

# Living la Vita Apostolica: Longevity of Nuns in Late Medieval Holland

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We know little about the odds of growing old in the later Middle Ages because reconstructions of the longevity and life expectancy of populations require baptismal, marriage, and death registers, which only gradually appear after 1500. The few earlier reconstructions that are available concern males; the female experience of ageing is mostly based on small samples of elite women who lived in the Middle Ages. This paper discusses a necrology of a nunnery in late medieval Holland that provides data on the lives of religious women, from novitiate until death. It allows for a reconstruction of vital events, most notably longevity and life expectancy, and of mortality in late medieval Holland.

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Ten years ago, Maryanne Kowaleski (Medieval 537) pointed out that medievalists ‘pay far too little attention to the medieval 90 percent... who vastly outnumbered the kings, popes, poets, mystics, preachers, and artists we know so well’. Her statement is particularly true for vital events – matters related to life and death – of men and especially of women (Kowaleski, Gendering 183). Much of what is known about medieval demography concerns male elites, whose biographies have been recorded or reconstructed, and allow for calculating lifespans, life expectancy, and mortality (Cummins; De la Croix).<sup>1</sup> This article aims to contribute to knowledge of late medieval women by using a dataset of vital events in the nunnery of St. Agnes in Gorinchem, Holland, in the fifteenth and sixteenth centuries. It is based on a necrology which provides data related to 158 women, including information such as year of death, age at death, and years since profession. The recording of the age at death is particularly valuable, as such data are not often found in medieval records, and

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<sup>1</sup> In De la Croix and Licandro’s (272) study of famous people women only constitute 1,4% of the population born before 1550.

scholars must usually estimate age at death (Hatcher, Monastic 668-669). The necrology allows for a more accurate estimation of vital events of women living in a late medieval nunnery in Holland: longevity, life expectancy and mortality.

It is important to increase knowledge of vital events of the late medieval population at large to begin to understand the millions of women and men who determined the rhythm of history by being born, reproducing themselves (or not), and dying. Until more data becomes available, it is difficult to resolve the debate on the crisis of the later Middle Ages: the inability for the population to recover after the first waves of *Yersinia Pestis* hit Europe in the mid-fourteenth century. In theory, the population should have recovered quickly because plague survivors enjoyed high living standards; but in practice population numbers stayed below pre-plague levels until well into the sixteenth century. Was population growth halted by lethal Plague outbursts? Or was this caused by a declining birth rate linked to the postponement of marriage or the choice not to marry at all (T. De Moor, *Girl Power*)? The almost complete absence of data on vital events makes it difficult to answer these questions.<sup>2</sup> With respect to Holland, the data from St. Agnes nunnery that are discussed in this article offer support for Daniel Curtis' claim of a change in the mortality regime in the later fifteenth century – a claim that prioritizes mortality over fertility.

Data on vital events are particularly scarce for the late medieval Low Countries. As a result, there has been room to suggest that this area was spared by the Plague and that therefore regions such as Flanders, Brabant and Holland could prosper. Thus, Van Werveke claimed that the Low Countries did not suffer from the late medieval epidemic at all. Later, Jansen claimed that the county of Holland was spared and that this paved the way for the economic growth the region would enjoy in the subsequent centuries. In the 1980s historians were able to unearth more data on the impact of the Plague in the Low Countries. Blockmans and De Boer (29-166, and esp. 165-166) were responsible for nuancing the views put forward by Van Werveke and Jansen. Based on a large variety of sources they argued persuasively that the plague did

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<sup>2</sup> Cf. surveys: Curtis (127-128) and Nightingale (33-35).

not pass by the Low Countries or Holland. Still the image of mild plague persisted, for instance in the work of Van Bavel and Van Zanden (515), who suggest an ‘exceptional development of the population’ in Holland.

Recent work by Curtis and Roosen has raised more doubt as to the mild impact of the Plague in the Low Countries. They used a large dataset of mortmain records from Hainault, on the present-day French-Belgian border, and covering 1349-1450, to claim this area suffered from plague-induced mortality crises like any other region. To what extent their findings are also applicable to Holland – about 200 km to the north of Hainault – is difficult to say, and this is why Curtis’ study of Haarlem, in Holland, is more helpful. The author uses a new source to show ‘few but more sudden extreme mortality crises’ before 1470, followed by ‘multiple repeat mortality crises in the decades after 1470’, and thus paints a picture of a plague-ridden city (Curtis 141).<sup>3</sup> Curtis’ paper demonstrates the importance of continuing to look for evidence that allows for calculating longevity, life expectancy, and mortality. This paper aims to do this by presenting new data on vital events in Holland.

Apart from the data discussed in this article, little is known about the lives lived by nuns or monks in late medieval Holland. To nevertheless provide the reader with the context required to understand my findings, I have decided to make a comparison with England. To this end, I use the methods used by John Hatcher and his co-authors who studied vital events of monks in England. At present this is the best possible point of comparison: the monks in England and nuns in Holland were contemporaries who shared the experience of living in closed communities. Of course, they differed in terms of gender and institutional setting – I will address these differences in a discussion section. Before that, the paper first introduces the reader to the nuns of the convent of St. Agnes and goes on to discuss the data provided in the necrology. The next sections focus on longevity and life expectancy, and mortality and mortality crises. In a final section I discuss how credible my findings are and how they

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<sup>3</sup> Evidence of plague in Gorinchem is scarce: cf. a brief summary Zuijderduijn 16-17.

may improve our understanding of the late medieval Low Countries and women in the later Middle Ages.

### ST. AGNES NUNNERY

The convent of St. Agnes was in the small city of Gorinchem, which had about c. 3.000 inhabitants. It lay in the southeast of the county of Holland, at the border with the often-hostile county (later duchy) of Guelders, and close to the duchy of Brabant and the prince bishopric of Utrecht. Initially, Gorinchem was part of the independent lordship Arkel, which was ruled by the family that bore the same name. The latter's position deteriorated when it came in conflict with their feudal lords, the counts of Holland, during the wars of Arkel (1401-1412). Ultimately, the lordship of Arkel and the city of Gorinchem became part of the county of Holland in 1417.

St. Agnes was founded in 1401 as a community of women. In 1404 these became tertiaries in an 'open' community (as part of the secular Third Order). In 1412 St. Agnes was turned into a 'closed' community (part of the regular Third Order), when the women 'subjected themselves to cloistered life'. Members of Third Order movements did not take irrevocable vows, as was required among First and Second Order movements (Van Engen 297, 362). The convent existed until 1584 (Van Someren 34). Little is known about the history of the convent,<sup>4</sup> except that it branched out to the nearby city of Arkel in 1444, where the nuns founded another convent, called Mariënhage.<sup>5</sup> According to Van Maanen (266-267) that year 25 nuns left St. Agnes to enter Mariënhage, which indicates that St. Agnes must have already been quite sizeable. There are reports of St. Agnes housing 500 nuns (Smit 106), but available evidence suggests this number is likely to be an exaggeration: later in this paper I show that c. 80 nuns is more plausible.

