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Religiosité dans l'aire métropolitaine de Lisbonne par tranche d'âge et en comparaison avec le Portugal

Religiosidad en el área metropolitana de Lisboa por grupos de edad y en comparación con Portugal

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Religiosity in Lisbon Metropolitan Area by Age Group and Comparing with Portugal

Portuguese religiosity is a topic that has received some attention in recent years. These studies have shown that, despite exceptions in some indicators of belief, young people are less religious than older people (Dix, 2013; Teixeira, 2013a; Duque, 2014; Coutinho, 2019). The most recent survey of Portuguese religiosity (Teixeira, 2013b) revealed that Algarve and Lisbon Metropolitan Area (LMA), together with Alentejo, have the highest percentages of non-religious people and the lowest percentages of Catholics. So, the former are more likely to live in urban areas, and the latter in rural areas (Teixeira, 2013a: 130-132). The lowest percentage of Catholic practice is found in these regions and in urban places (Teixeira, 2013a: 193-194).

Although Teixeira (2013a) used "region" and "type of location" as sociodemographic variables, he analysed the country as a whole. His study lacked indicators of belief, presenting therefore a limited picture of religiosity. In addition, it did not present more sophisticated statistical analyses, such as indexes and tests. In short, there is a lack of more detailed studies, especially of urban areas, for Portugal and other traditionally Catholic European countries. A few studies have analysed urban religion, but they focus on America (Warner and Wittner, 1998; Orsi, 1999; Livezey, 2000; Stepick, Rey, and Mahler, 2009) or they do not study Catholic religiosity or countries with a Catholic tradition (Pinxten and Dikomitis, 2009; Becci, Burchardt, and Casanova, 2013; Garbin and Strhan, 2017).

The project "Religious identities and social dynamics in Lisbon Metropolitan Area (LMA)" filled part of this gap by studying the capital region of Portugal. LMA is the densest, wealthiest, most educated, most diversified and most urbanised region of Portugal.[1] Thus, it is the most representative urban

1. Population density (individuals/km2, 2020): 951 in LMA, 317 in the next (Madeira), 112 in Portugal. GDP per capita at constant prices (2016; 2020): 24,922 in LMA; 19,867 in the next (Algarve); 19,431 in Portugal. Population with higher education (2021): 32% of LMA, 22% in the next (North, Algarve, and Centre), 24% in Portugal. Foreign population with legal resident status (2020): 330,413 in LMA; 103,554 in the next (Algarve); 661,607 in Portugal; 11.5% in

landscape in Portugal. Apart from the book that analyses all the project's variables (Teixeira et al., 2019), there has until now been only one article on these data, which however focuses on believers without religion and does not cross religious variables with any sociodemographic variable (Teixeira, Vilaça, and Dix, 2019). This article therefore offers a new exploration of these data with two main goals. The first is to analyse data on religiosity (belonging, practice, and belief) by age group. The second is to compare these data with national data.

Age groups, urbanisation, and religiosity

In cross-sectional studies, like this one, two effects exist – age (or lifecycle) and generation (or cohort). As with the other two types of study (longitudinal: the effects of age and period; situational: the effects of period and generation), these effects can only be rigorously differentiated through longitudinal panel surveys (Cavalli, 2004: 160), which have been used by a number of authors (e.g., Bengtson, Putney, Silverstein, and Harris, 2015; Shulgin, Zinkina, and Korotayev, 2019; Stolz, Biolcati, and Molteni, 2021).

The age effect occurs with changes during a lifetime (Cavalli, 2004: 159-160; Stolz, Biolcati, and Molteni, 2021: 342). This effect is complex, but in short stems mainly from frailty in old age, as some studies have argued (e.g., Bengtson, Putney, Silverstein, and Harris, 2015: 364; Skirbekk, Potančoková, Hackett, and Stonawski, 2018: 1440; Shulgin, Zinkina, and Korotayev, 2019: 592). These articles, based on previous studies, show certain aspects of the age effect. The first aspect is physical frailty due to illness and the gradual decline in health. The second one is spiritual frailty, which may result from stressful or traumatic situations, increasing the need for meaning in life. The third aspect is social frailty, characterised by loneliness, which may result from retirement and the loss of relationships, increasing the need for social integration. The fourth aspect is ontological frailty, the sense of not controlling anything, resulting in the need for an external force.

The generational effect derives from differences between generations. For Mannheim (1952: 292), the author of the best-known generational theory, generations are "age groups imbedded in a historical-social process." According to Cavalli (2004: 156), belonging to a unique period in time is the basis of a generation, and of its differentiation from the others. This unique time breaks with a previous time through extraordinary political, economic, social, cultural, and/or technological events, the experience of which leaves a greater impression in the formative phases of the life cycle (15-20 years old) (Cavalli, 2004: 158-159). Although analysing generations gives rise to problems of empirical measurement, since defining the thresholds between them

LMA, 6.4% in Portugal. Resident population in places with 10,000 inhabitants and over (2011): 65% in LMA, 51% in the next (Madeira), 43% in Portugal. Source: Pordata (accessed April 26th, 2022).

is extremely difficult (Roof, 2011: 622), classifying generations is possible. In fact, the existence of five generations is relatively consensual: silent, boom, X, Y, and Z (e.g., Dimock, 2019). These generations help to better grasp changes in time. In political terms, the silent and boom generations mainly lived under an authoritarian regime that ended in 1974, while the other generations lived under democracy, signalled by more instability, heterodoxy, and increasing globalisation. Sociocultural and technological patterns have also changed over the course of these generations, especially since generation X and even more so in the next generations (Y and Z). The trends on socio-economic issues seem also clear: tertiary economy,[2] the average individual wealth,[3] and schooling in all grades[4] have grown significantly. Finally, there is a clear trend to increased tolerance and autonomy in relationships, which have been gradually driven by loosening (fewer marriages and more children outside marriage), breakup (more divorces), infertility (fewer children), and postponement (more late marriages and late children).[5]

What do empirical studies show on religiosity by age group? Before presenting results, it is important to recall a few possible methodological problems. First, on account of "multiple modernities" (Eisenstadt, 2000), studies from different countries should be used with caution. Priority should be given to the countries that are closest geographically and culturally. In the case of Portugal, this means choosing European countries with a strong Catholic tradition, especially western ones, since ex-communist countries have different realities. Second, empirical studies do not all use the same age groups, which usually range from two to six in number. Third, empirical studies do not all use the same variables, which seldom include all dimensions (belonging, practices, beliefs, attitudes). Fourth, empirical studies may have other problems, such as the use of different weights and lack of quality assurance. Because of these problems, their results must be read with caveats.

