact, many other studies associated gerotranscendence to other factors rather than age. That is the case of Bruyneel, Marcoen, and Soenens' work (2011) that investigated gerotranscendence in participants with age from 17 to 91 years old and found that the group that had higher levels of gerotranscendence was the age group of 40-49 years old, in a way that authors believe that gerotranscendence was more related to a less negative attitude towards death, religious and spiritual beliefs instead of to age-related factors. A similar result is reported by Braam et al. (2006), in their study with Dutch World War II survivors, since they could not find any association between gerotranscendence and age, instead authors found a substantial positive correlation between cosmic transcendence and meaning in life.

Finally, the gerotranscendence characteristic involving a more mature way of thinking and seeing life enables a relation with life satisfaction in a way that Tornstam defined gerotranscendence as a meta-perspective shift that is normally accompanied by an increase with the satisfaction with life (Tornstam, 2011). This relationship is explained by the author

through qualitative research, as its results showed how a positive viewpoint toward life was associated to a developmental pattern, involving the characteristics from the three gerotranscendence dimensions as well as a greater satisfaction with life. This association was also perceived in a quantitative study earlier conducted (Tornstam, 2005) in which the gerotranscendence scale presented higher correlation with activity index and satisfaction with life. Similar results were confirmed by a Chinese study that investigated the effects of Tai Chi and gerotranscendence in middle aged and older adults in which authors associated the theory with positive consequences to mental health and life satisfaction, suggesting a development toward maturity with age and internal wellness (Duan et al., 2016). Krause (2003) was also able to relate gerotranscendence to subjective well-being through measures with indices of life satisfaction, self-esteem, and optimism. Wang (2011) investigated several factors associated with gerotranscendence and found that life satisfaction, meaning of life, and social support were the factors that contributed the most for gerotranscendence development, especially with the cosmic transcendence and coherence factors.

### **1.3 Gerotranscendence and religiosity**

As exposed, the word “transcendence” from gerotranscendence can refer to an association with God, even though it was not Tornstam’s intention to relate both themes. On the other hand, the author assumed that “Depending on the definition of ‘religion,’ the theory of gerotranscendence may or may be not regarded as a theory of religious development” (Tornstam, 1994, p.203). When one talks about God, it can be from a religious and/or a spiritual matter. Both constructs have many similarities, but when originally describing gerotranscendence, its author only assumed that some definitions of religion might be associated to the theory, excluding the spiritual characteristic. Such preference can be explained by the fact that spirituality is culture dependent, having different meaning in different places around the world and being more difficult to assess (Zimmer et al., 2016); religiosity, on the contrary, in order to be related to an institution might be easier to assess.

On a literature review about religion and mental health, Lukof, Turner and Lu (1992) stated that religiosity “refers to a adherence to the beliefs and practices of an organized church or religious institution” (p.13), and that the concept would differ from spirituality since this one could be described as “the transcendental relationship between the person and a Higher Being, a quality that goes beyond a specific religious affiliation“ (p.13). Religiosity can also be related

to the religious behavior, commonly known as religious orientation, which can be divided by two different types: an intrinsic and extrinsic orientation. An intrinsic religious behavior refers to a connection between personal beliefs and values and to the religious ones, when that happens, one feels a strong bond to religion leading to a sense of harmony, while the extrinsic religious orientation is attached to the idea that when one uses religion for personal needs, religion would be something “instrumental and utilitarian” (Thomas & Eisenhandler, 1994, p.5).

Recent studies that began to investigate the relationship between aging and religiosity found that older adults usually present stronger religious beliefs than younger and middle age adults, in a way that religiosity seems to decrease during this period of life and increase in late life again (Bengtson, Silverstein, Putney, & Harris, 2015; Ellison & Hummer, 2010; Krause, 2010; Dillon & Wink, 2007). Silverstein and Bengtson (2017) gathered many theories of why religiosity might increase with age and found out that there are mostly two groups: one that assigns this change into developmental/cognitive aspects, and another that relate the increase with behavioral/social aspects. The first group attributes the increase of religiosity mostly to a sense of completion and an awareness of finitude, whereas the second group associates it to the adjustments to the social and health losses with advancing years, loneliness and retirement. Furthermore, both aspects of religiosity seem to be important for religious increase, in a way that one might strengthen the other, leading to a more intrinsic religiousness.

In an attempt to better understand gerotranscendence, some studies ended up establishing a connection between religiosity and gerotranscendence. A Chinese study with 772 participants, in which most of them were strongly influenced by Chinese traditional culture, namely Confucianism, demonstrated that older women with religious affiliation presented higher levels of gerotranscendence (Wang et al., 2015). A longitudinal Dutch study was able to relate higher levels of cosmic transcendence with age, importance of prayer and Roman Catholic affiliation (Braam et al., 2016). Despite the association made by these studies, their aim was not to investigate this relationship, and, as a result, religiosity was assessed through simple sociodemographic information about religious affiliation.

