

Is gender balance being achieved in the participation of women in peals and quarter peals?

Following on from our previous article on the participation of women in the Learning the Ropes initiative and contest ringing, this week we will be looking at the presence of women in quarter peals and peals.

The data in this week's article has been collected from Bellboard by Bryn Reinstadler. There are two sets of data: **2009** (01/02/2009-01/02/2010); and **2019** (01/02/2019-01/02/2020). These dates were selected in order to include the most recent ringing possible, whilst excluding the effects of the Coronavirus pandemic on bell ringing in 2020. Due to both being relatively recent, they also provide a lot of data, allowing us to look in depth at different trends. While BellBoard does not provide a complete record of all ringing performances, especially not in the 2009 dataset, it is unlikely that the gender balance of the band had a significant effect on whether or not the performance was uploaded. Therefore, we will use these datasets to look at the estimated proportion of female ringers in the two cohorts.

	2009	2019
Number performances of at least quarter peal length	18633	22119
Number unique ringers	15505	17810

Figure 1 - Overview of Bellboard Data in 2009 and 2019

To identify female ringers from this data, United States Social Security Administration statistics (1930-2012) were used to assign a probability of a ringer being female based on their name. Given that the majority of Bellboard performances and ringers are UK based, this will differ slightly to gender assignment of names in the UK – however the US SSA data was the best option that could be found to do this. A degree of error or ambiguity will be introduced wherever a “unisex” name occurs (e.g. Lesley, Hilary), however the majority of names showed little ambiguity so overall the impact of this is fairly small and shouldn't impact the interpretation of this data.

Figure 1 provides an overview of the number of our data sets taken from Bellboard for 2009 and 2019. There are fewer performances in the 2009 data. At this time, Bellboard had not been created and Campanophile was used as the main online platform for uploading peals and quarter peals (QP's), with some performances being submitted directly to the Ringing World without any online record. Unfortunately it is not feasible to estimate how many records are missing from the 2009 data, and whether there genuinely was a greater number of performances of QP length or above. However these two years provide a significant number of performances upon which our analyses are based. Our data are expressed as proportions rather than absolute numbers, so assuming that the gender balance of the band didn't affect the probability of a performance being uploaded, our analyses and conclusions should be robust. We won't compare between performances of different types for the 2009 data, as this may have had an effect on how likely a performance was to be uploaded.

Of course, there are performances shorter than QP length uploaded to Bellboard, however our main focus for this article is the participation of women in longer performances, so our data is taken from QP's and peals for both tower and handbells.

Peal and Quarter Peal Ringing

	Proportion of average band		Proportion of unique ringers		
	2009	2019	2009	2019	
All assignments					
Tower QPs	0.36	0.37	0.37	0.43	
Tower Peals	0.25	0.24	0.3	0.36	
Hand QPs	0.31	0.34	0.32	0.34	
Hand Peals	0.22	0.22	0.24	0.33	

Figure 2 - Women ringing in Handbell and Tower Peals and QPs, 2009 and 2019

The green columns in Figure 2 show the proportion of the average band made up by women, for both handbell and tower bell quarter peals and peals, in 2009 and 2019. The values in this column can also be used as the probability that a given ringer in a performance is female.

Overall there is very little difference between the 2009 and 2019 data for these columns. Given that the majority of handbell peals/QPs take place on 12 bells or fewer, we would need to see a difference of at least 0.17 to notice one more woman routinely appearing in the average handbell band (or a difference of 0.08 for tower bells), so there is certainly no tangible difference here between how women are represented in the two years.

In 2019, women are ringing more frequently in QPs than peals (in both tower and handbells), and also more in tower bell performances than on handbells. The same pattern is seen in 2009, although as discussed in our introduction this data is likely to have been affected by the incomplete data for that year.

When we looked at this across different stages, the general trend across both peals/QPs and tower/hand performances was that female participation peaked on 6 and 8 bells, decreasing on 10 and further on 12, although these fluctuations were small.

We also looked at unique ringers – i.e. how many different women there are partaking in these performances. This is displayed in the purple column, as the proportion of unique ringers that are female. There are more unique ringers in 2019 than there were in 2009 (as seen in Figure 1), so there are more women ringing tower and handbell QPs and peals in 2019 than there were in 2009. However, while the overall number of women taking part has increased, the proportion of women in a band has not – this means that on average each woman is ringing in fewer performances in 2019 than in 2009. Again, we do not think this figure will be impacted by the different level of usage of BellBoard in 2009; because this looks at the proportion of unique ringers on BellBoard, even if the number of ringers is smaller, it is still a sample of the whole that we do not expect is influenced by the gender of the uploaders.