The studies from Portugal show that religiosity in general, as well as the variables of belonging and practice, increase with age; beliefs have diverse patterns, but an index of belief shows few differences between age groups

2. In 1974, the three sectors had practically the same weight (primary: 34.9%; secondary: 33.7%; and tertiary: 31.4%) while in 2021 the percentages were 2.7%, 24.6%, and 72.7%, respectively. Source: Pordata (accessed March 29th, 2022).

3. Gross domestic product (GDP) per capita at constant prices (2016) more than doubled between 1974 and 2020: from €8,611 to €18,126. Source: Pordata (accessed March 29th, 2022).

4. The actual schooling rate went from 8.3% (pre-school), 84.9% (1st cycle), 26.0% (2nd cycle), 17.8% (3rd cycle) and 4.9% (upper-secondary) in 1974, to 92.8%, 97.1%, 90.2%, 90.8%, and 82.9%, respectively, in 2020. The number of students enrolled in higher education increased from 81,582 to 396,909 between 1978 and 2020 (0.83% and 3.76% of total population, respectively; data for total population: 1978 corresponds to 1981, 2020 corresponds to 2011). Source: Pordata (accessed March 29th, 2022).

5. Data from 1960/2020. Crude marriage rate (‰): 7.8/1.8. Live births outside marriage (%): 9.5/57.9. Crude divorce rate (‰): 0.1/1.7. Crude birth rate (‰): 24.1/8.2. Mean age on first marriage: M – 26.9/34.9, W – 24.8/33.4. Mean age of the mother at birth of first child: 25.0/30.7. Source: Pordata (accessed March 29th, 2022).

(Teixeira, 2013a: 125; Duque, 2014: 119, 128, 155; Coutinho, 2019: 8; Stolz, Biolcati, and Molteni, 2021: 355). Looking at the European Values Study (EVS) 2017 for France, Italy, and Spain, a few elements stand out. First, Catholic affiliation increases with age. Second, belief in God increases with age. In France, the three other Catholic beliefs (in life after death, in Heaven and in Hell) all decrease with age; in Italy and Spain belief in the first has close percentages between age groups, while belief in Hell and Heaven increases with age. Third, weekly attendance at services has the highest percentages at 65+ (close percentages between age groups with the lowest percentage at 35-64 in France; increases with age in Italy and Spain). Comparing EVS 2017 with International Social Survey Programme (ISSP) 2018, the patterns by age group are the same in belonging, and in beliefs in God and life after death; belief in Hell has similar patterns in France and Italy while in Spain its percentages are close between age groups; belief in Heaven has also the highest percentage at 15-34 in France, has close percentages between age groups in Italy, and has a similar pattern in Spain; weekly attendance at services increases with age. In short, Catholic belonging, belief in God, and weekly attendance at services increase or are at their highest at 65+ for the three countries, while the other three beliefs show different patterns according to the country. Two studies on multiple countries, using previous EVS rounds, partly confirm this (here only data on Catholics were considered): while weekly attendance at services increases with age, belief (in God, Heaven, and Hell) shows a less clear pattern (Molteni, 2017: 44; Molteni and Biolcati, 2018: 426). Looking at national studies, in France, Catholic belonging and a few religious practices increase with age, but belief in God has the highest percentage among young people (Senèze and Vaillant, 2015). In Spain, Catholic belonging also increases with age and the oldest group has the highest percentage of weekly attendance at services; yet, in one study percentages of attendance increase with age, while in another they do not (CIS, 2018, 2019). In Italy, weekly attendance at services also increases with age (Vezzoni and Biolcati-Rinaldi, 2015: 115). In short, Catholic belonging and weekly attendance at services increase with age, as does probably also belief in God, judging by the most recent rounds of EVS and ISSP. The other variables of belief show more complex patterns; in some cases, as in France, young people have the highest percentages.

Despite methodological problems and some empirical inconsistencies, contextual trends suggest that socialisation and individualisation, the two driving forces of changes in religiosity (e.g., Roussou, 2015), are moving cohorts further and further away from religion. Since, as some authors have argued (e.g., Sherkat, 2003; Guest, 2011), religious socialisation is dominated by family, the decline of traditional forms of family weakens it. In fact, several studies confirm that parents' religiosity positively influences that of their children. (e.g., Denton and Flory, 2020; Zareba and Zarzecki, 2020). On the other hand, individualisation permeates socialisation, reinforcing the fracture in the chain of memory through discontinuity and the utilitarian and consumerist spirit that drives it (Campiche, Azria, Bréchon, and Imaz, 1997:

191-192), especially among young people (e.g., Bréchon, 2004; Collins-Mayo and Dandelion, 2010). Thus, the first hypothesis (H1) is: religiosity increases with age.

Urbanisation is another aspect that influences religiosity. After Christianity became the official religion of the Roman Empire (edict of Thessalonica, 380), pagans lived mainly in the countryside, not in the cities (Stark, 2012: 195). In fact, the Latin word "pagan" means "peasant." According to Weber (2006: 128), cities were places of religiosity, as they had the requisites for the development of an organised religion, unlike the countryside. Casanova (2013: 114) argues that this religious primacy of the city has existed since early Christianity and until now. Yet, although the relationship between secularisation and modernisation (of which urbanisation is a major feature) varies, they are closely associated in Europe.[6] As Le Bras (1956: 480) predicted for France, when peasants arrived in the cities they would stop going to church. Unlike in American society, Casanova (2013: 114-115) asserts that urbanisation and secularisation are strongly correlated in Western Europe.