The results of these studies show the need of more research to understand if and how religiosity can be link to gerotranscendence. The lack of proper instruments to assess religiosity in these studies, that also investigate gerotranscendence, evidences a gap in how this association was made. Therefore, there is a need to understand how religiosity and its particularities, such as religious behaviors, nonorganizational religious behaviors and intrinsic



religious motivation can be related to gerotranscendence and its dimensions (cosmic, coherence and solitude) and the use of proper instruments for these constructs can be an important step forward in finding how gerotranscendence can be enhanced or diminished.

## 2. Methodology

### 2.1 Sample and procedures

This study was conducted in two Portuguese cities (Aveiro and Viseu), with data collection between May and December of 2019. Two distinct groups of participants were sampled in order to achieve the study aims: the first group was named as “clergy and consecrated religious” (CCR) and the second group as “non-clergy and consecrated religious” (non-CCR). This designation was chosen because according to the glossary of catholic terms (United States Conference of Catholic Bishops, n.d.), the collective term for all the ordained who administer the rites of the church, such as bishops, deacons and priests is *clergy*, whereas the nuns could not be termed clergy; instead, they can be entitled nuns or sisters, because of their vow of a consecrated life, so that they can also be called consecrated religious (cf. Turina, 2011), as well as Catholics monks. In this study, due to the difficulty in reaching this population, for the CCR group we were able to interview only priests and nuns; for the non-CCR group, older adults, either community-dwelling or institutionalized, without consecrated life were considered. For both groups, inclusion criteria were being 55 years or older and having 3 years or more of formal education due to the fact that the instruments used in this study, especially the gerotranscendence scale, demand a high level of interpretation, requiring a minimum of formal education for a complete understanding. For the same reason, a complimentary inclusion criterion was presenting no evidence of cognitive impairment. A nonprobability convenience sampling method for both groups was used (Etikan, Musa, & Alkassim, 2016), in which individuals fulfilling the inclusion criteria were identified based on the contacts of the researchers of the present study.

The first group consisted of CCR (n=25) from Roman Catholic affiliation, namely priests and nuns. The priests were assessed and interviewed in a catholic nursing home nearby the University of Aveiro; the university priest was contacted in order to help the identification of potential participants, namely the nuns who lived in seminars and convents in the geographical area around Aveiro. Participants from this group were also recruited by means of a snowball sampling procedure, which was chosen especially due to the difficulties in reaching

the population of clergy and consecrated religious (Sadler, Lee, Lim, & Fullerton, 2010). The second group of participants consisted of individuals who were non-CCR (n=30). They were recruited through the contacts of the researchers of the present study and those who accepted to participate were interviewed in their homes, nursing homes or in community centers; when interviews took place in nursing homes, institutional managers were asked permission so that an interview could be scheduled in each institution. Also, for this group, the snowball sampling procedure allowed to reach some participants.

## **2.2 Data collection**

After obtaining written consent from each participant, an assessment protocol consisting of four sets of questions was administered in-group or individually, according to the participants' preferences. The protocol included the following instruments:

*Sociodemographic questionnaire.* This questionnaire was used to obtain information about sex, age, marital status, education years, religious affiliation and residence.

*The Gerotranscendence Scale (GST).* This scale was originally developed by Lars Tornstam and aims to assess gerotranscendence levels through three dimensions: cosmic dimension (5 items), which is the scale's main factor and refers to a transcendence of time, space, and objects (e.g., "I feel connected with the entire universe"); coherence dimension (2 items), corresponding to the self-dimension, especially ego-integrity (e.g., "The life I have lived has coherence and meaning"); and solitude dimension (3 items) relating to the change of relationships and its meanings (e.g., "Being at peace and philosophizing by myself is important for my well-being"). We used the scale's revised version (Tornstam, 1997a, 1997b, 2005) in which each item is ranked on a Likert scale, from "Totally agree" (1), to "Totally disagree" (4), being that the two last items are reverse-scored. Total scores range from 10 to 40 points, with higher score indicating higher levels of gerotranscendence. The Gerotranscendence Scale in its latest version presented an alpha value of .73 (Tornstam, 2005). In this study we used a Portuguese version of the scale (Ribeiro, Araújo, Teixeira, & Paúl, 2020), which is currently under a validation process.

*Satisfaction with Life Scale (SWLS)*. This brief self-reported scale was originally developed by Diener, Emmons, Larsen and Griffin (1985) and it assess one's general self-judgement about satisfaction with life. It consists of 5 items rated on a Likert scale from "Strongly disagree" (1), to "Strongly agree" (5). Total scores range from 5 to 35 points, with higher score indicating higher degree of satisfaction with life. For this study, we used the Portuguese version, which presents an alpha value of 0.86 (Simões, 1992).

*Duke University Religion Index (DUREL)*. This is a five-item measure of religious involvement, containing three subscales: (a) Organizational religious behavior (ORA) with 1 item, (b) Nonorganizational religious behavior (NORA) with 1 item, and (c) Intrinsic religious motivation (IR) with 3 items. Response options are on a 5- or 6-point Likert scale, depending of the item, and the Cronbach's alpha ranged from 0.78 to 0.91 (Koenig & Büssing, 2010). For this study, we used a Portuguese validated version as a brief measure of religiousness by researchers from countries that speak the Portuguese language; in this version, alpha values ranged from 0.733, for the total scale, to 0.758 for the intrinsic religious motivation subscale (Peres et al., 2010). Authors did not recommend summing the three subscales in order to assess an overall religiosity score; hence there are three different scores for the DUREL scale referring to each subscale, in which the religious behavior subscales (organizational and nonorganizational) had scores ranging from 1 to 6, and the intrinsic religiosity subscale scores ranged from 3 to 15.