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<sup>4</sup> Cf. this convent: Römer 572-575; Van Heel 137-139 and the lemma: Gorinchem, Tertiariissen: Agnes at <http://www2.let.vu.nl/oz/kloosterlijst/index.php>, as well as the lemma: St. Barbara at <http://www.meertens.knaw.nl/bedevaart/bol/plaats/1131>.

<sup>5</sup> To this end the convent rented a *hofstede* in Arkel (Van Someren 36-39). Cf. this convent: Römer 448-449 and the lemma: Arkel, regularissen, Mariënhage at <http://www2.let.vu.nl/oz/kloosterlijst/index.php>.

Like many other religious institutions in medieval Europe, St. Agnes convent kept close records of each sister's date of death. Such records were necessary for the commemoration of the dead at the anniversary (jaardag) of the deceased. Records were usually kept in necrologies or 'books of the dead'. Usually, these sources only give the names of the deceased and the date of death; the necrology of the St. Agnes convent stands out because it also gives the age at death. This necrology covers most of the convent's existence (1412-1584), except for 1519-1541 (in the source, the folium covering these years has been lost) and 1559-1568 (because inclusion in the register was dependent on women passing away; registration probably stopped altogether when the convent was abolished in 1568).

The necrology has been handed down in a manuscript of 42 folia, written in the fifteenth and sixteenth century by at least three individuals.<sup>6</sup> Apart from the necrology, the manuscript consists of several elements: a chronicle of the nunnery which included lists of: the confessors of the nunnery, the maters, other clergy members who died in the service of St. Agnes or were buried in the nunnery, and secular people who were buried on the premises. The manuscript also contains a limited number of notes about events in the city of Gorinchem. It is kept in the Bibliotheca Ordo Fratrum Minorum in Weert, The Netherlands.<sup>7</sup> The necrology is written in one hand and consists of brief entries with names and year of death, as well as the aforementioned variables; for this publication I used the edition by Smit, which contains a statistical summary.<sup>8</sup>

Although the necrology covers a relatively small population of 158 nuns and is not without its issues (to be discussed later), it has some unique features. First, it covers a population of late medieval females and is one of the earliest written sources available for the historical-demographic study of women. Second, the necrology contains the ages at death of almost the entire population (146 out of 158 women). It is difficult to say why ages at death were recorded in St. Agnes convent since, for a necrology to function properly, records of age at

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<sup>6</sup> See the description 'Necrologium van het Sint-Agnesklooster te Gorinchem', [http://www.narrative-sources.be/naso\\_link\\_nl.php?link=1889](http://www.narrative-sources.be/naso_link_nl.php?link=1889).

<sup>7</sup> Weert, Bibliotheca OFM, manuscript nr. 6.

<sup>8</sup> Comparing the original necrology with Smit's statistical summary confirmed its reliability.

death were not necessary. Perhaps the explanation lies in the practice among Franciscan convents to record short biographies of the deceased, which could be stored in small hanging cabinets.<sup>9</sup> Such cabinets would depict images on the outside, and contain necrology tables on the inside, consisting of short biographies of the deceased. Were such cabinets also in use in St. Agnes during the late Middle Ages, and copied before they, and the original biographies, were destroyed?

In the next sections, I compare longevity, life expectancy and mortality in St. Agnes, to the monastic experience in England. Thanks to the studies by Hatcher et al. and Harvey, much is known about the lives lived in late medieval monasteries. Their work on monks not only makes for an obvious point of comparison for the present study of nuns, but also comes closest to a proper demographic analysis because they studied ‘closed’ populations with limited in- and outmigration. Before continuing, I should discuss similarities and differences between the various institutions. In general, the Third Order movement St. Agnes was a part of, was characterized by poverty: tertiaries usually held no landed property and had to survive on the alms they received from the urban population, or the revenues from handicrafts. They dedicated the rest of their time to devotion and appear to have been largely isolated from the surrounding city (Van Luyk 97-100, 132). The same is true for St. Agnes, where nuns tried to follow in the footsteps of Christ and lived a life of poverty. When the convent was founded in 1401, it had no landed property (Smit 102-103). In 1534 the convent was assessed to contribute 214 lb. 14 s. in taxes (Sanders 109-110) which placed St. Agnes in the middle of the wealth distribution of convents in the south of Holland. But compared to Benedictine abbeys in Holland, such as St. Adelbert’s abbey in Egmond, the oldest and most prestigious Benedictine nunnery in Holland, founded c. 920-925 CE, St. Agnes’ financial means amounted to almost nothing: the Benedictine abbey paid nearly twenty times as much in taxes in 1534, 4.085 lb. (Haag 120-121).

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<sup>9</sup> Cf. examples: Basta and Bastova 84-85.

The English convents I will use as a point of reference are Durham Priory, Christ Church Priory in Canterbury, and Westminster Abbey. These were three Benedictine monasteries that already had a long history by the later Middle Ages.<sup>10</sup> One characteristic they shared with St. Agnes, was their urban location: London was obviously much larger than Gorinchem, but Canterbury and Durham had a comparable population of several thousand inhabitants. There were also differences: the English convents were of the Benedictine Order and observed the Rule of Saint Benedict. The monks took a permanent vow and may therefore have been less mobile than the Third Order nuns in Gorinchem, who took a temporary vow. Whether this amounted to a great difference in practice, is doubtful: the nuns were as much expected to spend their lives intra muros as the Benedictine monks in the three English monasteries. The biggest difference, it seems, was wealth: the English Benedictine monasteries had been in existence for many centuries and had amassed large landholdings that provided them with foodstuffs, raw materials, and monetary income.

## DATA

The necrology provides us with the following data (table 1). The year of death is available for all 158 women in the dataset, the age at death is available for another 146, and years since profession for 136 women. Additional data on year of profession, year of entrance, and age at entrance, are available for a little more than 50% of the population.

**Table 1. Summary of data**

<b>Year of death</b>	158
<b>Age at death</b>	146
<b>Years since profession at death</b>	136
<b>Year of profession</b>	82
<b>Year of entrance</b>	82
<b>Age at entrance</b>	81

Source: necrology dataset

<sup>10</sup> Durham priory was established 1083, Canterbury's Christ Church Priory's origins go back to 598 CE, and Westminster Abbey's origins go back to the 960s or 970s.