In fact, secularisation prevails in Portugal due to the absence of a religious market such as one finds in other countries, like the US or Brazil. Portugal is a European country with a strong Catholic tradition where religious minorities are still uncommon (3.9%, according to INE, 2012: 530). The two most diversified regions are LMA and Algarve, with 6.5% and 9.2% of religious minorities respectively, but LMA is undoubtedly the region with the highest number of minorities (154,119; while the second largest, North, has 68,802). Lisbon, the capital and a global city, attracts more capital, investment, and people than any other Portuguese city, thus developing diversification processes, especially religious ones (Vilaça, 2013: 93-94). However, as Davie (2006: 293) argues, Europe has a burgeoning religious market that is likely to gradually increase, even though historic churches complicate this model. Thus, while North American apologists for the market model argue that diversity brings higher levels of religiosity (e.g., Iannaccone, 1991), in Europe it is too early to test this model. Particularly in Portugal, religious diversity is still in its early stages. Thus, the premises of secularisation must be applied here: in other words, since LMA is more modernised than Portugal in general,[7] it is probably more secularised. So, the second hypothesis (H2) is: religiosity is lower in LMA than in Portugal as a whole.

6. Davie (2006: 292) asks whether Europe is secular because it is modern or because it is European. This is not the place to discuss this, but the fact that Europe is a unique case in the world confirms the idea that European modernisation and European secularisation are closely linked, though with multiple paths (Eisenstadt, 2000).
7. See footnote 1.

Method

This section of the paper presents the methodological options: data sources, dimensions, variables, age groups, and statistical analyses. The LMA data are from the project "Religious identities and social dynamics in Lisbon Metropolitan Area" (Teixeira et al., 2019), and data about Portugal are from the project "Religious identities in Portugal: representations, values, and practices" (Teixeira, 2013b). Both surveys were carried out by CESOP, the survey centre of the Catholic University of Portugal, with the same random sampling methods (stratified with random route), the first of them during June and July of 2018, and the second during October of 2011. The first sample had 1,180 respondents from LMA aged 15 or over and a maximum error of +/- 2.9% (95% confidence level). The second sample had 3,978 respondents from Portugal aged 15 or over and a maximum error of +/- 1.6% (95% confidence level). These projects/datasets are referred throughout the text as LMA and Portugal respectively.

According to two pioneering but still very important studies (Fichter, 1951; Glock and Stark, 1965), religiosity has several dimensions: four for the first, five for the second. Usually, surveys have variables for just four dimensions: communal (belonging), ritualistic (practices), ideological (beliefs), and consequential (attitudes). As this article compared data from two projects, only the first three common dimensions were chosen. Indeed, although there are two variables on attitudes in the LMA dataset (Q7i: abortion; Q8: euthanasia), the Portugal dataset does not have them. In each dimension, to simplify the analyses, only the variable that best characterises it was selected from those available. Furthermore, to produce a balanced index (with the same number of variables per dimension) there were no other variables for the dimension "belonging" nor other variables suitable for the dimension "belief." In fact, recent studies have only used these three variables (e.g., Stolz, Biolcati, and Molteni, 2021). Each variable was recoded as dummy to simplify and to normalise the analyses where "1" is always the category that expresses more religiosity. For each dimension, the respective question/variable in the LMA and Portugal questionnaires are:

- Belonging (Religious affiliation): Q13 in LMA and Q16 in Portugal. LMA and Portugal questions are the same.[8] Categories of both variables are not all the same, but the important one for this article is ("Catholic"). Religious affiliation is one of the most important parameters to characterise religiosity and the variable par excellence of belonging, so it is regularly used. As Portugal is a country with a strong Catholic tradition, as already mentioned, Catholic belonging is the only category used because the other religious groups are clearly in a minority.[9] Indeed, in a sample of 1,180

8. Q13 LMA/Q16 Portugal: "What is your a religious affiliation?"
9. Religious minorities represent 9.3% of the sample.

respondents, Catholics are the largest group (647 respondents), followed by non-religious (413 respondents), while Evangelicals and Protestants have only 54 respondents and the rest have even fewer (55 respondents in total).[10]

- Practice (Frequency of attendance at religious services): Q12a in LMA and Q10a in Portugal. Analyses focused on regular practice, which is the sum of categories "more than once a week" and "once a week." Though the LMA and Portugal questions are not the same, they are quite similar.[11] Plus, the additional text at the beginning of the LMA question does not influence the percentage of regular practice, since weddings, baptisms, and funerals are occasional. The LMA question has one more category (penultimate) than the Portugal question, bringing about different last categories, but this is unimportant since the focus was on regular practice. Like the previous variable, this is mandatory, used in all religious studies, and is the best expression of regular practice, as attending Mass is the only of the Catholic Church's five precepts and seven sacraments that Catholics should participate in weekly.

- Belief (Belief in revealed God): Q7b in LMA and Q15d in Portugal. Analyses focused on the sum of categories "partially agree" and "totally agree." Though the LMA and Portugal questions are not the same, they are quite similar since the second part of both questions has the same meaning.[12] The LMA and Portugal questions have the same categories. Belief in God is probably the most commonly used variable of belief. Even though "belief in revealed God" is relatively different from strict "belief in God," it was the only one available in both surveys.

When choosing the number of age groups, two aspects are important. First, the fewer groups, the simpler the analysis. Second, each age group must have at least 25-30 cases in order to apply the tests correctly (Hill and Hill, 2009: 55). For this article, the best option should enable us to distinguish young people from older people, where middle age group(s) are for confirming trends, as cohort effect and age effect are not analysable through cross-sectional studies like this one. Therefore, three age groups are the best option for simplifying analysis. 34 is an increasingly used upper limit for youth (e.g., Ferreira, Lobo, Rowland, and Sanches, 2017), mainly due to the effect of increasing delays in entering adulthood. 65 is the minimum limit for older people, as it is the

10. Respondents in Portugal sample: Catholics (3,217), non-religious (472), Evangelicals/Protestants (77), others (114). Religious minorities represent 4.9% of the sample.
11. Q12a LMA: "Apart from weddings, baptisms, and funerals, how often do you participate or attend community worship acts (such as Mass or other worship meetings): a. In the church or temple." Q10a Portugal: "How often do you participate or attend religious worship acts? a. In the church or temple."
12. Q7a LMA: "Indicate your degree of agreement – God exists and has revealed himself." Q15d Portugal: "Indicate your degree of agreement – God exists and has made himself known in the person of Jesus Christ."

retirement age in the EU (66 in Portugal).[13] In between are the middle-aged; though the limits of this group are also debatable, they are roughly between 40 and 60 years old.[14] So, the age groups are: 15-34 (young), 35-64 (middle age), 65+ (older).

