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## The current status of singing in kindergartens in Norway

### An exploratory study

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#### Abstract

This study investigates the current situation regarding singing in Norwegian kindergartens. More specifically, how often kindergartens offer singing possibilities to children, in what situations singing is embedded, how valued singing is in such institutions, what singing methods and repertoires the teachers use, and whether teachers have certain underlying goals and beliefs connected to their use of singing. Furthermore, we are interested in whether there are contextual factors that influence the singing practice of a kindergarten/teacher. This exploratory cross-sectional study uses a web-based questionnaire, and the sample consists of 660 Norwegian kindergarten teachers. The statistical analyses cover standard descriptive and inferential statistics. The study's main findings are as follows: (1) singing is highly valued in most kindergartens; (2) singing is done "very often" in most kindergartens, and the majority of teachers report that they sing with the children daily in a large variety of situations and using mainly Norwegian songs – however, the actual frequency and amount of singing depends on various factors; (3) one of the most important factors regarding singing praxis is musical expertise of teachers, regarding which most teachers rate themselves as below the population average; (4) the teachers mainly sing unaccompanied with the children; (5) they learn new songs mainly through streaming services; and (6) the teachers assume that singing leads to especially positive psychological, social, and cognitive effects on children.

**Keywords:** *music education, kindergarten, singing, survey, musical expertise*

## Introduction

### Singing in Norwegian kindergarten Framework Plans

The United Nations (UN) recently reiterated the importance of artistic subjects (such as singing). Article 31 of the UN Convention on the Rights of the Child states that children

have a right to cultural and artistic activities. This also applies to Norway, where singing activities have traditionally had a prominent place in kindergartens and schools more generally (Bjørnstad et al., 2014).<sup>1</sup>

The first kindergartens were established at the end of the nineteenth century. The German educator Friedrich Fröbel (1782–1852) is, in many contexts, considered the founder of the kindergarten. His ideas and work had a great influence in Scandinavia, with song and music being an essential tool in child rearing (Varkøy, 2015, p. 112). The number of kindergartens in Norway increased throughout the twentieth century, especially in the 60s and 70s. However, it was not until 1975 that Norway passed its first kindergarten law, and it was as recently as 1995 that the first Framework Plan for the kindergarten became available. There, singing is mentioned several times and legitimised as follows: “From the areas of music, song and dance, children gradually find impulses and opportunities for expression for feeling and thought” (Forskrift om rammeplan for barnehagen, 1995, p. 72; authors’ translation). The Framework Plan is also clear on the desired repertoire: “folk music and art music” (Forskrift om rammeplan for barnehagen, 1995, p. 73; authors’ translation). In recent plans, on the other hand, singing is no longer mentioned as a specific mode of *expression*. The Framework Plan for the kindergarten from 2006 states that “The staff should convey traditions that create belonging through books, literature, song and music and creative activities” (Ministry of Education and Research, 2006, p. 36; authors’ translation). Moreover, in the Framework Plan of 2011, singing and music are no longer mentioned as a separate subject area, but are included in the subject area “Art, culture and creativity”. Kindergarten must facilitate “cohesion and creativity by helping the children to be together to experience and create artistic and cultural expressions” (Ministry of Education and Research, 2011, p. 40; authors’ translation). In the latest version of the Framework Plan for kindergartens, which has been in use since 2017, the focus is on sustainability, education, participation and cultural communities: “The kindergarten shall facilitate cultural meetings, provide space for children’s own cultural creation and contribute to all children experiencing joy and mastery in social and cultural communities” (Ministry of Education and Research, 2017, p. 9; authors’ translation). Here, song is mentioned only under the topic “Communication, language and text”, where the children must encounter “different languages, language forms and dialects through rhymes, rules, songs, literature and texts from the present and past” (Ministry of Education and Research, 2017, p. 48; authors’ translation).

In summary, from a historical perspective, two rationales for singing in kindergarten can be identified – singing as a goal in itself, and singing as a means of achieving other goals. The Framework Plan development shows that singing in kindergarten has gained an

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1 In Norway, children between the ages of one and five can go to kindergarten. Primary (years 1–7, “barnetrinnet”) and lower secondary (years 8–10, “ungdomstrinnet”) education is ten years, and pupils normally start school in the year of their sixth birthday.

increasingly instrumental role, instead of being viewed a separate art and form of cultural expression (Vist, 2017). More generally, the last few decades have seen a reduced emphasis on singing in the national curricula for kindergartens (Hagen & Haukenes, 2017) and teacher education (Perlic, 2019). In other words, with each new change in law and planning, singing has become increasingly marginalised.