### **2.3 Data analysis**

Descriptive analysis included single item, total and subscales scores comparison between the CCR and the non-CCR groups. Differences for sex, age, years of education and residence between groups were calculated. All the previous analyses were carried out using *chi-square* and *Student's t-test* for sociodemographic data and also for all three instruments. The Pearson's correlations were computed in order to determine levels of correlation between gerotranscendence, satisfaction with life and religiosity. The Statistical Package for Social Sciences (SPSS) version 24 was used for data statistical analysis and the level of statistical significance considered was  $p < 0.05$ .

### 3. Results

Twenty-five CCR and 30 non-CCR individuals agreed to participate in the study. For the first group the mean age was 76.5 years (SD=8.9), ranging from 55 to 90 years old. From the 25 participants, 21 (84%) were women, all were single and catholic; male participants lived in a nursing home, whereas female participants lived in seminars and convents. The mean years of education was 11.04 (SD=4.6), ranging from 4 to 24 years. As for the second group, the mean age was 74.7 years (SD=8.5), ranging from 56 to 89 years old. From the 30 participants, 26 (86.7%) were women and mostly widowed (n=18; 60%). When it comes to religious affiliation, 27 (90%) presented themselves as being Catholics. Most participants (n=26; 86.7%) lived at home. The mean years of education was 8.66 (SD=5.26), ranging from 3 to 20 years. Table 1 presents the sociodemographic characteristics of the study sample.

**Table 1**

*Sociodemographic characteristics of participants*

Participants characteristic	CCR (n=25)	Non-CCR (n=30)	<i>p</i>
Age, M (SD)	76.56 (8.93)	74.7 (8.55)	.435
Gender, n (%)			.538
Female	21 (84)	26 (86.7)	
Male	4 (16)	4 (13.3)	
Marital status, n (%)			†
Single	25 (100)	1 (3.3)	
Married/partnered	-	10 (33.3)	
Divorced	-	1 (3.3)	
Widowed	-	18 (60)	
Years of education, M (SD)	11.04 (4.65)	8.66 (5.26)	.089
Religious affiliation, n (%)			†
Catholic	25 (100)	27 (90)	
No religion	-	1 (3.3)	
No answer	-	2 (6.6)	
Residence, n (%)			.538
Home	21 (84)	26 (86.7)	
Nursing home	4 (16)	4 (13.3)	

† The *p* value was not calculated, as all CCR participants are single and catholic

Information on GST items for each group is presented in Table 2. The CCR group presented higher means for all items, with items 2 from coherence dimension (*The life I have lived has coherence and meaning*), 5 from cosmic dimension (*I can feel a strong presence of people who are elsewhere*), and 7 from solitude dimension (*I like to be by myself better than*

*being with others*) presenting the greatest difference between groups. These results are in agreement with the results presented in Table 3, in which all dimensions of the GST presented higher scores in the CCR group in comparison with the non-CCR group. The CCR group displayed a mean of 7.36 (SD=0.96) for coherence dimension while non-CCR group had 6.26 (SD=1.20). Meanwhile, in the solitude dimension the CCR mean score was 8.12 (SD=1.01) and the non-CCR mean score was 7.43 (SD=1.30). Even though every gerotranscendence dimension presented higher means for CCR group, the differences between groups were more pronounced when it comes to the cosmic dimension, in which the CCR group presented a mean of 17.24 (SD=2.18) while the non-CCR group had a value of 14.63 (SD=2.88). The differences between the two groups are statistically significant for the dimensions of coherence and cosmic gerotranscendence.