Based on SPSS, two analyses were applied:

- Age: comparison of each variable and the index of religiosity by age group in LMA using ANOVA as all variables are dummy (table 1). The index is the sum of variables of belonging, practice, and belief using "Transform>Count values within cases" where only values (categories) equal to 1 were considered for each variable. For the index, internal consistency was verified (Cronbach's Alpha>0.5). Data are from LMA dataset (2018) applying weight. ANOVA can only be applied rigorously when two conditions are met: normality, verified by the Kolmogorov-Smirnov test with Lillefors correction or by the Shapiro-Wilk test (n<30), and homogeneity of variances, verified by Levene's test (Maroco, 2010: 133-136). When homogeneity of variances does not exist, Fw of Welch can be used; when both conditions are not met, the Kruskal-Wallis test should be used (Maroco, 2010: 160, 227). Significant differences are verified through post-hoc tests.[15] In the Kruskal-Wallis test, significant differences are verified through post-hoc Dunn's test and p values adjusted by Bonferroni correction.
- Area: Comparison of each variable and the index between Portugal and LMA in each age group using one-sample *t* test where the mean is from Portugal (table 2). For the index, internal consistency was verified (Cronbach's Alpha>0.5). Data are from the Portugal dataset (2011) applying weight. It is mandatory that the variable has a normal distribution (Maroco, 2010: 144), but this can be fulfilled when N>30 (Pestana and Gageiro, 2000: 177).

Results and discussion

Table 1 shows the distribution of religious variables and the index of religiosity in LMA by age group. Unlike practice, the two other variables and the index increase significantly with age. Even in the case of practice, the oldest group has the highest value, and the youngest group has the lowest value. Differences are in general medium between adjacent groups (15-34/35-64 and 35-64/65+) and large between extreme groups (15-34/65+); the exceptions are both in

13. www.eurofound.europa.eu/topic/retirement (accessed February 20th, 2023).
14. www.britannica.com/science/middle-age (accessed February 20th, 2023).
15. Tukey, Scheffé, Bonferroni, and LSD (with equal variances) and Games-Howell (without equal variances). There is no consensus on the most appropriate test, but the first four tests are pointed out when variances are equal (in fourteen tests available in SPSS) (Maroco, 2010: 161). Games-Howell is the most used test when variances are not equal (in four tests available in SPSS) (Brites, n/d: 36).

practice (small and medium, respectively), while in belief the difference between 35-64 and 65+ is small but very close to medium.[16]

Table 1 – Religiosity in LMA by age group (%)

	Belonging	Practice	Belief	Index
15-34	0.40[a]	0.14[a]	0.48[a]	1.00[a]
35-64	0.56[b]	0.15[a]	0.64[b]	1.30[b]
65+	0.69[c]	0.24[b]	0.73[c]	1.61[c]
Total	0.55	0.17	0.62	1.31

Source: LMA dataset
Notes: Values between 0 and 1 (belonging, practice, and belief), 0 and 3 (index). Significant differences exist when the letters are different – a, b, c. Cronbach's Alpha = 0.583 (if practice was excluded Alpha would be higher – 0.668).
Tests: Belonging, H (2) = 63.251; p<0.001 (2 categories); normality and homogeneity of variances not assumed (K-S and Levene's tests: p <0.05). Practice, H (2) = 14.853; p<0.001 (2 categories); normality and homogeneity of variances not assumed (K-S and Levene's tests: p<0.05). Belief, H (2) = 46.812; p<0.001 (2 categories); normality and homogeneity of variances not assumed (K-S and Levene's tests: p<0.05). Index, H (2) = 68.944; p<0.001 (4 categories); normality not assumed (K-S test: p<0.05) and homogeneity of variances assumed (Levene's test: p>0.05). For all tests, DK/NA were omitted.

The appendix includes three tables with data from the Portugal dataset (2011), ESS 2018 and EVS 2017. The first has a large sample from LMA (1,312 respondents), higher than the main sample of this article (table A.1 in appendix). Thus, in addition to the main data (table 1), the first dataset is the most recent and complete survey with NUTS II data ever carried out in Portugal. On the contrary, ESS 2018 and EVS 2017 should be analysed carefully regarding LMA samples. Indeed, they are relatively small in size which can cause errors of interpretation (tables A.2 and A.3 in appendix).[17] While ESS has samples that best represent Portuguese and LMA age groups, EVS samples are unbalanced in LMA. In fact, in LMA, youth should have a

16. The differences between each age group, or the effect size, are measured using Cohen's *d*, the best-known measure for assessing the magnitude of the difference in means of two groups, which has the following classification: ≤0.2 (small),]0.2; 0.5] (medium),]0.5; 1.0] (large), >1 (very large) (Maroco, 2010: 182-184). The values are the following (G1-G2, G2-G3, G1-G3): belonging (0.32; 0.27; 0.61), practice (0.03; 0.24; 0.26), belief (0.33; 0.19; 0.53), index (0.31; 0.32; 0.61).
17. Resident population in Portugal/LMA in 2020: 13.4/15.7% (0-14), 21.5/20.8% (15-34), 42.6/41.2% (35-64), 22.4/22.4% (65+) (Source: Pordata; accessed February 20th, 2023). Samples sizes with analysis weight in ESS (15-34, 35-64, 65+): Portugal (221, 444, 214); LMA (64, 125, 47). Samples sizes with weight in EVS (15-34, 35-64, 65+): Portugal (314, 678, 223); LMA (129, 183, 39).

smaller sample and the older group should have a larger sample. Still, ESS 2018 and EVS 2017 can help to complement the two analyses (age and area).