How reliable are these data? An investigation into their consistency might help make this clear. For instance, one would expect the following equations to hold up:

‘year of profession’ + ‘years since profession at death’ = ‘year of death’

‘year of death’ - ‘year of entrance’ = ‘age at death’ - ‘age at entrance’

These equations could be made for respectively 82 and 81 women of the population. In about 50% of the cases the result is correct, and in about 40% of the cases there is only a small deviation of 1-2 years (table 2).<sup>11</sup> Such small deviations may have been caused by three problems. First of all, although it is unclear who reported the data used in the necrology, I cannot rule out the possibility that these came from various sources (maters, individual nuns who had known the deceased, or the nunnery’s administration) who did not all calculate in a similar way. For instance, one source might say a nun who professed in 1421, and died in 1462, did so 41 years after having professed. Another source providing over more detailed information might say a nun who professed on February 10 1421, and who died on January 15 1462, did so 40 years after having professed.

**Table 2. Consistency necrology data**

	N	Difference					
		0	1	2	3	4	>4
1) ‘year of profession’ + ‘years since profession’ = ‘year of death’	82	42	24	15	1	-	-
2) ‘year of death’ – ‘year of entrance’ = ‘age at death’ - ‘age at entrance’	81	40	22	10	4	2	3

Source: necrology dataset

There may have been a second problem with calculations: administration in large parts of the Low Countries did not use the Julian calendar, which begins

<sup>11</sup> Gooskens (24) reports similar deviations of 1-2 years for the obituary of *Grote Kerk* in Breda.



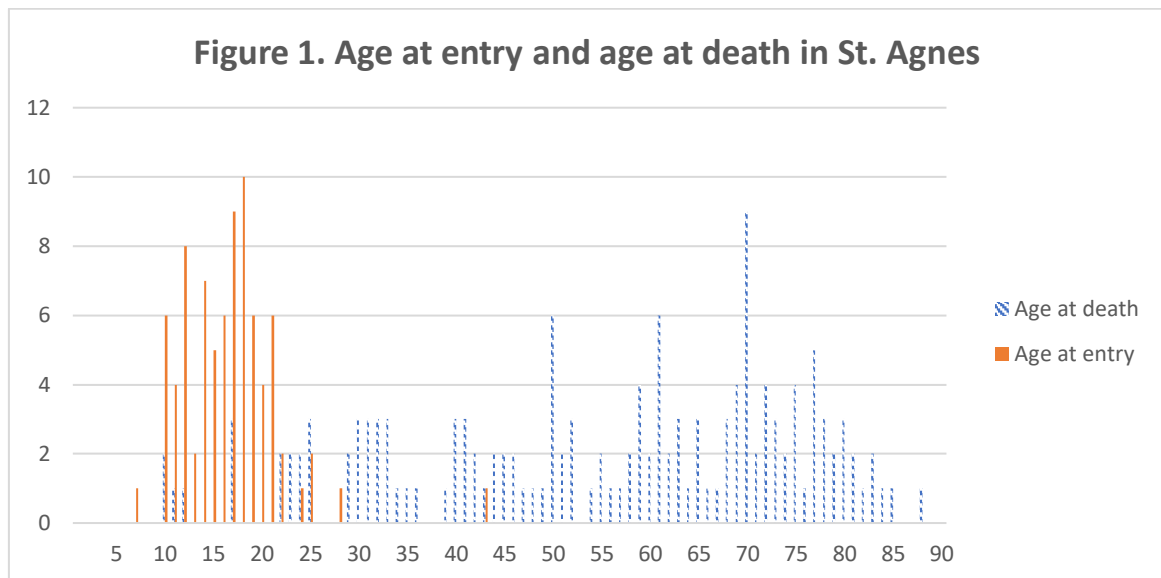
the year on January 1, but the *stilus Curiae Hollandiae* calendar, which begins the year with Holy Saturday (the day before Easter) (Strubbe 55-58). As a result, the administrative year could begin anywhere between March 21 and April 24, and did not have a fixed number of 365 or 366 days but could rather vary from 331 to 400 days. Users of the Justinian calendar would say a nun who professed on April 12, 1421, and died on April 16, 1462, did so 41 years after having professed. But users of the *stilus Curiae Hollandiae* calendar would have arrived at 40 years because her death was still in the year 1461 as it occurred before Easter (April 18, 1462) and she therefore died 40 years after having professed. The administrative calendar starting at Holy Saturday made the calculation of elapsed time a difficult undertaking and may thus have contributed to errors. A culmination of this second problem and the first – various reporters of vital events – may have created differences of one or two years.

A third potential problem concerns the estimation of the age by reporters: literature on historical numeracy indicates that people with a lack of calculating skills are likely to round off, causing an over reporting of multiples of five and ten (so-called age heaping) and in addition, ages are also known to have been adjusted to symbolic numbers (De Moor, *The art* 26). The ages at death reported by scribes of St. Agnes have been processed in figure 1. Age heaping is strong at ages 50 and 70, which suggests some of the data may differ slightly from the actual ages at death. Still, this bias appears to be modest. Altogether the data from the necrology seems consistent: only for a few women the data do not add up at all, showing deviations of more than four years. In two cases it may be suspected that ages at death were rounded off respectively to 50 and 80.<sup>12</sup> In another case there is a deviation of thirteen years in the above-mentioned equation 2: Cornelis Heynrixd., reportedly died in 1502 after having entered in 1450 – having spent 52 years in St. Agnes – but the necrology gives her age at death as 84, and her age at entrance as 19 – indicating she spent 65 years in the nunnery. Here, mistakes were perhaps made because she was sent to St. Agnes from a nunnery in the village of Noordwijk, which had burned down in 1450,

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<sup>12</sup> Dirc Petersd. (deviation five years) and Alijt Claesd. (deviation six years).

causing data on her year of entrance and age at entrance into the religious order (in the nunnery in Noordwijk) to be unavailable to the compilers of the necrology of St. Agnes (Smit 123 note 5).



Source: necrology dataset.

The monastic experience of the women mentioned in the necrology varied. Agnes Willemsdr. already entered as a seven-year-old, professed at fourteen, and died at the age of 69, having spent 62 years in St. Agnes. A few others entered uncharacteristically late, such as Mergiet van Dyck, who professed at the age of 62, and likely entered in her late fifties, and Lijsbeth Tyelmansdr. who professed at 52 and probably joined the nunnery in her late forties. They were exceptions though: most women entered in their teens or early twenties and spent most of their lives in the nunnery. Table 3 gives ages at entry and profession. The necrology gives the age at entry for 81 women – little more than half of the population – which was 16.6 years on average.<sup>13</sup> To increase the number of observations, I use data on ‘years since profession’, which is given for 136 women. Subtracting ‘years since profession’ from ‘age at death’,

<sup>13</sup> This is comparable to the average age at entry Van Kan (107) reports for a 15<sup>th</sup>-century women’s convent in Warmond, and Van Luyk (192-193) reports in Leiden. It is higher than average ages at entry into the convent of Leeuwenhorst, to the northwest of Leiden, which was c. ten years of age (G. De Moor 579).

gives the age at profession – which was 21.4 years on average – and thus provides us with a *terminus post quem* for entering the nunnery.