**Table 2***Single item comparison between groups for GST.*

GST items	CCR					Non-CCR				
	1 n (%)	2 n (%)	3 n (%)	4 n (%)	Mean (SD)	1 n (%)	2 n (%)	3 n (%)	4 n (%)	Mean (SD)
1. Being at peace and philosophizing by myself is important for my well-being.	1 (4)	0	6 (24)	18 (72)	3.64 (0.7)	1 (3.3)	0	15 (50)	14 (46.7)	3.4 (0.67)
2. The life I have lived has coherence and meaning.	0	0	5 (20)	20 (80)	3.8 (0.4)	0	2 (6.7)	19 (63.3)	9 (30)	3.23 (0.56)
3. Sometimes I feel like I live in the past and present simultaneously.	2 (8)	4 (16)	10 (40)	9 (36)	3.04 (0.93)	4 (13.3)	8 (26.7)	15 (50)	3 (10)	2.56 (0.85)
4. I feel a strong connection with earlier generations.	1 (4)	2 (8)	9 (36)	13 (52)	3.36 (0.81)	1 (3.3)	6 (20)	12 (40)	11 (36.7)	3.1 (0.84)
5. I can feel a strong presence of people who are elsewhere.	1 (4)	1 (4)	9 (36)	14 (56)	3.44 (0.76)	3 (10)	8 (26.7)	12 (40)	7 (23.3)	2.76 (0.93)
6. I feel that I am a part of everything alive.	0	1 (4)	6 (24)	18 (72)	3.68 (0.55)	0	1 (3.3)	22 (73.3)	6 (20)	3.17 (0.46)
7. I like to be by myself better than being with others.	0	7 (28)	13 (52)	5 (20)	2.92 (0.7)	3 (10)	15 (50)	8 (26.7)	3 (10)	2.37 (0.82)
8. I feel connected with the entire universe.	0	0	7 (28)	18 (72)	3.72 (0.45)	0	3 (10)	16 (53.3)	10 (33.3)	3.24 (0.63)
9. I like meetings with new people.	0	2 (8)	10 (40)	13 (52)	3.44 (0.65)	0	2 (6.7)	18 (60)	10 (33.3)	3.26 (0.58)
10. My life feels chaotic and disrupted.	17 (68)	6 (24)	1 (4)	1 (4)	1.44 (0.76)	11 (36.7)	13 (43.3)	2 (6.7)	4 (13.3)	1.96 (0.99)

*Note: GST items rank: 1- Totally disagree; 2- Disagree; 3- Agree; 4- Totally Agree.*

**Table 3***Comparison between groups for GST dimensions.*

GST dimensions' scores	CCR		Non-CCR		<i>p</i>
	Mean	SD	Mean	SD	
Cosmic	17.24	2.18	14.63	2.88	.001
Coherence	7.36	0.95	6.26	1.20	.001
Solitude	8.12	1.01	7.43	1.30	.059

Information regarding SWLS is presented in Table 4 and shows that the CCR group presented higher means in all the five items when compared with the non-CCR group; items 1 and 3 were the ones with most expressive difference between groups. As expected, DUREL items also presented higher means for the CCR group, especially for ORA and IR subscales (see Table 5). In all instruments the CCR group presented higher scores, as expressed in Table 6: for GST, the CCR group obtained a mean of 32.48 (SD=3.04), while the non-CCR group presented a mean of 29.33 (SD=3.87), indicating a significant difference between groups; SWLS means were 22.87 (SD=2.04) for the CCR group and 19.86 (SD=4.85) for the non-CCR group; and DUREL's overall mean showed the largest differences between groups – a mean of 26.64 (SD=0.75) for the CCR group vs. 21.2 (SD=5.46) for the non-CCR group. This result corroborates the hypothesis that there is a significant difference between groups in what concerns gerotranscendence levels, being that such difference is accompanied by significant differences for the other two instruments as well.

**Table 4***Single item comparison between groups for SWLS.*

SWLS items	CCR						Non-CCR					
	1 n (%)	2 n (%)	3 n (%)	4 n (%)	5 n (%)	Mean (SD)	1 n (%)	2 n (%)	3 n (%)	4 n (%)	5 n (%)	Mean (SD)
1. In most ways my life is close to my ideal.	1 (4)	0	3 (12)	5 (20)	18 (72)	4.44 (0.86)	5 (16.7)	2 (6.7)	3 (10)	9 (30)	11(36.7)	3.63 (1.47)
2. The conditions of my life are excellent.	0	0	2 (8)	5 (20)	17 (68)	4.62 (0.64)	0	2 (6.7)	8 (26.7)	8 (26.7)	12 (40)	4 (0.98)
3. I am satisfied with my life.	0	0	0	5 (20)	20 (80)	4.8 (0.4)	2 (6.7)	4 (13.3)	2 (6.7)	3 (10)	18 (60)	4.06 (1.38)
4. So far, I have gotten the important things I want in life.	1 (4)	0	0	7 (28)	17 (68)	4.56 (0.86)	1 (3.3)	2 (6.7)	5 (16.7)	8 (26.7)	14 (46.7)	4.06 (1.11)
5. If I could live my life over, I would change almost nothing.	2 (8)	0	4 (16)	7 (28)	12 (48)	4.08 (1.18)	1 (3.3)	0	6 (20)	13 (43.3)	10 (33.3)	4.03 (0.92)

*Note: SWLS items rank: 1- Totally disagree; 2- Disagree; 3- Neither agree nor disagree; 4- Agree; 5- Totally Agree.*