Table A.1 confirms the significant differences between age groups and shows that practice also differs significantly between all age groups. Although with a difference of only seven years in data collection and with the same sampling method developed by the same survey centre, data from the Portugal dataset are clearly higher for all variables and age groups. Does this mean that in seven years there was a real and significant fall of religiosity in all age groups? Would all age groups show so many differences? Could it be that the percentages of non-religious were overvalued in the LMA sample and/or undervalued in the Portugal sample compared with those of Catholics? Or were there problems of data collection in one or both surveys? An explanation based on the differences in sample distributions by age group in LMA of the LMA dataset and the Portugal dataset is excluded because they are practically the same.[18]

As expected, ESS and EVS do not confirm significant increases with age for all variables (table A.2). In fact, there is no variable with this pattern. Still, in general the highest values are in the oldest group and the lowest values are in the youngest group with two exceptions (practice and belief in EVS). In terms of belonging, our data confirm previous studies on Portugal (Coutinho, 2019: 8; Stolz, Biolcati, and Molteni, 2021: 355), in specific Mediterranean European/Catholic-majority countries (Senèze and Vaillant, 2015; CIS, 2018, 2019; data from EVS 2017 and ISSP 2018), and in a few Catholic-majority European countries (Molteni, 2017: 44; Molteni and Biolcati, 2018: 426). As far as practice is concerned, our data also confirm the findings of previous studies (Senèze and Vaillant, 2015; Vezzoni and Biolcati-Rinaldi, 2015: 115; CIS, 2019; Molteni, 2017: 44; Molteni and Biolcati, 2018: 426; Coutinho, 2019: 8; Stolz, Biolcati, and Molteni, 2021: 355; data from EVS 2017 and ISSP 2018). As regards belief (in God), though Senèze and Vaillant (2015) indicate that the young believe more, data from EVS 2017 and ISSP 2018 show that it increases with age. As regards an index of beliefs, Duque (2014: 155) also found that it increases with age.

Although the aim of this article is not to explain the differences, some socio-demographic data can give clues for research. Education and social class are markers of secularisation, since more education and better living conditions, that is, more development, imply less religiosity (Norris and Inglehart, 2004: 50). Are there differences in education and/or social class between age groups that explain this? Looking at both parameters, there is an increase in education and social class between the three age groups, but the biggest

18. Number of respondents by age group in LMA in both datasets (both with weighted data): LMA dataset, 15-34 (294), 35-64 (584), 65+ (303); Portugal dataset, 15-34 (302), 35-64 (689), 65+ (316).

difference is between 65+ and the other two.[19] First, the oldest group is clearly less educated and less socially positioned than the other two: the sum of the top four categories of education and the two lowest social categories show this. Second, the young group is more educated than the middle-aged mainly because they have a higher percentage of MSc/PhD. Still, correlations between the index and these variables by age group are very weak.[20]

Most likely other factors related to socialisation may explain this. The idea of cohort or generation replacement is a good explanation (e.g., Voas and Crockett, 2005; Stolz, Biolcati, and Molteni, 2021). Although usually applied in longitudinal studies, its main point is that less religious cohorts replace more religious cohorts, which is due to the gradual decrease in socialisation over generations. This article can illustrate this thesis since, for all variables, the young group is less religious than the oldest group. Voas and Crockett (2005) showed that the expression "believing without belonging" (Davie, 1990) is outdated as belief is also declining along with affiliation and churchgoing. Stolz, Biolcati, and Molteni (2021) in a recent article, comparing France with Catholic countries in Western Europe, including Portugal, confirmed this idea. So it seems that people are less and less religious from generation to generation, and both data from the LMA and Portugal datasets demonstrate this. Another article exploring variables in socialisation is needed to confirm this hypothesis.

Table 2 shows the differences in religiosity between Portugal and LMA by age group based on Portugal dataset (2011). Except in belonging at 65+, practice at 15-34, and belief at 65+, the differences are highly significant. Even for the first two, they are significant but with $p<0.05$. The index shows highly significant differences across all age groups, though it is smaller in 65+. Differences in belonging, belief, and the index decrease with age, while young people have a smaller difference in practice. Are there differences in education and/or social class between Portugal and LMA to explain this? Looking at both parameters, there are no important differences to point out.[21]

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19. Medians for level of education: 15-34 (high school), 35-64 (high school), 65+ (2nd cycle). Category "MSc/PhD": 15-34 (13.4%), 35-64 (5.3%), 65+ (2.1%). Sum of categories between "high school" and "MSc/PhD": 15-34 (76.4%), 35-64 (72.8%), 65+ (34.0%). Medians for social class: 15-34 (middle), 35-64 (middle), 65+ (middle). Category "low": 15-34 (3.4%), 35-64 (8.6%), 65+ (17.1%). Sum of categories "low" and "middle-low": 15-34 (33.0%), 35-64 (35.3%), 65+ (46.6%). Source: LMA dataset (weighted data; missing and the category "none of these" in social class omitted).

20. Spearman's correlation between the index and education and social class. Education: 15-34 (r_s (307) = -0.110; $p>0.05$), 35-64 (r_s (675) = -0.154; $p<0.001$), 65+ (r_s (344) = -0.192; $p<0.001$). Social class: 15-34 (r_s (296) = -0.007; $p>0.05$), 35-64 (r_s (639) = -0.030; $p>0.05$), 65+ (r_s (316) = -0.005; $p>0.05$). Source: LMA dataset (weighted data; missing and the category "none of these" in social class omitted).

21. Medians for level of education (Portugal/LMA): 15-34 (high school/high school), 35-64 (3rd cycle/high school), 65+ (1st cycle/1st cycle). Medians for social class (Portugal/LMA): 15-34 (middle/middle), 35-64 (middle-low/middle-low), 65+ (middle-low/middle-low). Sum of categories "low" and "middle-low" (Portugal/LMA): 15-34 (44.3/44.8), 35-64 (52.5/57.1), 65+

Even the difference in education at 35-64 is not very important, as the median of LMA is very close to the 3rd cycle. Alas, these variables do not explain these differences. The variable that probably does explain them is the level of urbanisation. In fact, the differences are significant between Portugal and LMA in urban and rural areas, while semi-urban areas present practically equal percentages between age groups (table A.4 in appendix). In all age groups, LMA has higher percentages in urban areas and lower percentages in rural areas, which was to be expected as it is the most urbanised Portuguese region. Still, correlations are very weak/weak.[22]