Almost all women entered St. Agnes before they turned 25. First, of the 81 women whose age at entry is known, only two entered after this age. Second, it is possible to estimate how many women whose age at entry is not given (group II in table 3) were *intra muros* by using the average years between entry and profession of group I in table 3 (3.9 years) as a guideline. Assuming it also took the women of group II 3.9 years before they could profess, 50 of 55 professed before the age of 25. This provides an idea of the age at entrance of 136 out of the total of 146 women for who data on vital events is available. For the additional ten women the age at death is known, but not at what age they entered or professed. However, since eight of them passed away before 25, they too lived in St. Agnes before they turned 25. Altogether, almost 94% of the women for whom age of arrival could be either determined or estimated, entered before they reached maturity at the age of 25; they lived their adult lives *intra muros*.

**Table 3. Age at entry and profession**

	<b>N</b>	<b>Average</b>	<b>SD</b>	<b>Median</b>	<b>Professed &gt;25</b>
<b>Age at entry</b>	81	16,6	5,0	17	
<b>Age at profession</b>	136	21,4	6,8	20	17
<b>Age at profession (group I)</b>	81	20,5	4,9	20	9
<b>Age at profession (group II)</b>	55	22,6	8,7	21	8

Group I: women whose age at entry is given by the necrology.

Group II: women whose age at entry is not given by the necrology.

Source: necrology dataset.

## LONGEVITY AND LIFE EXPECTANCY

We can use the necrology of St. Agnes to calculate longevity, and to arrive at crude estimates of life expectancy for the population of nuns. I will first discuss longevity: table 4 and figure 2 show the average age at death in the nunnery per decade. During the first decades of its existence few women died in St. Agnes, which may be the result of the nunnery having recruited mostly young women after it was founded. Those that did pass away, died young: before 1440 five did so before reaching 25, and only two women after reaching 50. This pattern of both young and old passing away persisted throughout the time period covered: after 1440 there is also a considerable spread in the ages at death. Yet there is also a gradual upward trend, from an average of 41.3 in 1440-1449, to 70 in 1510-1519. For these decades there are relatively many observations of ages at death, so it seems reasonable to say lifespans increased in the second half of the century and peaked in the first decades of the sixteenth century. After 1520 the number of observations of ages at death given by the necrology sharply declines because of the above-mentioned problem with a torn-out folium. This makes it more difficult to interpret the figures, but with some caution, a decline to levels in the lower sixties by 1540-1549 may be suggested.

Although there is not much to compare the data on female longevity with, slightly later estimates of longevity of nuns living outside Bruges can be used as a point of comparison. For the Dominican nunnery Engelendale a manuscript has survived with years of profession and death for 228 sisters covering 1474-1774. I estimate longevity by assuming the average age at profession was twenty-one as was the case in Gorinchem. By doing so, it turns out that the nuns born in the fifteenth century lived to be around 61 (table 5). Then a decline set in, to lifespans around 54, followed by a modest recovery for those nuns born in the seventeenth century. Those born after 1700 show a low longevity – although here the limited number of observations may play a role. As will be discussed in section V, this is in agreement with the most recent estimates of the development of lifespans among the European nobility in the long run. Engelendale's fifteenth-century data are in the range of what can be observed in Gorinchem and suggests that lifespans of nuns well over sixty were not

unheard of. And as will be demonstrated shortly, the drop in longevity outside Bruges in the sixteenth century may mirror the development of life expectancy in Gorinchem.

**Table 4. Ages at death in St. Agnes (N=136)**

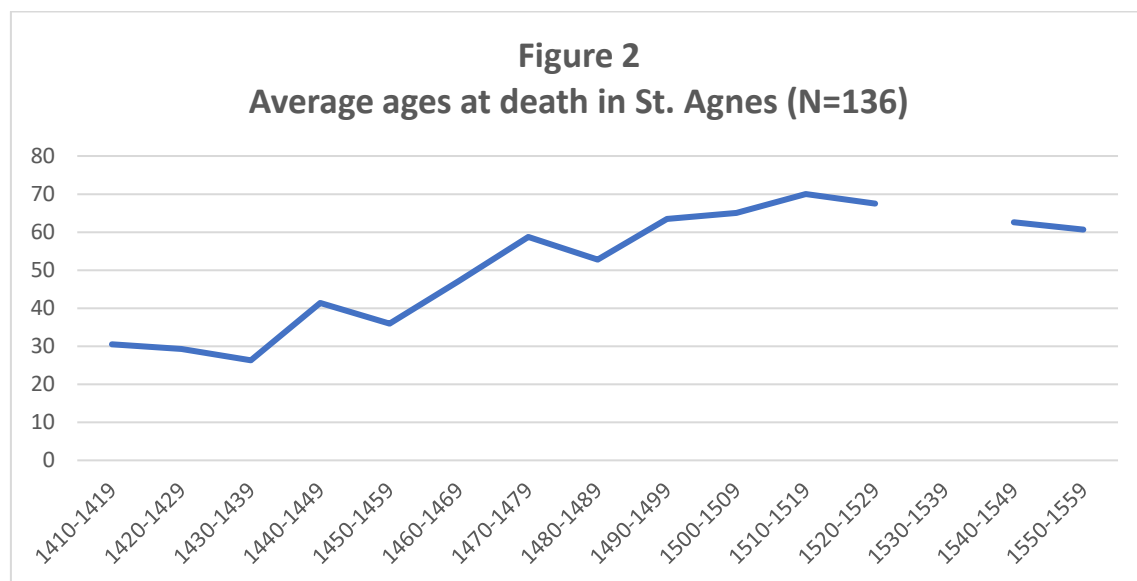
	<b>N</b>	<b>Average</b>	<b>Median</b>
<b>1410-1419</b>	2	30,5	30.5
<b>1420-1429</b>	7	29,3	25
<b>1430-1439</b>	4	26,3	21.5
<b>1440-1449</b>	7	41,3	40
<b>1450-1459</b>	13	35,9	31
<b>1460-1469</b>	10	47,1	44
<b>1470-1479</b>	21	58,7	62
<b>1480-1489</b>	12	52,7	50.5
<b>1490-1499</b>	16	63,4	63.5
<b>1500-1509</b>	27	65,0	69
<b>1510-1519</b>	13	70,0	75
<b>1520-1529</b>	2	67,5	67.5
<b>1530-1539</b>	-	-	-
<b>1540-1549</b>	7	62,6	59
<b>1550-1559</b>	5	60,6	58

Source: necrology dataset

**Table 5. Ages at death in Engelendale nunnery, Assebroek, outside Bruges, 1474-1774**

	<b>N</b>	<b>average</b>	<b>median</b>
<b>15<sup>th</sup> c.</b>	43	61,1	64
<b>16<sup>th</sup> c.</b>	75	54,4	53
<b>17<sup>th</sup> c.</b>	95	56,8	59
<b>18<sup>th</sup> c.</b>	15	50,6	50

Source: De Clerq, 424-431.