**Table 5**

*Single item comparison between groups for DUREL.*

	DUREL		CCR					Non-CCR						
	1 n (%)	2 n (%)	3 n (%)	4 n (%)	5 n (%)	6 n (%)	Mean (SD)	1 n (%)	2 n (%)	3 n (%)	4 n (%)	5 n (%)	6 n (%)	Mean (SD)
<b>ORA</b>														
1. How often do you attend church or other religious meetings?	0	0	0	0	0	25	6 (0)	2 (6.7)	0	5 (16.7)	3 (10)	14 (46.7)	5 (16.7)	4.44 (1.35)
<b>NORA</b>														
2. How often do you spend time in private religious activities, such as prayer, meditation, or Bible study?	0	0	0	0	3 (12)	22 (88)	5.88 (0.33)	4 (13.3)	1 (3.3)	2 (6.7)	3 (10)	11 (36.7)	8 (26.7)	4.37 (1.69)
<b>IR</b>														
3. In my life, I experience the presence of the Divine (i.e., God)	-	0	0	0	1 (4)	24 (96)	4.96 (0.2)	-	1 (3.3)	1 (3.3)	2 (6.7)	8 (26.7)	17 (56.7)	4.34 (1)
4. My religious beliefs are what really lie behind my whole approach to life	-	0	0	0	1 (4)	24 (96)	4.96 (0.2)	-	2 (6.7)	0	4 (13.3)	10 (33.3)	13 (43.3)	4.10 (1.11)
5. I try hard to carry my religion over into all other dealings in life	0	0	0	4 (16)	21 (84)	-	4.84 (0.37)	1 (3.3)	2 (6.7)	3 (10)	15 (50)	8 (26.7)	-	3.93 (0.99)

*Note: For this table, all three subscales were grouped even though each subscale has a different measure. For ORA and NORA subscales there is a 6-point measurement with different labels; for IR there is a 5-point measurement. ORA: 1- Never; 2- Once a year or less; 3- A few times a year; 4- A few times a month; 5- Once a week; 6- More than once a week; NORA: 1- Rarely or Never; 2- A few times a month; 3- Once a week; 4- Two or more times a week; 5- Daily; 6- More than once a day; IR: 1- Definitely not true; 2- Tends not to be true; 3- Unsure; 4- Tends to be true; 5- Definitely true of me.*

**Table 6***Comparison between groups for GST, SWLS and DUREL global scores*

Instruments	CCR		Non-CCR		<i>p</i>
	Mean	SD	Mean	SD	
GST Score	32.48	3.04	29.33	3.87	.002
SWLS Score	22.87	2.04	19.86	4.85	.007
DUREL Score	26.64	0.75	21.20	5.46	.000

Correlation analysis showed that gerotranscendence, satisfaction with life and religiosity (organizational religiosity, non-organizational religiosity, intrinsic religiosity and religiosity in its totality), have a statistically significant correlation with each other, as seen in Table 7. When exploring if religiosity was related to gerotranscendence, results showed a moderated positive correlation between GST and DUREL's overall score. When it comes specifically to organizational religiosity (ORA), GST presented a positive correlation, even though it is the weakest one between gerotranscendence and religiosity dimensions ( $r=.497$ ;  $p=.000$ ). GST had the strongest correlation ( $r=.577$ ;  $p=.000$ ) with the intrinsic religiosity (IR). Satisfaction with life was found to have a significant correlation with GST ( $r=.314$ ;  $p=.026$ ). This supports the hypothesis that gerotranscendence and satisfaction with life are related constructs. All instruments correlations were positive which means that higher levels of gerotranscendence are associated to higher levels of satisfaction with life and religiosity.

**Table 7***Statistical correlation between instruments (n=55).*

Instruments	GST	SWLS	DUREL	ORA	NORA	IR
GST	1	.314*	.587**	.497**	.543**	.577**
SWLS	.314*	1	.628**	.540**	.533**	.649**
DUREL	.587**	.628**	1	.867**	.920**	.973**
ORA	.497**	.540**	.867**	1	.691**	.780**
NORA	.543**	.533**	.920**	.691**	1	.858**
IR	.577**	.649**	.973**	.780**	.858**	1

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

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

#### 4. Discussion

In this study, the first aim was to analyze if there is a difference in gerotranscendence levels between the CCR group and the non-CCR group. Findings revealed that the CCR group presented higher scores in every item of the gerotranscendence scale, and, consequently, in all three dimensions. The CCR group also presented higher scores for life satisfaction and religiosity. Finally, the three instruments used in this study presented positive correlations with each other.

In order to understand these results we formulated four possible explanations which are supported by some of the core ideas for gerotranscendence elaborated by Heinz et al. (2017), wherein authors associated gerotranscendence with reflection, praying, family, moral, values, death and purpose. The first explanation advocates the possibility that the CCR group dedicates more time to reflect about transcendental and metaphysical issues, which can promote the development of high levels of gerotranscendence; the second explanation supports that the religious life that the CCR group presents may have an impact into attitudes towards death and, therefore, on gerotranscendence development; third, the levels of religiosity may have an influence on gerotranscendence levels; and fourth, satisfaction with life can have an intrinsic relationship with gerotranscendence levels (i.e., the higher the first, the higher the second and vice versa). Each of these explanations is next developed.

Regarding the first explanation, priests and nuns dedicate long periods of time in religious activities, as highlighted in ORA and NORA subscales. CCR group's daily activities enables more reflection and contemplation of intrinsic values and moral and, since the theory has its foundation in a mindset shift, the ability to transform the interpretation of life events through deliberation in order to achieve higher degrees of gerotranscendence is probably more accurate in the CCR group. These findings can be related to Bruyneel et al.'s (2011) results, in which spirituality, religiosity, and moral development were positively correlated to transcendent connection as part of the gerotranscendence theory. Such outcomes were associated into the process toward maturation and wisdom noticed in gerotranscendent people. Therefore, this characteristic that the CCR group participants have in common might be an important factor for the gerotranscendence development, precisely in what concerns the coherence dimension, since it is related to wisdom characteristics due to fact that it refers to life experience, reminiscence, reflectiveness and emotional regulation (Jewell, 2014; Webster, 2003).