Table 2 – Differences of religiosity between Portugal and LMA by age group

	Belonging	Practice	Belief	Index
15-34	0.67/0.52***	0.21/0.16*	0.68/0.57***	1.49/1.19***
35-64	0.84/0.74***	0.35/0.23***	0.82/0.77***	1.96/1.69***
65+	0.93/0.89*	0.47/0.35***	0.90/0.87	2.25/2.07***
Total	0.83/0.73***	0.35/0.24***	0.81/0.75***	1.93/1.67***

Source: Portugal dataset
Notes: Values between 0 and 1 (belonging, practice, and belief), 0 and 3 (index). Values on the left are from Portugal, values on the right are from LMA. Significant differences between Portugal values and LMA values: (*) <0.05, (**) <0.01, (***) <0.001. Cronbach's Alpha for Portugal = 0.527 (if practice was excluded Alpha would be higher – 0.612). Cronbach's Alpha for LMA = 0.529 (if practice was excluded Alpha would be higher – 0.639).
Tests: Belonging 15-34 - t (297) = -4.865; p<0.001. Belonging 35-64 - t (687) = -6.093; p<0.001. Belonging 65+ - t (315) = -2.365; p<0.05. Belonging Total - t (1,306) = -8.291; p<0.001. Practice 15-34 - t (299) = -2.509; p<0.05. Practice 35-64 - t (676) = -7.335; p<0.001. Practice 65+ - t (313) = -4.596; p<0.001. Practice Total - t (1,294) = -9.327; p<0.001. Belief 15-34 - t (278) = -3.518; p<0.001. Belief 35-64 - t (657) = -3.512; p<0.001. Belief 65+ - t (301) = -1.327; p>0.05. Belief Total - t (1,239) = -5.296; p<0.001. Index 15-34 - t (301) = -5.259; p<0.001. Index 35-64 - t (688) = -7.517; p<0.001. Index 65+ - t (315) = -3.847; p<0.001. Index Total - t (1,311) = -10.114; p<0.001. For all tests, DK/NA were omitted.

Looking at ESS and EVS data (table A.3 in appendix), ESS shows differences across all variables and age groups, and the indexes always show highly significant differences with the smallest difference at 35-64. On the

(59.7/61.3). Source: Portugal dataset (weighted data; missing and the category "none of these" in social class omitted).

22. Spearman's correlations between the index and the dimension of locality recoded (1=rural/2=semi-urban/3=urban). LMA: 15-34 (r_s (305) = -0.011; p>0.05), 35-64 (r_s (705) = -0.141; p<0.001), 65+ (r_s (324) = -0.214; p<0.001). Portugal: 15-34 (r_s (819) = -0.320; p<0.001), 35-64 (r_s (2,112) = -0.244; p<0.001), 65+ (r_s (1,021) = -0.139; p<0.001. Source: Portugal dataset (weighted data; missing omitted).

contrary, EVS has different patterns: the young and the oldest group do not show significant differences, in the young two variables and the index are higher; middle-aged is the only group with significant differences (belonging and index). ESS and EVS diverge in their differences, with ESS being the only database that comes close to data in table 2. Probably these exceptions do not arise from empirical reasons but from methodological reasons due to issues of sample size, as mentioned above, which may impact on a correct analysis.

Conclusions

This article aimed to test two hypotheses. The first hypothesis (that religiosity increases with age) and the second hypothesis (that religiosity is higher in Portugal overall) were both confirmed. While data from LMA has only one exception in practice (between youth and middle-aged), data comparing LMA with Portugal have no exceptions. ESS and EVS partially confirm the first hypothesis, while the second hypothesis cannot be confirmed since the data diverge. For the first hypothesis, recent data from EVS 2017 and ISSP 2018 for countries close to Portugal confirm the increasing pattern for the three dimensions, in line with other studies on Portugal. In sum, the data seem to indicate that religiosity increases with age. Still, although the three chosen variables in this article are very relevant, it would be good to include other variables to achieve a greater degree of information and consistency. While the frequency of attendance at services is sufficient to measure practice, as already explained, belief is a more kaleidoscopic dimension: there are many dogmas and the Nicene and Apostles' Creeds are composed of many beliefs, where God is just one. Unfortunately, these projects lack other solid Christian beliefs to compare with each other and with international studies, such as the belief in Hell or Heaven. Furthermore, attitudes are an important dimension meriting further consideration in religious studies. But unfortunately only the LMA project used them, so they were omitted from this study.

Despite these discrepancies in the age patterns of dimensions, which would merit further studies using new variables, mainly on the dimension of belief, the processes of individualisation and socialisation in Western countries, including Portugal, support the idea that religiosity is decreasing. As briefly discussed, education is increasing, and with it, changes in social class in Portugal as well as in other Western countries, as the Human Development Index may show, which indicates that probably individualisation is growing in these countries, opening the doors to the decline in religiosity (e.g., Norris and Inglehart, 2004). Further, the concept of cohort replacement (e.g., Stolz, Biolcati, and Molteni, 2021), based on the notion that cohorts are less and less religious due to the gradual decrease in religious socialisation, also helps to explain this trend.

In fact, individualisation and socialisation strengthen each other when religiosity is at stake. On the one hand, more individualised people are less prone to pass their inherited faith (if it was inherited) since they have more

doubts (because they are more given to reflection), have more comfortable lives, rely less on tradition, and above all are more autonomous. Though religion may assuage the inner afflictions, the most urgent questions of meaning in the upper classes, as Weber (2006: 169) explained, the detachment from religious institutions is a clear and consistent trend (e.g., Wuthnow, 1998; Hervieu-Léger, 1999; Roof, 1999). On the other hand, less religiously socialised people are less resistant to individualisation. Family is the key agent in religious socialisation (e.g., Smith and Adamczyk, 2021), so the maintenance of the lineages of belief, based on memory (Hervieu-Léger, 1993), is fundamental to better resist or cope with the secular environment. With the increasing disappearance of lineages of belief due to the decline of traditional families based on religious marriages, religious contents are less transmitted and the detachment from religious institutions increases, thus promoting individualisation.