Source: necrology dataset

I continue with a discussion of the development of life expectancy. By doing so, it becomes possible to compare the demography of the nuns of St. Agnes, to that of the monks of various religious institutions in England, whose life expectancy at the age of 25 is given by Hatcher et al. Life expectancy expresses how long members of a given population, and at a certain age, are statistically likely to live. Demographers preferably use complete life histories of members of a population to calculate life expectancies; historians usually do not have such detailed data, mainly because of people migrating in or out of a population.<sup>14</sup> Although inhabitants of convents were not as mobile as the general population,

<sup>14</sup> These problems, in particular with respect to monastic populations, are discussed by Oeppen.

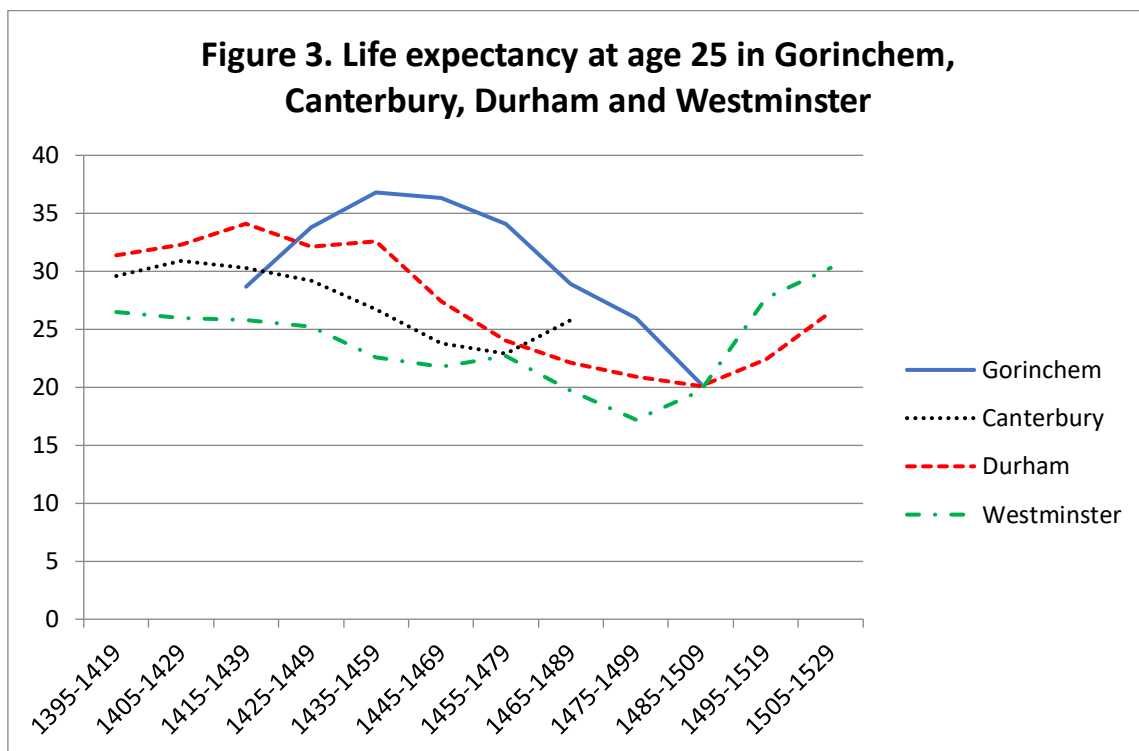
monks and nuns have been known to return to secular life (Hatcher, *Monastic* 670). For a nun, leaving was particularly difficult. First, desertion brought her in conflict with worldly and clerical authorities. Second, and more importantly, she would have to make a new start in society without a dowry, which had been used to pay for entering the convent, and neither could she expect to inherit from her parents. For a deserting nun, prospects on the marriage market were not good; the best she could hope for was returning to the parental household, which was more likely if the parents were sufficiently wealthy (Rüttgardt 327). It is unlikely many nuns deserted, and it therefore seems safe to assume that it is possible to trace the lives of the vast majority of nuns that entered the convent. But as is so often the case with quantitative research into medieval history, a certain margin of error must be accepted: the data I present should be understood as crude estimates of life expectancy.

Following Hatcher et al, I calculate life expectancy at 25: at an age when almost all women had entered the convent. I divide the population in 25-year entry cohorts. Following Hatcher et al, I define entry as the year of profession, rather than the year individuals first entered the convent as novices. I know the year of profession of 136 nuns and have estimated the year of profession of the remaining nuns, setting the average age at profession at 21 years. The first 25-year entry cohort starts in 1395, well before the foundation of the convent in 1412. This cohort, as well as that of 1405-1429, includes nuns that had already professed before 1412, and had apparently moved to St. Agnes from another convent (altogether eight nuns professed before 1412). These cohorts have been included for the sake of completeness in table 6; since these nuns spent part of their monastic experience in another convent, they have been excluded from the life expectancy data presented in figure 4. I have also included a cohort covering the first 25 years of the convent's existence (1412-1437) in table 6: life expectancy does not differ much from the 1415-1439 cohort.

Table 6 shows that life expectancy at age 25 varied considerably, declining from 42,5 in the first cohort, to 28,7 in the third, and then rising to 36,8 in the 1435-1459 cohort. To put it another way: initially, at age 25 the first inhabitants of St. Agnes could statistically expect to reach age 67,5 and later this declined



to 53,7, to rise again to 61,8. After 1445 there was a steady decrease. The development of life expectancy in St. Agnes differs from that in English religious institutions (figure 3). After the cohort 1415-1439 life expectancy of nuns in St. Agnes was on the rise, and was high for the next couple of cohorts, then beginning a gradual decline. By the final quarter of the century, life expectancy had dropped ten years. The exact opposite happened in English monasteries: the monks' longevity gradually decreased in the first three quarters of the century – perhaps except for Canterbury, where a recovery is visible after 1450, but where observations stop immediately after. In Durham and Westminster, the monks only began to live longer during the final decades of the fifteenth century.<sup>15</sup>



Sources: necrology dataset and Hatcher, *Monastic* 674.