The second explanation is highly related to the first one, as supported by Bruyneel et al.'s (2011) study, because more reflection on transcendental and metaphysical issues might be

associated with a more positive attitude towards death as reported by Heinz et al. (2017). In their study, authors described how centenarians with narratives associated to the gerotranscendence theory highlighted the importance of reflection about life, family, moral, values, and the choices made throughout life as much as a peaceful attitude with the thought of their own mortality; such reflections resulted in less fear of death and in the sense of being ready for death because of their sense of purpose in life. This characteristic can be associated especially to the cosmic dimension, since reflecting about life, feeling a sense of connection with the universe, and having little fear of death are representative of this dimension of gerotranscendence (Tornstam, 2005, 2011). Therefore, the cosmic dimension presented the most expressive difference between groups, supporting the idea that reflecting about transcendental and metaphysical issues as much as less fear of death might be related to higher levels of gerotranscendence. This idea supports Ardel's (2003) findings that people who are more intrinsic religious oriented are highly related to approach death acceptance and present less death anxiety, because of the higher levels of meaning in life and the idea of being rewarded for their religious behaviors and beliefs.

The third explanation is related to this study's second aim, i.e., that the higher the religiosity level, the higher the gerotranscendence level as well. The results showed that the CCR group displayed more expressive degrees of religiosity than the non-CCR group even though the second group is 90% catholic affiliated, indicating that religiosity might be more significant than religious affiliation to gerotranscendence development. Previous studies involving religiosity and gerotranscendence assessed religiosity only by means of simple sociodemographic questions about religion affiliation (Braam et al., 2016; Read et al., 2014; Wang, 2011; Wang et al., 2015), evidencing a need to use validated instruments to assess this construct in order to better examine this relationship. This study, as mentioned, used the official gerotranscendence instrument (GST) and a validated instrument to assess religiosity (DUREL) in three different dimensions (ORA, NORA and IR) in order to understand the relationship between constructs, and the results showed that the CCR group presented higher scores for all three subscales of religiosity. In 2016, Braam et al. reported a positive correlation between Roman Catholic affiliation, the importance of prayer, and cosmic transcendence. In the current study, the majority of the participants consider themselves as Catholic (100% in the CCR and 90% in the non-CCR) but the CCR group presented higher scores on religiosity and gerotranscendence, which leads us to affirm that being affiliated to a religion is not enough for gerotranscendence development. Moreover, religiosity presented the strongest correlation with the other two constructs, especially with life satisfaction, which can suggest that religiosity can

be strongly integrated to one's way of thinking, having an impact in gerotranscendence and also in life satisfaction.

The fourth explanation is related to the last aim of this study and concerns the association between life satisfaction and gerotranscendence. As exposed, life satisfaction, along with meaning of life, has been a construct highly associated with gerotranscendence in previous studies (Braam et al., 2006; Jewell, 2014; Tornstam, 2011; Tornstam, 1994). In the current study, we could observe a positive connection between gerotranscendence and satisfaction with life, even though it was the weakest correlation reported. Such connection exists possibly due to the fact that gerotranscendence demands a meaningful way of interpreting life events, including the negative ones (Read et al., 2014) and, by doing that, one can have a stronger sense of life satisfaction. On the other hand, being more satisfied with life can enable the mindset shift needed in order to have greater degrees of gerotranscendence. This can be explained by the fact that satisfaction with life judgements represent a complex combination of both top-down and bottom-up factors, that is, life satisfaction can influence the source of judgement and it can also be a product of summation of life circumstances (Pavot & Diener, 2008).

Taken together, these results seem to suggest that there is a mutual influence between constructs, implicating a more complex connection than expected. Gerotranscendence, religiosity, and satisfaction with life's correlation reveal that the main characteristic these three constructs share is possibly the cognitive component, i.e., one's way of thinking and beliefs. In order to achieve the mindset shift proposed by Tornstam (2005, 2011), one has to align the way of thinking into a more transcendental one, including feeling connected with the universe, and having an integrated perception about life and death. These feelings and perceptions can be related to religiosity and ego-integrity by accepting life as it is and by being able to see the wholeness of the view (Tornstam, 2011) which can also be related to life satisfaction (Pavot & Diener, 2008). This possibility is explored by Ahmadi (2001) who came to establish that religiosity can only be associated with gerotranscendence when it is integrated into people's way of thinking. Similar findings were also reported in Bruyneel et al. (2011) wherein participants who could not elaborate a critical viewpoint about religious beliefs before accepting or rejecting it presented a negative correlation with transcendent connection, supporting the idea that the cognitive factor can be important in the way to understand the complex connection between constructs.