For the second hypothesis, there are no other studies from Portugal and other similar countries to compare with. As for the first hypothesis, new studies will be needed to analyse this issue. In the case of Portugal two aspects are important when discussing this: parochial civilisation and religious plurality. When LMA and Portugal are compared, it means that the most urbanised, wealthiest, and most diversified Portuguese region is compared with the whole of Portugal, with all its regional diversity. Parochial civilisation, based on the parish and the rural community (e.g., Lambert, 1985), dominated Portuguese society for centuries, losing ground in the last decades with the growth of urbanisation, mainly since the second half of the 20th century (Coutinho, 2020: 258). Still, some parts of Portugal keep parochial traits, mainly in the less urbanised areas where tradition and religious leaders have more influence, especially to the north of the River Tagus. In fact, looking at INE (2012: 530), LMA and the other regions south of this river (Alentejo and Algarve) have the highest percentages of non-religious and non-responses (24.6%, 20.1%, and 22.3%, respectively) while the other four regions have clearly lower percentages (between 6.9% in Madeira and 11.7% in the Centre), with Portugal as a whole in between (15.1%).

Religious plurality is residual in Portugal, as already mentioned. Though a religious market could stimulate the religious field as the US and Brazilian cases may show, Portugal has a long history of hegemonic Catholicism, similar to that of other European countries, which hampers the entrance of minority groups. In fact, minority groups have had to face the opposition of Portuguese society (e.g., Ruuth and Rodrigues, 1999; Gracino Jr., 2011; Souza Jr., 2014). This may explain why until now minorities are mostly associated with immigrants, such as Orthodox Christians or Muslims (Vilaça, 2013: 92-97), or groups that have been present in Portugal for a long time, such as the Assemblies of God or Jehovah's Witnesses, and have the most places of worship (Coutinho, 2020: 227). Though minority groups are mostly located in urban or semi-urban areas (Vilaça, 2013: 95), they have not yet acquired sufficient weight to counterbalance the dominant Catholic culture: LMA and Algarve, the two regions with the most religious minorities, have 6.5% and

9.2%, respectively (the other regions have between 1.8% and 3.6%) (INE, 2012: 530). More opportunities exist for the growth of a religious market in the cities, where immigration and proselytising are more common; this may lead to changes in the long term. To grasp this potential shift more quantitative and qualitative studies will be needed.

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Appendix

Table A.1 – Religiosity in LMA in Portugal dataset by age group

	Belonging	Practice	Belief	Index
15-34	0.52[a]	0.16[a]	0.57[a]	1.19[a]
35-64	0.74[b]	0.23[b]	0.77[b]	1.69[b]
65+	0.89[c]	0.35[c]	0.87[c]	2.07[c]
Total	0.73	0.24	0.75	1.67

Source: Portugal dataset (weighted data)
Notes: Values between 0 and 1 (belonging, practice, and belief), 0 and 3 (index). Significant differences exist when the letters are different – a, b, c.
Tests: Belonging - H (2) = 108.857; p<0.001 (2 categories); normality and homogeneity of variances not assumed (K-S and Levene's tests: p<0.05). Practice - H (2) = 32.298; p<0.001 (2 categories); normality and homogeneity of variances not assumed (K-S and Levene's tests: p <0.05). Belief - H (2) = 73.256; p<0.001 (2 categories); normality and homogeneity of variances not assumed (K-S and Levene's tests: p<0.05). Index - H (2) = 133.879; p<0.001 (4 categories); normality and homogeneity of variances not assumed (K-S and Levene's tests: p<0.05). For all tests, DK/NA were omitted.

Table A.2 – Religiosity in LMA in ESS 2018 and EVS 2017 by age group

	ESS			EVS			
	Belonging	Practice	Index	Belonging	Practice	Belief	Index
15-34	0.37[a]	0.11	0.48[a]	0.43[a]	0.14	0.77	1.28[a]
35-64	0.50[a]	0.13	0.63[a]	0.51[a]	0.11[a]	0.87	1.46[a]
65+	0.73[b]	0.18	0.91[b]	0.80[b]	0.30[b]	0.87	1.96[b]
Total	0.52	0.14	0.65	0.51	0.14	0.83	1.45

Sources: ESS (2020), EVS (2020)
Notes: Values between 0 and 1 (belonging, practice, and belief), 0 and 2 (index in ESS), 0 and 3 (index in EVS). Significant differences exist when the letters are different – a, b, c. Weights: ESS (analysis weight), EVS (weight).
Tests: ESS Belonging - H (2) = 16.647; p<0.001 (2 categories); normality and homogeneity of variances not assumed (K-S and Levene's tests: p<0.05). ESS Practice - H (2) = 0.258; p>0.05 (2 categories); normality not assumed (K-S test: p<0.05) and homogeneity of variances assumed (Levene's test: p>0.05). ESS Index - H (2) = 13.455; p<0.01 (3 categories); normality not assumed (K-S test: p<0.05) and homogeneity of variances assumed (Levene's test: p>0.05). EVS Belonging - H (2) = 13.916; p<0.001 (2 categories); normality and homogeneity of variances not assumed (K-S/S-W and Levene's tests: p<0.05). EVS Practice - H (2) = 6.102; p<0.05 (2 categories); normality

and homogeneity of variances not assumed (K-S/S-W and Levene's tests: p<0.05). EVS Belief - H (2) = 5.382; p>0.05 (2 categories); normality and homogeneity of variances not assumed (K-S/S-W and Levene's tests: p<0.05). EVS Index - H (2) = 14.244; p<0.001 (2 categories); normality and homogeneity of variances not assumed (K-S/S-W and Levene's tests: p<0.05). For all tests, missing were omitted.