<sup>15</sup> Cf. Poos for a recent summary.

**Table 6. Life expectancy at age 25 in Gorinchem, Canterbury, Durham and Westminster per 25-year cohort**

	<b>Gorinchem</b>	<b>Canterbury</b>	<b>Durham</b>	<b>Westminster</b>
	<b>Nuns</b>	<b>Monks</b>	<b>Monks</b>	<b>Monks</b>
1395-1419	42,5	29,6	31,4	26,5
1405-1429	32,0	30,9	32,3	26,0
1415-1439	28,7	30,3	34,1	25,8
1425-1449	33,8	29,2	32,1	25,2
1435-1459	36,8	26,7	32,6	22,6
1445-1469	36,3	23,8	27,4	21,8
1455-1479	34,1	22,9	24,0	22,7
1465-1489	28,9	25,8	22,1	19,7
1475-1499	26		20,9	17,2
1485-1509	20,3		20,1	19,7
1495-1519	16,6		22,4	27,7
1505-1529	5,0		26,5	30,3
<b>First 25-year cohort</b>				
1412-1437	31,4			

Sources: necrology dataset and Hatcher, *Monastic* 674.

## **MORTALITY AND MORTALITY CRISES**

Before I proceed with estimates of mortality among the inhabitants of St. Agnes, a few words are due about the size of the convent – which is a requirement for calculating number of deaths per hundred inhabitants. The minimum numbers of inhabitants of St. Agnes are processed in figure 4. For each year, I calculated how many women who had entered the convent prior to that year, were still alive; in doing so, I did not make a distinction between novices and nuns. The figure shows a gradual growth, from a minimum of 9 in 1412, to 82 in 1461. By then, the convent had apparently reached a maximum number of inhabitants: the following years the number of inhabitants fluctuated around 80. After 1471 the graph shows a gradual decrease in the number of

inhabitants. To understand this development, it is worth remembering the gap in sources from 1519-1541. Records for the women who died in these years are unavailable, both with respect to their years of entry and exit through death. This is probably what causes the decline visible in the figure: after 1471 most of the women that entered the convent would have died in the years 1519-1541, and thus are not recorded in the source. In reality, after 1471 the convent is likely to have had more inhabitants than my calculations suggest. How many is difficult to say: the contemporary list from 1563 suggests the number remained at c. 80 inhabitants (Smit 103). Convents of this size were not unheard of: in Holland some even had 100-200 inhabitants, which would make St. Agnes not an excessively large convent.<sup>16</sup>

To calculate mortality, I use the data on the number of deaths per year, as given in the source, and the number of inhabitants. With respect to the latter, I use two scenarios: scenario 1 assumes the number of inhabitants was as depicted in figure 4, scenario 2 sets the number of inhabitants after 1471 at 80. The results are given in figure 5: until c. 1500 the two scenarios do not differ all that much, but in the sixteenth century differences increase rapidly. Mortality peaked in the first decade of the fifteenth century, which is in line with the low life expectancy observed at this time. It was relatively low after the mid-century, until the peak in 1474, when twelve inhabitants passed away during one of the major plague years in Holland (Noordegraaf 43). The final quarter of the century shows greater mortality, which is in line with Curtis' data on mortality in Haarlem. As explained above, there were no deaths recorded for 1519-1541, hence for these years mortality drops to zero. For my calculation of the crude average death rate I therefore restrict myself to the fifteenth century: the data indicate the average was 2,3 deaths per 100 inhabitants.<sup>17</sup>

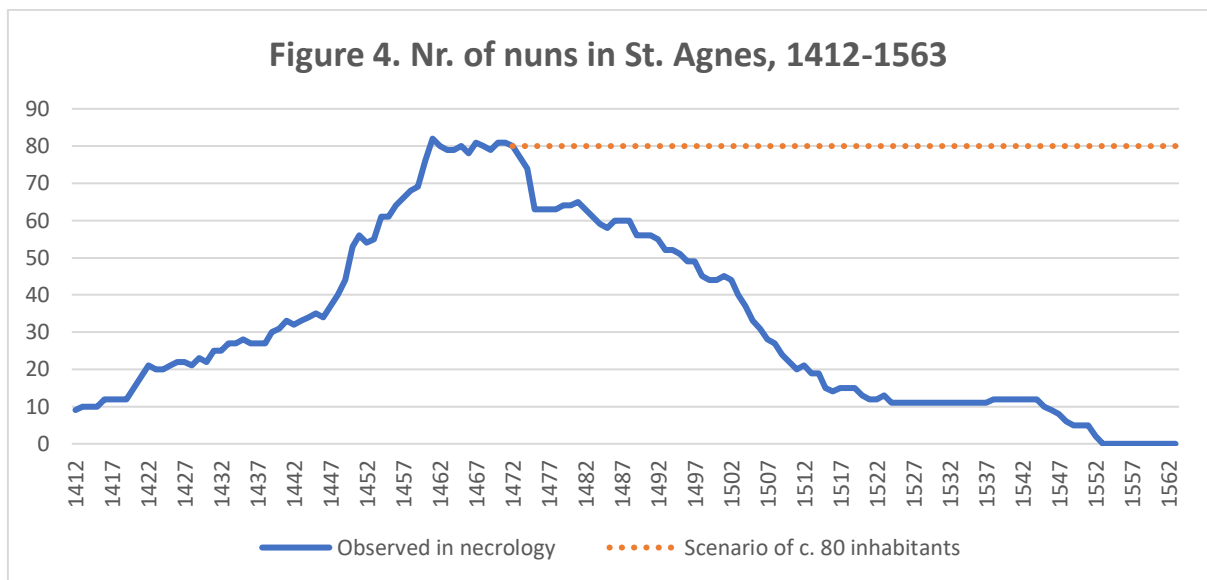
How do these figures compare to data on English monasteries? Hatcher and Harvey have calculated fifteenth-century mortality rates for the monks of Christ

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<sup>16</sup> Post 318. Taal (119-120) estimated the population of convents in nearby Gouda to have been in the range of 20-200 in 1517.

<sup>17</sup> The crude average death rate for 1412-1500 was based on 92 observations of year of death. The crude average death rate for 1412-1559 for scenario 1 was 4,4, for scenario 2 1,8 (both based on 146 observations of the year of death).