### **Private and public initiatives promoting singing in Norway**

In recent years, various private and public initiatives have emerged to promote singing in kindergartens and schools in Norway. The most significant initiative is a collaborative platform run by 24 partners called “Krafttak for sang” (Singing Norway; Krafttak for sang, 2021a). It includes programmes such as Singing Kindergartens, Singing Schools, Singing Municipalities and Singing in Elder Care. The common denominator of these programmes is that they are based on the fear that singing is increasingly disappearing from the Norwegian education system; hence “countermeasures” must be taken accordingly – “Create singing activities all over the country!” (Krafttak for sang, 2021b) is the common slogan.

### **Empirical studies on the status of singing in kindergarten**

In the Norwegian, as well as the Scandinavian, context, studies on the status of singing in kindergarten are sparse. In Norway, there is an empirical study concerning the repertoire used in kindergartens, showing that the songs are old, musically simple and similar to one another (Hagen & Haukenes, 2017). Another study shows that the song lyrics in kindergartens are somewhat outdated (Onsrud, 2019). Also, Bjørkvold’s (1985) ground-breaking research on children’s “spontaneous vocalizing” in kindergarten is relevant; his theories about singing as a natural and necessary part of humanity have provided new perspectives on children’s singing and musical expressions in the music education discourse in Norway. Furthermore, there are some studies on teaching practices showing a situation that is sometimes problematic for singing: many teachers in kindergarten and preschool avoid singing because of low self-esteem associated with their singing voice or vocal chambers (Ehrlin & Wallerstvedt, 2014; Kulset & Halle, 2020; Schei & Åvitsland, 2016).

As our overview of singing in kindergarten Framework Plans has shown, historically, singing has been deeply rooted in the Norwegian education system. Curricular developments in recent decades, however, show diminishing prioritisation of singing in kindergarten. This corresponds to a variety of initiatives that oppose the assumed “threat” to singing at the practice level. It is noteworthy, however, that these initiatives are not evidence-based, because, as our brief review of empirical research has shown, there are no recent studies on the status of singing in Norwegian kindergartens. In our study, we attempt to describe the current situation regarding singing in Norwegian kindergartens with the help of a national survey study.

## **Aims and objectives**

The aim of this study is to provide empirical knowledge about singing in Norwegian kindergartens. We aim to investigate the status of singing in kindergartens, specifically how often kindergartens offer singing possibilities to children, in what contexts/situations singing is embedded, and how valued singing is in an institution. Furthermore, we are interested in the teachers: how are they singing with the children, with what repertoire, and for what purposes. Finally, we are interested in whether there are contextual factors that influence the singing practices of a kindergarten or teacher (e.g., the equipment of a kindergarten or the musical expertise of the teachers). Thus, the study has three main objectives: first, at a descriptive level, the survey aims to describe the situation regarding singing in Norwegian kindergartens. Second, the survey aims to determine whether an institution's characteristics (e.g., urban/rural location, children's age range, and specific singing profile) and/or a teacher's characteristics (e.g., age, education, and musical expertise) influence the actual singing praxis. Third, at a methodological level, one central objective of this study is to ensure the comprehensibility, psychometric quality, and differential quality of the newly developed questionnaire – the latter objectives will in turn be a prerequisite for further developing the questionnaire in order to be able to use it in the context of a representative study following the present explorative study.