Table A.3 – Differences of religiosity between Portugal and LMA in ESS 2018 and EVS 2017 by age group

	ESS			EVS			
	Belonging	Practice	Index	Belonging	Practice	Belief	Index
15-34	0.56/0.37***	0.21/0.11*	0.77/0.48***	0.47/0.43	0.10/0.14	0.71/0.77	1.22/1.28
35-64	0.65/0.50***	0.20/0.13*	0.85/0.63***	0.74/0.51***	0.15/0.11	0.88/0.87	1.73/1.46***
65+	0.85/0.73*	0.39/0.18***	1.24/0.91***	0.88/0.80	0.37/0.30	0.94/0.87	2.16/1.96
Total	0.68/0.51***	0.25/0.13***	0.92/0.64***	0.69/0.51***	0.18/0.14	0.85/0.83	1.68/1.45***

Sources: ESS (2020), EVS (2020)
Notes: Values between 0 and 1 (belonging, practice, and belief), 0 and 2 (index in ESS), 0 and 3 (index in EVS). Values on the left are from Portugal, values on the right are from LMA. Significant differences between Portugal values and LMA values: (*) <0.05, (**) <0.01, (***) <0.001. Weights: ESS (analysis weight), EVS (weight).
Tests: ESS Belonging 15-34 - t (63) = -3.049; p<0.01. ESS Belonging 35-64 - t (124) = -3.278; p<0.01. ESS Belonging 65+ - t (56) = -2.067; p<0.05. ESS Belonging Total - t (250) = -5.269; p<0.001. ESS Practice 15-34 - t (63) = -2.445; p<0.05. ESS Practice 35-64 - t (124) = -2.511; p<0.05. ESS Practice 65+ - t (56) = -3.999; p<0.001. ESS Practice Total - t (250) = -5.429; p<0.001. ESS Index 15-34 - t (63) = -3.653; p<0.001. ESS Index 35-64 - t (124) = -3.894; p<0.001. ESS Index 65+ - t (56) = -3.818; p<0.001. ESS Index Total - t (250) = -6.885; p<0.001. EVS Belonging 15-34 - t (128) = -0.876; p>0.05. EVS Belonging 35-64 - t (182) = -6.042; p<0.001. EVS Belonging 65+ - t (38) = -1.132; p>0.05. EVS Belonging Total - t (353) = -6.776; p<0.001. EVS Practice 15-34 - t (125) = 1.335; p>0.05. EVS Practice 35-64 - t (182) = -1.638; p>0.05. EVS Practice 65+ - t (38) = -0.939; p>0.05. EVS Practice Total - t (349) = -1.897; p>0.05. EVS Belief 15-34 - t (120) = 1.508; p>0.05. EVS Belief 35-64 - t (176) = -0.479; p>0.05. EVS Belief 65+ - t (38) = -1.206; p>0.05. EVS Belief Total - t (338) = -0.961; p>0.05. EVS Index 15-34 - t (128) = 0.760; p>0.05. EVS Index 35-64 - t (182) = -4.564; p<0.001. EVS Index 65+ - t (38) = -1.405; p>0.05. EVS Index Total - t (353) = -4.976; p<0.001. For all tests, missing were omitted.

Table A.4 – Levels of urbanisation in LMA and in Portugal by age group (%)

	LMA			Portugal		
	Urban	Rural	Semi-urban	Urban	Rural	Semi-urban
15-34	66.2	8.7	25.1	38.1	32.8	29.2
35-64	56.3	14.3	29.4	33.2	36.0	30.7
65+	49.4	19.9	30.7	27.8	42.6	29.6
Total	56.9	14.3	28.7	32.8	37.1	30.1

Source: Portugal dataset (weighted data)
Note: In both parts the sum of each line is equal to 100%.

Religiosity in Lisbon Metropolitan Area by Age Group and Comparing with Portugal

In the last decade two projects studied religiosity in Portugal and in its capital region, Lisbon Metropolitan Area (LMA). Based on these quantitative projects, this article aims to understand the impact of individualisation, socialisation, and urbanisation on Portuguese religiosity in two ways. First, it analyses the dimensions of religiosity (belonging, practice, and belief) in LMA by age group. Second, it compares religiosity in LMA with religiosity in Portugal overall. The first analysis shows that, although the dimension of belief is more complex, religiosity generally increases with age. This aligns with the development of individualisation and cohort replacement. The

second analysis shows that Portugal has higher religiosity than LMA, which may reflect different levels of urbanisation, even though aspects such as religious plurality should be taken into account.

Keywords: Lisbon Metropolitan Area, Portugal, religiosity, age group.

Religiosité dans l'aire métropolitaine de Lisbonne par tranche d'âge et en comparaison avec le Portugal

Au cours de la dernière décennie, deux projets ont étudié la religiosité du Portugal et en particulier de l'aire métropolitaine de Lisbonne, sa capitale. Sur la base de ces travaux quantitatifs, cet article vise à comprendre l'impact de l'individualisation, de la socialisation et de l'urbanisation sur la religiosité portugaise à travers deux analyses. Premièrement, l'analyse de la religiosité (appartenance, pratique et croyance) dans la région par tranche d'âge. Deuxièmement, la comparaison entre la religiosité de cette zone et du reste du pays. La première analyse montre que, bien que la dimension des croyances soit plus complexe qu'auparavant, la religiosité augmente en général avec l'âge, ce qui va de pair avec le développement de l'individualisation et du remplacement des cohortes. La seconde analyse révèle que le reste du Portugal a une religiosité plus élevée que la région de sa capitale, ce qui s'accompagne de différents niveaux d'urbanisation, même si des aspects tels que la pluralité religieuse doivent également être pris en compte pour comprendre ces écarts.

Mots-clés : aire métropolitaine de Lisbonne, Portugal, religiosité, groupe d'âge.

Religiosidad en el área metropolitana de Lisboa por grupos de edad y en comparación con Portugal

En la última década se estudió la religiosidad de Portugal y, en particular, del Área Metropolitana de Lisboa (AML), su capital, en dos proyectos cuantitativos. Basándose en ellos, este artículo busca comprender el impacto de la individualización, la socialización y la urbanización en la religiosidad portuguesa mediante dos análisis. En primer lugar, el análisis de la religiosidad (pertenencia, práctica y creencia) en AML por grupos de edad. En segundo lugar, la comparación de la religiosidad de esta zona con la del resto del país. Si bien la dimensión de las creencias es más compleja que otrora, en el primer caso se muestra que la religiosidad, en general, suele aumentar con la edad, lo que conlleva el desarrollo de la individualización y el reemplazo de cohortes. En el segundo análisis se revela que el resto de Portugal tiene una religiosidad más alta que la región de su capital, lo que trae aparejados diferentes niveles de urbanización, aunque para entender esas variaciones también haya que considerar otros aspectos tales como la pluralidad religiosa.

Palabras clave: Área Metropolitana de Lisboa, Portugal, religiosidad, grupos de edad.