Where in the circle women ring

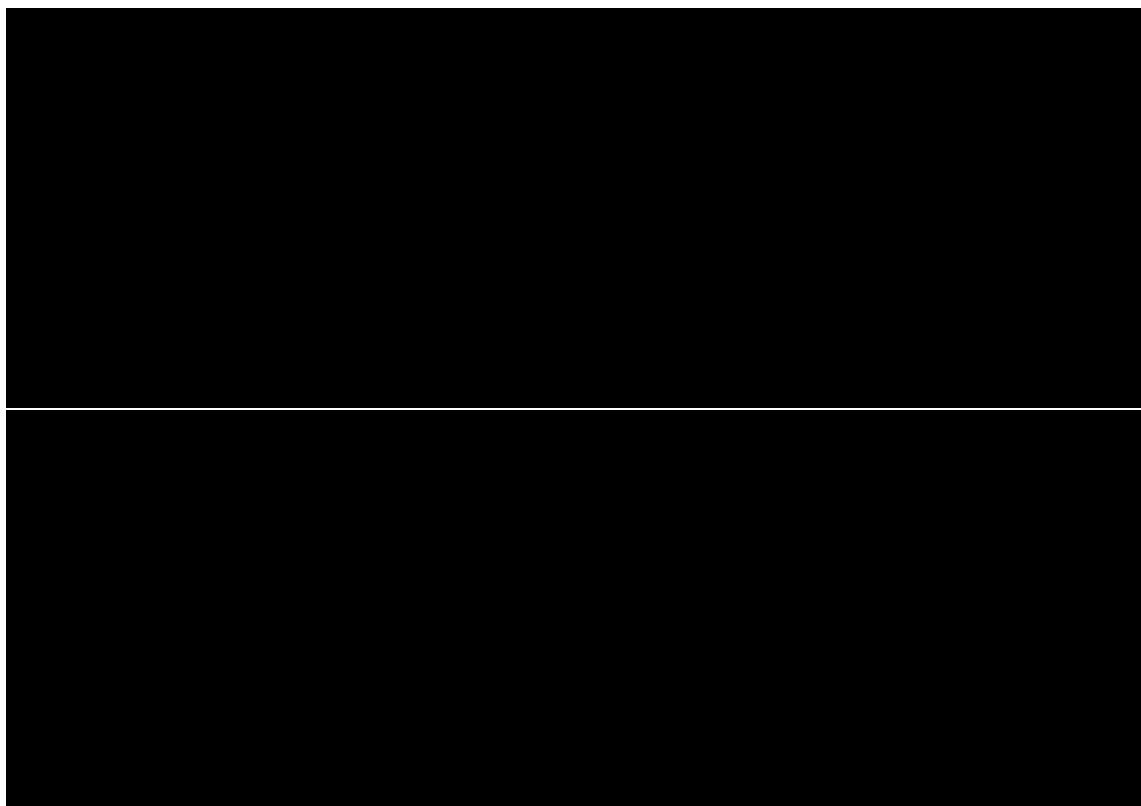


Figure 3 - Where women ring, Handbell and Tower Peals and QPs, 2019

We were able to examine the data further, to see where in the circle women are ringing in these performances. Figure 3 demonstrates this for the 2019 performances. The “Likelihood” axes give the probability that a given bell/pair will be rung by a woman in any performance. This data is taken from all performances in 2019 between 4 and 12 bells (and is cumulative), so 6 could represent a tenor on six, or a middle bell on ten or twelve.

The dotted line on each chart is taken from the 2019 column in Figure 2 (“Proportion of Average Band”), being used in this case to demonstrate the probability of a woman ringing in a performance. With random band assignment, this would be the same as the probability of a woman ringing in any given position. Because the data in the charts is from across all stages, this can only be used as a rough indication to show where women are being over or under represented.

The overall trend is that it is overwhelmingly more likely that a front bell will be rung by a woman than a back bell will be. A similar trend is seen in handbells, with a particular tendency for women to be placed on 1-2 for peals. It can’t be assumed that 1-2 is always a technically less challenging pair to ring, a particular example of this being Stedman, where it is just as challenging (if not more, depending on the composition) as any other inside pair. However Stedman (on all stages) only accounted for 3.29% of handbell peals in 2019, and in only one of these peals was 1-2 rung by a woman. This means the overwhelming majority of the data in the chart represent treble-fixed peals of plain or treble dodging methods (and no - this data doesn’t contain any handbell peals of David Pipe’s Particles!).

Summary and Discussion

The interesting points to take from this article are that in both tower and hand, women are significantly underrepresented in the proportion of the band they make up, more so in peals (where less than 25% of the average band will be female) than in QPs. Following on from our previous article

with Learning the Ropes data, this is a significant drop off from the near equal gender split on recruitment. More women are ringing in these performances in 2019 than in 2009 but the proportion of the band they account for has not significantly changed, so there are more women ringing in fewer performances. Women are represented more in tower bell than handbell performances.

There is a greater predilection for women to ring around the front, both in tower and in hand. This is interesting as different parts of the circle provide different challenges in these different settings - the greater physical challenges faced in ringing around the back on tower bells don't apply so much to handbells, however ringing an "inside pair" of handbells provides a different challenge to ringing 1-2, which is where women are being most heavily represented.

These data are only from two sets, so it would be inaccurate to assume a trend from them between 2009 and 2019. However, there is a large volume of data here, and so far it offers further support to Simon Linford's hypothesis - that as the perceived difficulty of ringing increases, female participation decreases, and this is shown in longer performances as well as in the context of striking contests. The next article in this series will also be using Bellboard (and some Complib) data, to look at how many of these performances are conducted by women. As you may have seen in Lynn Scales' recent article on the same subject, this can make for depressing reading - however we hope that some of the analyses in our article may provide some ideas for addressing this, so we can welcome more women to the small yet talented pool of female conductors.

If you have any experiences, observations or thoughts you would like to share on this topic, please visit <https://www.womeninringing.info/> and share your story. Both you and any ringers mentioned in your submission will be anonymous when published, and there is an option to share your story with the gender working group without it being published.

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