## **Materials and method**

### **Design, data collection and sample**

Because no quantitative research has been conducted on this topic in the Norwegian education system, we decided to conduct an exploratory cross-sectional study. The study is explorative in the sense that we did not use a theory-driven or hypothesis-testing design. Through a questionnaire, we explored the current situation regarding singing in Norwegian kindergartens.<sup>2</sup> In exploring such a large and diverse field, a researcher has several options (Miksza & Elpus, 2018); for example, one can observe pedagogical practices, interview kindergarten children, interview educators, or interview the heads of an institution. Given the time and financial resources available to us – and not least because of the accessibility of the respondents – we decided to send a quantitative questionnaire to all Norwegian kindergartens via email. The cover letter asked that the questionnaire be forwarded to a kindergarten teacher (or member of the educational staff) who could answer questions regarding the status of singing in the institution. The population of the study consisted of

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2 The questionnaire was also sent to schools (primary and middle schools), and these school-specific results will be published elsewhere.

all Norwegian kindergartens with email accounts ( $N = 5,606$ ).<sup>3</sup> We asked one teacher per institution to answer one questionnaire. Given this population size, the required sample size was calculated to be 360 kindergartens (calculation assumptions: confidence level = 95%; margin of error = 5%).

We received 660 responses; i.e., the study's response rate is 11.77%. Although this *sample size* ( $n = 660$ ) is, in principle, sufficient for statistical analyses (see sample size calculation above), the response rate is too low for the sample to be considered representative (Miksza & Elpus, 2018). Such low response rates are not unusual in the field of web-based survey research, but they are problematic because the risk of non-response bias automatically increases as the response rate decreases. Thus, the results presented in the following sections cannot be directly extrapolated to Norway as a whole (i.e., to all kindergartens). Rather, our study is an exploratory study that intends to provide initial findings on the current status of singing, test the questionnaire, and further specify research questions and hypotheses for a follow-up study with a representative sample in 2021 (see Discussion section). Moreover, we assume a certain amount of bias in our data because the relatively low response rate may indicate that kindergartens/teachers who felt particularly committed to singing were more likely to respond. This assumption seems plausible because the questionnaire cover letter was also explicitly addressed to persons with the necessary knowledge regarding the current status of singing at an institution. We therefore invite the reader to consider the results as explorative and keep in mind that not all Norwegian kindergarten teachers but, rather, mainly those involved in "singing-related" activities are represented.

### Measurements and methods of analysis

The questionnaire was distributed via an online tool (<https://nettskjema.no>) and took, on average, 12 minutes ( $SD = 8.5$ ) to complete. The questionnaire included questions that can be categorised into three levels, and the following list provides an overview of the content of the questionnaire:

- (1) General characteristics at the institutional level
  - Type of institution (children's age range and specific singing profile)
  - Geographical location of the institution (city, country, and municipality)
- (2) General characteristics at the individual level (educators)
  - Demographics
  - Higher education in general and music-specific education
  - Working experience
  - Musical expertise
  - Musical leisure activities

3 Including institutions without email accounts available to us, the number is just slightly higher (5,730 kindergartens) (year 2018–2019; Directorate for Education and Training, 2020).

(3) Specific singing-related topics (institutional and individual levels)

- How often do kindergartens offer singing possibilities to children?
- In what contexts/situations is singing embedded?
- How valued is singing in a particular kindergarten (by colleagues and the administration)?
- Didactical perspectives: how is the teacher singing with the children? What repertoire is he/she using, and for what purposes is the teacher singing?

To evaluate the teachers' musical expertise, a short version of Goldsmith's Musical Sophistication Index (Gold-MSI; Müllensiefen et al., 2014) was used. The Gold-MSI can be used "to describe the multi-faceted nature of musical expertise" (Müllensiefen et al., 2014, p. 1). It measures five dimensions: active musical engagement (e.g., how much time is spent on music), self-reported perceptual abilities (e.g., accuracy of musical listening skills), musical training (e.g., the amount of formal musical training received), self-reported singing abilities (e.g., the accuracy of one's own singing), and sophisticated emotional engagement (e.g., the ability to talk about the emotions that music expresses). An item example from the first dimension would be "I spend a lot of my free time doing music-related activities" (1 = *completely disagree* to 7 = *completely agree*). Because we used a short version of the index (i.e., only items that belong to the General Musical Sophistication factor; Cronbach's  $\alpha = .84$ ), we only report results for the General Musical Sophistication factor in the following analyses.

After the data collection was completed in December 2019, all data were downloaded in a CSV database file and subsequently recoded for use with statistical analysis software (SPSS 27, JASP 0.14.1). The statistical analyses covered both standard descriptive (e.g., frequencies) and inferential statistics (ANOVA, Welch's *t*-test,<sup>4</sup> and multiple linear regression).