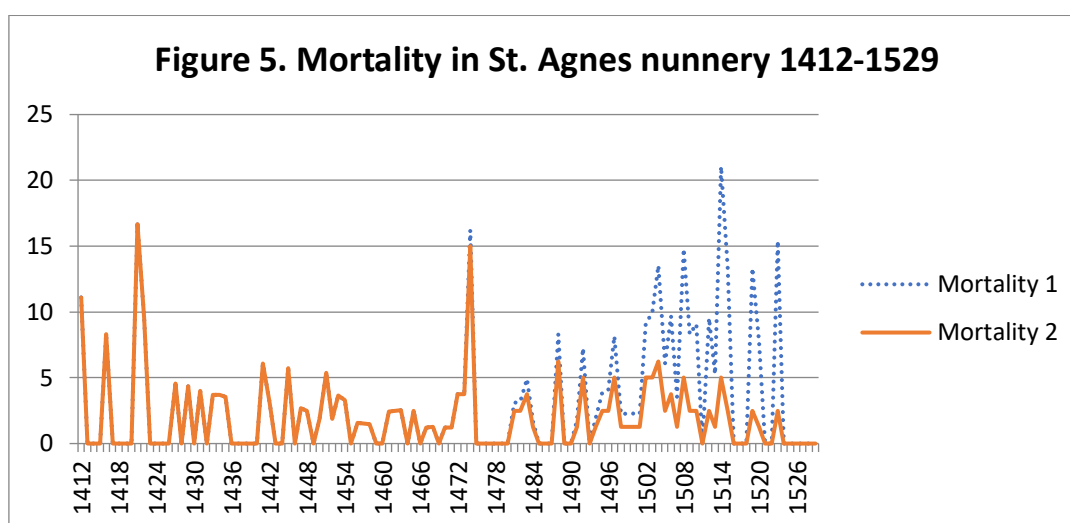
Church and Westminster respectively. They found rates of 3 to 4 per cent (Hatcher, *Mortality* 32; Harvey 1993, 124). Other scholars found similar mortality rates for the secular population elsewhere in England (table 7). In comparison, crude annual death rates for the convent of St. Agnes are considerably lower: 2,3 for the fifteenth century, for which the data are most reliable. This relatively low mortality is also reflected in the frequency of mortality crises: years with more than four deaths per 100 inhabitants.<sup>18</sup> Fifteen years between 1412 and 1500 qualify as mortality crisis years (scenario 1), and eleven years when follow scenario 2 is followed.<sup>19</sup> In St. Agnes mortality crises occurred once every six to eight years. Again, this figure is much lower than that reported by Hatcher (*Mortality*, 27) for Christ Church, where the monks had to endure a mortality crisis ‘more than once every four years’.



Source: necrology dataset

<sup>18</sup> To allow for a comparison between Holland and England, I use the mortality crisis indicator used by Hatcher.

<sup>19</sup> This is in line with Ladan's calculations of mortality crises in late medieval Leiden, to the northwest of Gorinchem. Based on the year of death of benefactors of Leiden's *St. Pancraskerk*, and defining mortality crises as a 20% deviation from the nine-year moving average of mortality, he arrives at sixteen mortality crises between 1412-1500 (Ladan 38).



Mortality 1: based on nr. of inhabitants in necrology.

Mortality 2: based on a population of 80 after 1472.

Source: necrology dataset

**Table 7. Mortality in Holland and England**

	Crude average death rate (per year per 100 inhabitants)
<b>Holland, cloistered</b>	
Gorinchem (15 <sup>th</sup> c.)	2,3
<b>England, cloistered</b>	
Canterbury (15 <sup>th</sup> c.)	3,3
Westminster (15 <sup>th</sup> c.)	3 to 4
<b>England, other</b>	
Halesowen (13 <sup>th</sup> -14 <sup>th</sup> c.)	3,6 to 4
Wiltshire (14 <sup>th</sup> c.)	3,7
England (14 <sup>th</sup> -16 <sup>th</sup> c.)	3,3
Worcester (16 <sup>th</sup> c.)	2 to 3

Sources: necrology dataset; Hatcher, *Mortality* 32; Harvey 124; Razi 45; Ecclestone 24; Nightingale 41; Dyer 222.

## DISCUSSION

After my presentation of the data, I now discuss the most important findings. The first concerns the long lifespans of the nuns, which peaked at ages well over 60 around 1500. The women appear to have followed a general European pattern, which shows an increase in longevity in the fifteenth century. Cummins (2017), basing his argument on research into many thousands of European nobles, shows an upward trend in lifespans starting around 1400 and ending around 1500. After this, there was a gradual decline in lifespan until the mid-seventeenth century. Van Poppel et al see a similar pattern among urban and rural elites in the Low Countries, and also find a severe decline in life expectancies of artists in the Low Countries in the sixteenth and early seventeenth centuries, after relatively high levels around 1500 (Van Poppel, *Life expectancy*; Van Poppel, *The life* 633 figure 4). My brief discussion of longevity in the nunnery near Bruges seems to offer support for declining early-modern lifespans: Flemish nuns born in the fifteenth century lived longer lives than those born in the sixteenth century. It is also important to realize that the nuns outside Bruges, and those in Gorinchem, represented social middling groups and add credibility to the idea that lifespans rising until 1500, and declining afterwards, are part of a general pattern and not only an elite experience. The findings for the nuns also link up with Curtis' mortality estimates for Haarlem, in Holland, and based on the mortality of mostly people from middling social groups. This city entered a harsher mortality regime towards the end of the fifteenth century, which likely depressed lifespans.

This brings us to a second finding, namely the different patterns that can be observed when looking at life expectancy of monks in England and nuns in Holland. The nunnery shows a peak in life expectancy in the cohort 1435-1459, which caused longevity to reach particularly high values around 1500. The monks in Durham Priory, Christ Church Priory Canterbury, and Westminster Abbey showed a peak in life expectancy at 25 early in the fifteenth century, followed first by a decline, and then by recovery after 1450 (figure 3). Cummins (436) noticed that the monks' life expectancy did not follow that of the nobles, which would suggest 'a sharply rising trend in predicted average age at death'

between 1450 and 1500. I can only speculate as to why this pattern in English monks' life-expectancy deviates from the general trend, while that of the nuns largely follows the pattern. Cummins (435) remarks that the noble lifespan trajectory resembles the English real wage trend and GDP per capita estimates and suggests that rising living standards may have contributed to longevity. Similarly, the nuns' increase in lifespan mirrors the development of real wages, which rose in the Western Netherlands in the fifteenth century, leading to 'very high real wages around 1500', followed by a decline into the 1550s (De Vries 627, 631, 667). The nuns were tertiaries in a relatively poor institution and could not rely on incoming supplies from vast landed properties, which meant they depended on the market for their supplies. In this respect their English counterparts – monks from the Benedictine order living in centuries-old monasteries that had amassed large quantities of land – clearly differed: they could rely on the products from monastic lands and were largely self-sufficient. Perhaps the nuns' integration in the market economy explains the different patterns observed when compared to monks?