Despite this study's contribution to the available understanding of gerotranscendence and religiosity, some limitations are to be acknowledged. First, the disadvantage inherent to the

constitution of the CCR group being difficult to access influenced the sample size that was of 55 participants, which is too small to obtain more robust and generalizable results. Second, there are not many studies about gerotranscendence in Portugal, precluding a comparison and better understanding on cultural settings. This study has gone some way towards enhancing the understanding of gerotranscendence by highlighting the role of religiosity and life satisfaction have on the theory. The present findings might help to clarify the importance that religiosity has on gerotranscendence development and can also consolidate the relationship between gerotranscendence and life satisfaction. Hence, this study's results might help the development on gerotranscendence practices based on religious and life satisfaction issues. Further research is needed to understand if there is a causality effect between the constructs. In order to accomplish that, longitudinal studies are required. Also, qualitative studies are needed to verify the explanations above and how they are perceived.

## References

- Abreu, T., Araújo, L., Ribeiro, O. (2019, November). *Religion, spirituality and gerotranscendence in later life: a review of empirical studies*. Paper presented at the First International Congress in Ageing Communities and Development Challenges, Castelo Branco, Portugal. Abstract retrieved from <https://congress.agecomm.pt/event/comunidades-envelhecidas-desafios-para-o-desenvolvimento-2019-11-14-2019-11-16-1/agenda>
- Ahmadi, F. L. (2001). Gerotranscendence and different cultural settings. *Ageing and Society*, 21(04), 395–415. <https://doi.org/10.1017/s0144686x01008285>
- Ardelt, M. (2003). Effects of religion and purpose in life on elders' subjective well-being and attitudes toward death. *Journal of Religious Gerontology*, 14(4), 55–77. [https://doi.org/10.1300/J078v14n04\\_04](https://doi.org/10.1300/J078v14n04_04)
- Bengtson, V. L., Silverstein, M. S., Putney, N., & Harris, S. C. (2015). Does religiosity increase with age? Age changes and age differences over 35 years. *Journal of the Scientific Study of Religion*, 54(2), 363–379.
- Braam, A. W., Bramsen, I., van Tilburg, T. G., van der Ploeg, H. M., & Deeg, D. J. H. (2006). Cosmic Transcendence and Framework of Meaning in Life: Patterns Among Older Adults in The Netherlands. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 61B(3), S121–S128. <https://doi.org/10.1093/geronb/61.3.s121>
- Braam, Arjan W., Galenkamp, H., Derkx, P., Aartsen, M. J., & Deeg, D. J. H. (2016). Ten-Year Course of Cosmic Transcendence in Older Adults in the Netherlands. *International Journal of Aging and Human Development*, 84(1), 44–65. <https://doi.org/10.1177/0091415016668354>
- Bruyneel, S., Marcoen, A., & Soenens, B. (2011). Gerotranscendence: Components and Spiritual Roots in the Second Half of Life. *SSRN Electronic Journal*, 1–27. <https://doi.org/10.2139/ssrn.870233>
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). Review of the Satisfaction With Life Scale William Pavot ; Ed Diener. *Journal of Personality Assessment*, 3891(March). <https://doi.org/10.1207/s15327752jpa4901>

- Dillon, M., & Wink, P. (2007). *In the course of a lifetime: Tracing religious belief, practice, and change*. Berkeley, CA: University of California Press.
- Duan, G. xiang, Wang, K., Su, Y. hua, Tang, S. yang, Jia, H. li, Chen, X. mei, & Xie, H. hui. (2016). Effects of Tai Chi on telomerase activity and gerotranscendence in middle aged and elderly adults in Chinese society. *International Journal of Nursing Sciences*, 3(3), 235–241. <https://doi.org/10.1016/j.ijnss.2016.07.005>
- Ellison, C. G., & Hummer, R. A. (Eds.). (2010). *Religion, families, and health: Population-based research in the United States*. New Brunswick, New Jersey: Rutgers University Press.
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of Convenience Sampling and Purposive Sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 4. <https://doi.org/10.11648/j.ajtas.20160501.11>
- Heinz, M., Cone, N., da Rosa, G., Bishop, A. J., & Finchum, T. (2017). Examining Supportive Evidence for Psychosocial Theories of Aging within the Oral History Narratives of Centenarians. *Societies*, 7(8), 1–20. <https://doi.org/10.3390/soc7020008>
- Jewell, A. J. (2014). Tornstam's notion of gerotranscendence: Re-examining and questioning the theory. *Journal of Aging Studies*, 30(1), 112–120. <https://doi.org/10.1016/j.jaging.2014.04.003>
- Koenig, H. G., & Büssing, A. (2010). The Duke University Religion Index (DUREL): A Five-Item Measure for Use in Epidemiological Studies. *Religions*, 1(1), 78–85. <https://doi.org/10.3390/rel1010078>
- Krause, N. (2003). Religious Meaning and Subjective Well-Being in Late Life. *Journals of Gerontology - Series B Psychological Sciences and Social Sciences*, 58(3), 160–170.
- Krause, N. (2010). Religious involvement in the later years of life. In K. I. Pargament, J. J. Exline, & J. W. Jones (Eds.), *American Psychological Association Handbook of Psychology, Religion, and Spirituality* (pp. 529-545). Washington, DC: American Psychological Association.
- Lukoff, D., R. Turner, and F. Lu. (1992). Transpersonal psychology research review: Psychoreligious dimensions of healing. *Journal of Transpersonal Psychology*, 24, 41-60.
- Pavot, W., & Diener, E. (2008). The Satisfaction With Life Scale and the emerging construct