## Results

### Participant characteristics

First, we were interested in the kindergartens and teachers who participated in the study. Accordingly, the first analysis revolves around where the teachers work, how extensive their professional pedagogical experience is, whether they have studied music, whether they consider themselves to be musical, and whether music plays a role in their free time. Table 1 provides an overview of the participants' characteristics.

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4 Because the normal distribution assumption was violated in some variables (cf. Results section), we used the robust Welch procedure throughout.

**Table 1:** Participant characteristics ( $n = 660$ )

INSTITUTIONS		%	TEACHERS		%
	Kindergartens 0–3 years	21.5	<b>Gender</b>		
	Kindergartens 3–6 years	23.2		Women	93.8
	Kindergartens 0–6 years	55.3		Men	6.2
				Other	0.0
<b>Geographical location (size)</b>			<b>Age</b>		
	Major city	34.7		20–24	3.8
	Small town	20.2		25–29	2.9
	Village	26.3		30–34	11.4
	District	18.9		35–39	6.1
<b>Geographical location (counties)</b>				40–44	16.3
	Oslo	11.5		45–49	17.5
	Innlandet	5.3		50–54	18.4
	Viken	21.2		55–59	14.1
	Vestfold og Telemark	8.8		60–64	7.9
	Agder	6.2		65–69	1.5
	Rogaland	11.5		70–74	0.2
	Vestland	8.8		<b>Mean</b>	44.2
	Møre og Romsdal	7.1	<b>Migration background</b>		
	Trøndelag	11.5		Yes	14.1
	Nordland	2.7		No	85.9
	Troms og Finnmark	5.3	<b>Working experience (in years)</b>		<b>Mean</b> 21.5
<b>Singing Kindergarten programme</b>					%
	Yes	24.2	<b>Studies in pedagogy</b>		
	No	75.8		Yes	90.4
				No	9.6
			<b>Studies in music</b>		
				Yes	59.7
				No	40.3

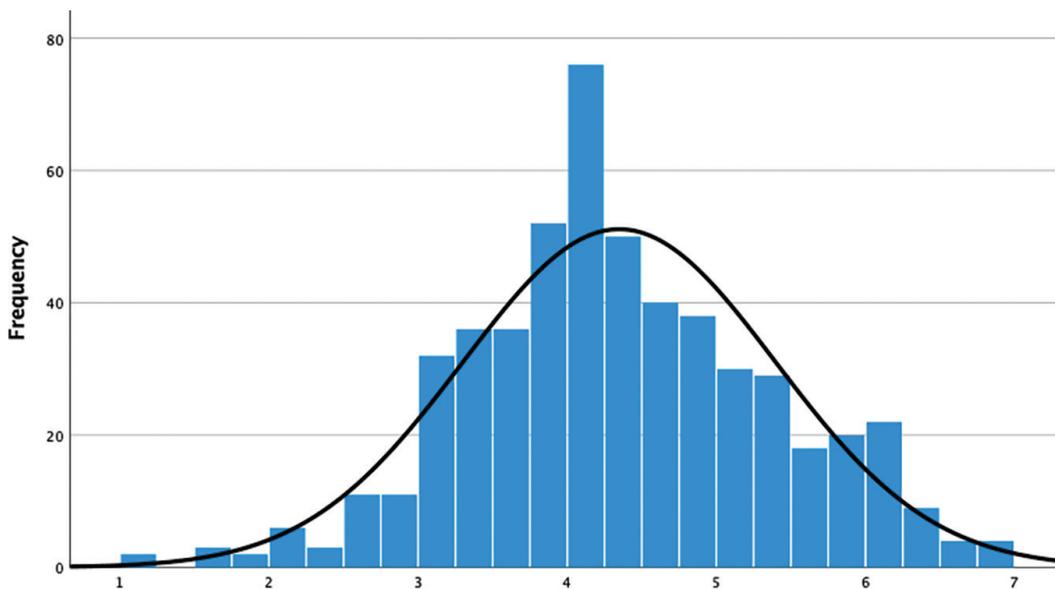
The sample included a wide range of kindergartens in terms of age coverage (children) and geographical location. Regarding geographical location, our sample roughly corresponds to the real distribution of kindergartens in Norway (Directorate for Education and Training, 2020). Also, the gender distribution in our sample corresponds to the gender ratio in Norwegian kindergartens (91.6% women; Statistics Norway, 2021) – the same is true for the educational background (90.4% in our sample have studied pedagogy, as compared to 88.6% in the general population of teachers; Statistics Norway, 2021). While the variables mentioned above indicate a representative distribution, there are other variables for which a certain bias can be assumed. With an average age of 44.2 years, our sample is significantly older than the general kindergarten teacher population in Norway (here, we find an average age of around 37 years; Statistics Norway, 2021). Furthermore, the proportion of Singing Kindergartens<sup>5</sup> (24.2% in our sample and 3.9% in the population; Syngende barnehage, 2021) and the proportion of teachers who took music courses during