A third point I should discuss is the difference in longevity between the nuns and the monks. The nuns of St. Agnes had a life expectancy at 25 peaking at 36.8 in the cohort 1435-1459, while that of the monks peaked at 34.1 (Durham's cohort 1415-1439), while the maximums for Canterbury (32.3) and Westminster (30.3) were lower still. There is reason to believe this is part of a general pattern of greater longevity for monastic women than men, as is indicated by Gilchrist and Sloane for England,<sup>20</sup> and by Bruneel (596) for a convent in the Low Countries in the later seventeenth and early eighteenth century. Here nuns outlived monks by more than ten years. And in seventeenth- and eighteenth-century France cloistered women also had a higher life expectancy at 25 than men (Deparcieux 210-211). Does this reflect *nature* or *nurture* – did the nuns live longer because they were women, or because they lived under relatively favorable circumstances? Today the longevity gender gap is a familiar phenomenon, and women outlive men on average everywhere on

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<sup>20</sup> Gilchrist 204. Keeping (142) found little proof for medieval English nuns outliving monks.



the planet. Whether women already outlived men in the later Middle Ages, is still unclear though. Some scholars have suggested there may be reason to believe they did, such as Herlihy (13-15), who claimed an advantage for late medieval women in Tuscany, where the life expectancy of females at birth was 29,54 years, and that of males 28,50, and concluded that '[t]he contemporary [late medieval] opinion that women lived longer than men seems to be justified, at least for the adult ages'.<sup>21</sup> Later data, from the eighteenth century, when the first attempts at collecting data on vital events were made, also suggest that women outlived men.<sup>22</sup> Yet differences appear to have been minimal, and may have been caused by using small and biased samples. Demographers reject the idea of a longevity gender gap before 1900: Beltrán-Sánchez found that women only began to outlive men towards the end of the nineteenth century. Indeed, in The Netherlands, in the 1860s, women had a life expectancy at 25 of 36,48, and men of 36,12 – a much smaller longevity gender gap than today and also much lower than that between pre-modern nuns and monks.<sup>23</sup> Therefore, it should not be too easily assumed that late medieval women outlived men: according to Youngs (29) 'the evidence, as it stands, is too fragmentary and ambiguous... ...to prove that either sex had the greater life expectancy during the Later Middle Ages', and Smith is also cautious, concluding that 'the female mortality advantage in old age is a relatively recent feature'.

With respect to *nurture*, I should ask whether the long lifespans of nuns were caused by their monastic life. Today both nuns and monks live longer lives than secular women and men, something that has been attributed to the healthier lifestyle in nunneries and monasteries. Also, the longevity gender gap between present-day nuns and monks is relatively small compared to the population at large. This has been linked to monks profiting relatively much from a healthy lifestyle compared to men in the general population, for instance with respect to a more-balanced diet, and lower tobacco and alcohol consumption among

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<sup>21</sup> Women outliving men is also demonstrated by De la Croix (286) and Van Poppel (2013).

<sup>22</sup> Luy 647. With respect to the specific monastic context evidence for nuns outliving monks is mixed; some archaeological researchers found evidence that nuns outlived monks, others did not (Gilchrist 204; Keeping 142).

<sup>23</sup> Data taken from Human Life Table database: <https://www.lifetable.de/cgi-bin/country.php?code=nld>.

monks (Poulain). However, it is difficult to identify favorable circumstances that may have fostered lifespans in St. Agnes because almost nothing is known about everyday life in the nunnery. It has been suggested that meat consumption of women, which increased after the Black death, provided them with an important source of iron, and contributed to their longevity (Bullough 317-318; Pearson 29-30). The idea that meat consumption contributed to the nuns' wellbeing is attractive, also because it might be speculated that the sisters ate more meat during the affluent fifteenth century, and less so during the sixteenth, but has no empirical grounds as long as no information is available about the meals the women were served in their refectory. Diet may also have influenced longevity in another way: a nunnery of the Tertiary movement, which aspired to the *vita apostolica*, is likely to have had sparse diets. Restraint in food intake is nowadays increasingly linked to the prolongation of life and may have contributed to longevity. In contrast, the monks in England may have had the opposite experience: Hatcher (*Monastic* 682) point to 'the possibility that an unbalanced and excessively rich monastic diet may have helped to depress life expectancy, especially when combined with a lack of exercise' – a lifestyle resembling Robin Hood's Friar Tuck. Other possible explanations for the nuns' longevity are equally difficult to find support for. Thus, the relatively low mortality rates in the nunnery might indicate anything from a relatively mild mortality regime in Gorinchem, to the city having been frequently visited by contagious disease, which the nuns were able to withstand because they may have been more isolated than the English monks. And finally, the nuns' gains from not giving birth should be considered. It is likely that almost all nuns never bore children and were not exposed to the risk of dying during labor, which was a risk for women in the general population and likely influenced female longevity.<sup>24</sup>

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<sup>24</sup> Although the dangers of childbirth should not be overstated: according to Rachel Podd 'the process of labour and delivery was hardly the main driver of female mortality' (137).

## CONCLUSION

Data on vital events of nuns in Gorinchem allows for a reconstruction of longevity, life expectancy, and mortality. Life expectancy peaked in the mid-fifteenth century, and as a result, longevity was highest towards 1500. This is in line with recent insights of an increase in longevity among European nobles until 1500, and of a relatively mild mortality regime in fifteenth-century Haarlem which may have been the result of high living standards during the later Middle Ages. The nuns seem to have followed this secular pattern, while the English monks did not. One possible explanation for this is that the Third Order nunnery may have been more integrated in economy and society than English Benedictine monasteries. As a result, the vital events in St. Agnes may mirror broader fifteenth-century developments in secular society.

Life expectancy of nuns peaked at higher values than that of monks. Women outliving men may seem a straightforward finding from a modern perspective, but there is not much evidence to suggest a gender longevity gap existed in the later Middle Ages. In fact, based on recent studies, one may have expected late medieval women to live shorter lives: both Cummins' study of the lifespans of the European nobility, and Curtis and Roosen's study on Hainault, suggests that women were more likely to die from plague than men, and in this respect nuns in late medieval Gorinchem outliving monks in England by several years is a quite unexpected result. Whether this was caused by nuns being less exposed to plague is impossible to say with certainty, although the relatively low frequency of mortality crises in St. Agnes might point in that direction.

This is the first study to use vital events of a closed community in Holland to reconstruct longevity, life expectancy, and mortality. Although the results are broadly in line with other research, the data that was collected in St. Agnes and was analyzed in this article can only provide basic building blocks. The article provides a ground zero that is based on the reconstruction of the lives of nuns pursuing the *vita apostolica*: future research will hopefully clarify to what extent others in late medieval Holland shared their experience.

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