- of life satisfaction. *Journal of Positive Psychology*, 3(2), 137–152.  
<https://doi.org/10.1080/17439760701756946>
- Peres, M. F., Granero Lucchetti, A. L., Koenig, H. G., Moreira-Almeida, A., Lucchetti, G., & Leão, F. C. (2010). Validation of the Duke Religion Index: DUREL (Portuguese Version). *Journal of Religion and Health*, 51(2), 579–586.  
<https://doi.org/10.1007/s10943-010-9429-5>
- Read, S., Braam, A. W., Lyyra, T. M., & Deeg, D. J. H. (2014). Do negative life events promote gerotranscendence in the second half of life? *Aging and Mental Health*, 18(1), 117–124. <https://doi.org/10.1080/13607863.2013.814101>
- Ribeiro, O., Araújo, L., Teixeira, L., & Paúl, C. (2020). Portuguese version of Gerotranscendence Scale. Manuscript in preparation.
- Sadler, G. R., Lee, H. C., Lim, R. S. H., & Fullerton, J. (2010). Recruitment of hard-to-reach population subgroups via adaptations of the snowball sampling strategy. *Nursing and Health Sciences*, 12(3), 369–374. <https://doi.org/10.1111/j.1442-2018.2010.00541.x>
- Silverstein, M., & Bengtson, V. L. (2017). Return to Religion? Predictors of Religious Change among Baby-Boomers in their Transition to Later Life. *Journal of Population Ageing*, 11(1), 7–21. <https://doi.org/10.1007/s12062-017-9216-0>
- Simões, A. (1992). Ulterior validação de uma escala de satisfação com a vida (SWLS). *Revista Portuguesa de Pedagogia*, 26(3), 503-515.
- Thomas, L. E., & Eisenhandler, S. A. (1994). *Aging And The Religious Dimension*. Westport: Greenwood.
- Tornstam, L. (1994). Gerotranscendence - A theoretical and empirical exploration. In L.E. Thomas & S.A. Eisenhandler (Eds.), *Aging and the Religious Dimension* (pp. 203-225). Westport: Greenwood.
- Tornstam, L. (1997a). Gerotranscendence: The contemplative dimension of aging. *Journal of Aging Studies*, 11(2), 143-154.
- Tornstam, L. (1997b). Gerotranscendence in a broad cross-sectional perspective. *Journal of Aging and Identity*, 2, 17-36.
- Tornstam, L. (2005). *Gerotranscendence: a developmental theory of positive aging*. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=gnh&AN=110902&site=ehost->

live

- Tornstam, L. (2011). Maturing into gerotranscendence. *Journal of Transpersonal Psychology*, 43(2), 166–180.
- Turina, I. (2011). Consecrated virgins in Italy: A case study in the renovation of Catholic religious life. *Journal of Contemporary Religion*, 26(1), 43–55.  
<https://doi.org/10.1080/13537903.2011.539841>
- United States Conference of Catholic Bishops. (No date). Glossary of Catholic Terms.  
 Retrieved from <http://www.usccb.org/about/public-affairs/glossary/index.cfm>
- Wang, J. J. (2011). A structural model of the bio-psycho-socio-spiritual factors influencing the development towards gerotranscendence in a sample of institutionalized elders. *Journal of Advanced Nursing*, 67(12), 2628–2636. <https://doi.org/10.1111/j.1365-2648.2011.05705.x>
- Wang, J. J., Lin, Y. H., & Hsieh, L. Y. (2011). Effects of gerotranscendence support group on gerotranscendence perspective, depression, and life satisfaction of institutionalized elders. *Aging and Mental Health*, 15(5), 580–586.  
<https://doi.org/10.1080/13607863.2010.543663>
- Wang, K., Duan, G., Jia, H., Xu, E., Chen, X., & Xie, H. (2015). The level and influencing factors of gerotranscendence in community-dwelling older adults. *International Journal of Nursing Sciences*, 2(2), 123–127. <https://doi.org/10.1016/j.ijnss.2015.04.001>
- Webster, J. D. (2003). An exploratory analysis of a Self-Assessed Wisdom Scale. *Journal of Adult Development*, 10(1), 13–22.
- Wink, P., & Dillon, M. (2003). Religiousness, Spirituality, and Psychosocial Functioning in Late Adulthood: Findings from a Longitudinal Study. *Psychology and Aging*, 18(4), 916–924. <https://doi.org/10.1037/0882-7974.18.4.916>
- Zimmer, Z., Jagger, C., Chiu, C. T., Ofstedal, M. B., Rojo, F., & Saito, Y. (2016). Spirituality, religiosity, aging and health in global perspective: A review. *SSM - Population Health*, 2, 373–381. <https://doi.org/10.1016/j.ssmph.2016.04.009>