5 The Singing Kindergarten (“Syngende Barnehage”) programme is part of the “Singing Norway” initiative and offered to all kindergartens in Norway. Participation is voluntary and does not involve any formal requirements (e.g., rooms, instruments, or music-specialised teachers). Kindergartens participating in the programme are encouraged to continually integrate singing into the daily kindergarten routine (Syngende barnehage, 2021). An annual participation fee of NOK 950 includes access to courses, subject-specific literature, and didactic materials.

their higher education (59.7% in our sample)<sup>6</sup> support our hypothesis regarding a singing-related response bias. Against this background, we will pay special attention to the three variables mentioned above (teachers' age, Singing Kindergartens, music courses in teachers' higher education) in the later analyses in order to control for any relevant influence on singing practices in kindergartens.

In addition to the information presented in Table 1, we asked the kindergarten teachers whether they were (or had been) involved in musical activities in their free time in the last 10 years, and 32.8% of the teachers answered "yes". An open-ended follow-up question addressed the content of these musical activities: of the respondents, 29% engaged in singing-related activities (e.g., choir), 15% played an instrument (e.g., piano or guitar), 8.2% played in a brass band, and 5.7% conducted or led an ensemble (all other activities with percentages below 1.5% are not reported here).

Finally, we asked the teachers to evaluate their own musical expertise by answering a short version of the Goldsmith's Musical Sophistication Index (Gold-MSI; Müllensiefen et al., 2014). Figure 1 shows the score distribution of the General Musical Sophistication factor for kindergarten teachers.



**Figure 1:** Musical expertise (General Musical Sophistication factor) distribution for kindergarten teachers (lowest/highest possible score: 1/7)

The average teacher score is only slightly above the scale midpoint ( $M = 4.35$ ,  $SD = 1.05$ ). Comparing this result with the (British) data norms from Müllensiefen et al. (2014, Table S3;  $n = 147,633$ ), we find that Norwegian kindergarten teachers (who responded to

6 Unfortunately, there are no national statistics on the subject-specific content of kindergarten teachers' higher education, but we suspect that the number of teachers in our sample who have taken music courses is higher than the number in the overall teacher population.

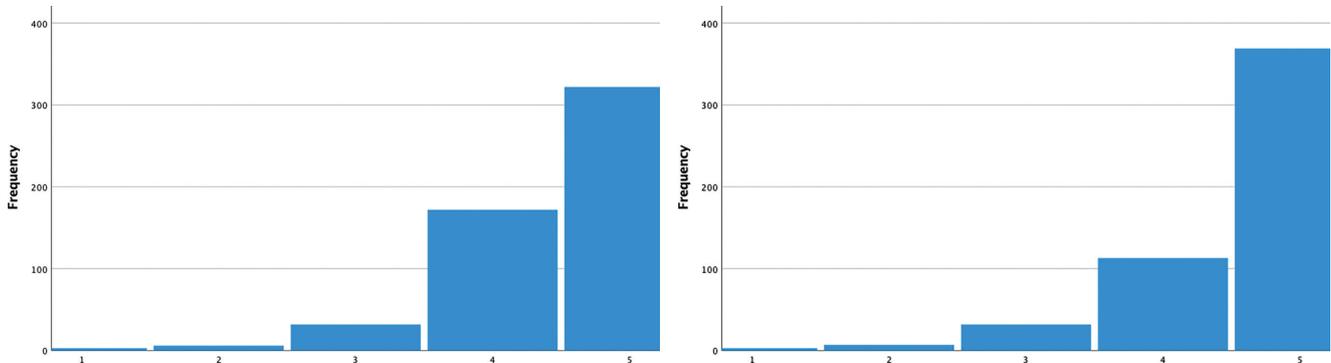
our questionnaire) are at the 42nd percentile. This means that the teachers in our sample considered themselves significantly less musically competent than the general population. Furthermore, a more detailed analysis shows that teachers who completed music courses during their higher education evaluated their musical expertise as being significantly higher ( $M = 4.47, SD = 1.07$ ) than teachers who did not complete music courses ( $M = 4.18, SD = 1.00$ ).<sup>7</sup> We find an even greater difference if we group teachers according to whether they work in a Singing Kindergarten ( $M = 4.67, SD = 1.01$ ) or not ( $M = 4.23, SD = 1.04$ ).<sup>8</sup> If we compare these results again with the data norms, Singing Kindergarten teachers are at the 52nd percentile (i.e., slightly above the general population mean), while teachers working in “ordinary” kindergartens are at the 38th percentile (i.e., far below average as compared to the general population).<sup>9</sup>

### Singing in Norwegian kindergartens (institutional level)

In this section, we analyse the teachers’ evaluation of the current status of singing at the institutional level (i.e., the kindergarten to which they belong).

#### Appreciation of singing

We asked the teachers the following question: “To what extent does it seem to you that singing is appreciated among colleagues?” (Figure 2, left). We asked the same question regarding the institution’s administration (Figure 2, right). The response categories ranged from 1 (*very low*) to 5 (*very high*).



**Figure 2:** Appreciation of singing among colleagues (left) and the administration (right)

Figure 2 shows that the appreciation of singing was high among both colleagues and the administration because both groups scored between “high” and “very high” on average ( $M_{\text{colleagues}} = 4.50, SD = .71; M_{\text{administration}} = 4.60, SD = .72$ ). Even though appreciation seems to be quite high throughout the entire sample, it increases when we consider the group

7  $t(531) = 3.16, p < .001$ ; the effect size was small ( $d = .28$ ).

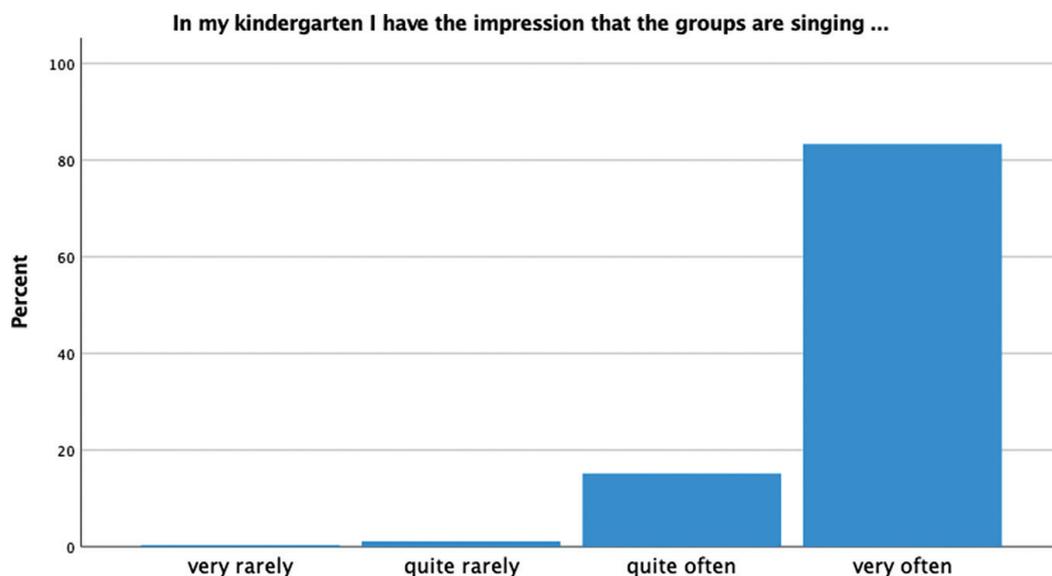
8  $t(532) = 4.40, p < .001$ ; here, the effect size was medium ( $d = .43$ ).

9 For the sake of completeness, it should be mentioned that musical expertise does not seem to be related to the age of the teachers (ANOVA and correlation analyses did not yield significant results).

of Singing Kindergartens separately ( $M_{\text{colleagues}} = 4.71, SD = 0.53; M_{\text{administration}} = 4.74, SD = 0.62$ ). Accordingly, appreciation at “ordinary” kindergartens is significantly lower but still high ( $M_{\text{colleagues}} = 4.42, SD = .75; M_{\text{administration}} = 4.55, SD = .74$ ).<sup>10</sup>

*Perception of the current status of singing in a particular institution*

We asked teachers how often singing took place in their kindergarten; the results served as a general indicator of the current status of singing in an institution. The response categories ranged from 1 (*very rarely*) to 4 (*very often*). The analysis (Figure 3) shows that singing was done “very often” in most kindergartens ( $M = 3.81, SD = 0.44$ ). A separate analysis for the Singing Kindergartens versus “ordinary” kindergartens yields only a slightly higher level of singing activity at the Singing Kindergartens; in other words, “ordinary” kindergartens sing almost as frequently.<sup>11</sup>



**Figure 3:** Frequency of singing in kindergartens

**Singing in Norwegian kindergartens (individual level)**

In this section, we present the results regarding teachers’ perceptions and evaluations of their own singing-related practices.

*Frequency of singing with the children*

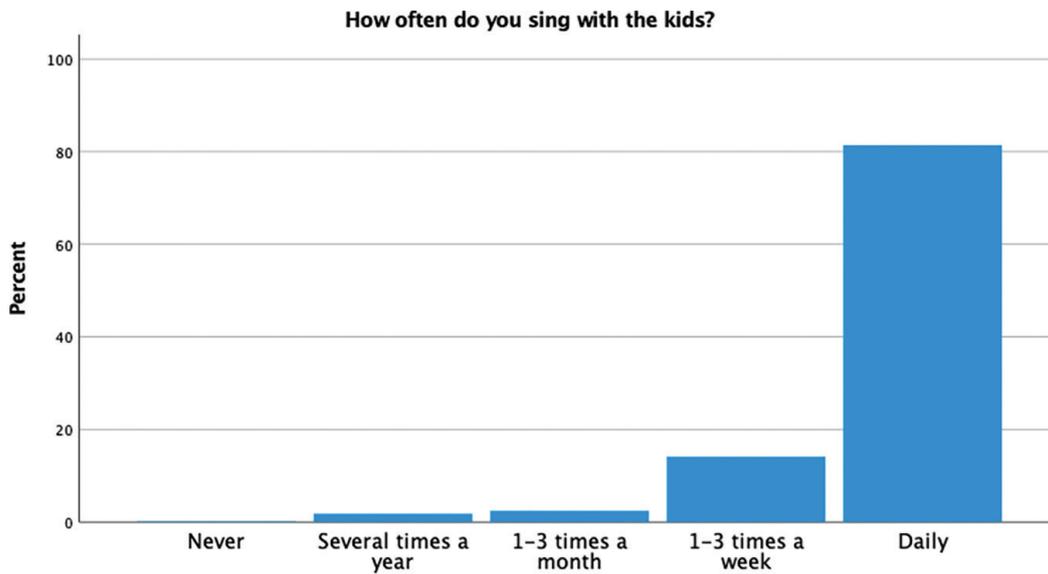
We asked the teachers how often they sang with the children. The response options ranged from 1 (*never*) to 5 (*daily*). In general, most teachers sang with the children daily ( $M = 4.75, SD = 0.60$ ) (Figure 4). In line with our findings at the institutional level, Singing

10  $t_{\text{colleagues}}(529) = 4.15, p < .001, d = .41; t_{\text{administration}}(518) = 2.75, p < .01, d = .27$ .

11  $M_{\text{singing k.}} = 3.92, SD = .28; M_{\text{normal k.}} = 3.78, SD = .28; t(428.1) = 4.15, p < .001, d = .35$

Kindergarten teachers ( $M = 4.84, SD = 0.54$ ) sang, on average, with the children just a little more often than the “ordinary” kindergarten teachers did ( $M = 4.72, SD = 0.62$ ).<sup>12</sup>

In addition, we wondered whether the frequency of singing was related to the age of the children. In fact, there is a statistically significant difference between teachers working with 0–3-year-olds ( $M = 4.94, SD = 0.26$ ), 3–6-year-olds ( $M = 4.84, SD = 0.37$ ), and 0–6-year-olds ( $M = 4.63, SD = 0.74$ ).<sup>13</sup>



**Figure 4:** Teachers' frequency of singing with the children

In addition, we conducted multiple linear regression analyses (MLR; Miksza & Elpus, 2018, pp. 142–152) to identify the factors that influenced teachers' frequency of singing. Teachers' frequency of singing with children was the dependent variable, and all potentially relevant factors were the independent variables.<sup>14</sup> In the first step, we included the participants' characteristics, the institutional-level variables, and the teachers' singing-related goals and beliefs (cf. Figure 11) in the MLR and examined the resulting model parameters. We used standard criteria to decide which variables to exclude from the model (Bühner & Ziegler,

12 The difference between the groups was significant,  $t(304.4) = 2.44, p < .01$ , but the effect size was small ( $d = 0.21$ ).

13 We conducted a one-way between-subjects ANOVA. There was a significant effect of the children's age on the frequency of singing at the  $p < .05$  level for the three conditions [ $F(2,654) = 16.70, p < .001$ ].

14 Through regression models, it is possible to find a set of variables (predictors) that significantly influence or predict the values of the dependent variable. The predictors should explain as much of the variance in the dependent variable as possible. A central feature of MLRs is that they model the relationships between different independent variables and the dependent variable simultaneously. This means we can determine how much variance is explained by each predictor. Hence, we can ask not only how much variance is explained, for instance, by the teachers' musical expertise, but also whether musical expertise has a specific influence beyond the influence of the other predictors. In fact, MLRs control for the intercorrelations of predictors. Because most of the predictors have, to some extent, overlapping correlations with one another, the question is which predictors have a significant influence when such overlapping is taken into account.

2009, p. 638).<sup>15</sup> Applying these criteria, we had to exclude most of the variables, which means they had no specific influence over and above the remaining variables. This procedure resulted in a significant regression model, which is presented in Table 2.

**Table 2:** Multiple linear regression model for kindergarten teachers' frequency of singing with their children ( $n = 530$ )

Independent variables	Unstandard. Beta	SE	Standard. Beta	<i>t</i>	<i>p</i>
(Intercept)	3.498	0.219		15.960	<.001
<b>Teacher's age</b>	-0.065	0.028	-0.099	-2.360	.019
<b>Teacher works with 3–6-year-old children</b>	0.219	0.068	0.136	3.217	.001
<b>Teacher works with 0–3-year-old children</b>	0.287	0.071	0.174	4.040	<.001
<b>Teacher's musical expertise</b>	0.120	0.025	0.193	4.753	<.001
<b>Appreciation colleagues</b>	0.184	0.037	0.201	4.913	<.001

Table 2 shows that 12.9% of the variance in the frequency of kindergarten teachers' singing with children can be explained by the regression model. Five variables have a significant impact on the frequency of singing (Table 2): the teachers' musical expertise, the teachers' age, the age grouping of the children, and the appreciation of singing by colleagues. At the *individual level*, this means that the more highly teachers assess their expertise and the younger a teacher is, the more often they sing with the children. At the *institutional level*, the organisation of children into age groups seems to be relevant: firstly, the analysis confirms once again that teachers working with 0–3-year-olds sing most frequently with the children. Secondly, the regression model shows that, also, teachers of 3–6-year-olds sing more often than teachers who have the entire age range (0–6) in their groups. In summary, this means that a smaller age range in the children's groups leads to a higher frequency of singing, or *vice versa*. That is, if a teacher must take care of all ages at the same time, singing is somewhat less frequent. Beyond the age grouping of the children, however, the collegial environment seems to be particularly important at the institutional level (actually, this is the most influential variable; see the standardised Beta values in Table 2); teachers who sing more often tend to work in environments where singing is generally valued.

Finally, it is worth mentioning two variables that have no influence:<sup>16</sup> formal music education (courses in music) and the Singing Kindergarten programme. This result may be somewhat counterintuitive at first because previous analyses have consistently shown a difference between “ordinary” and Singing Kindertartens. However, the strength of

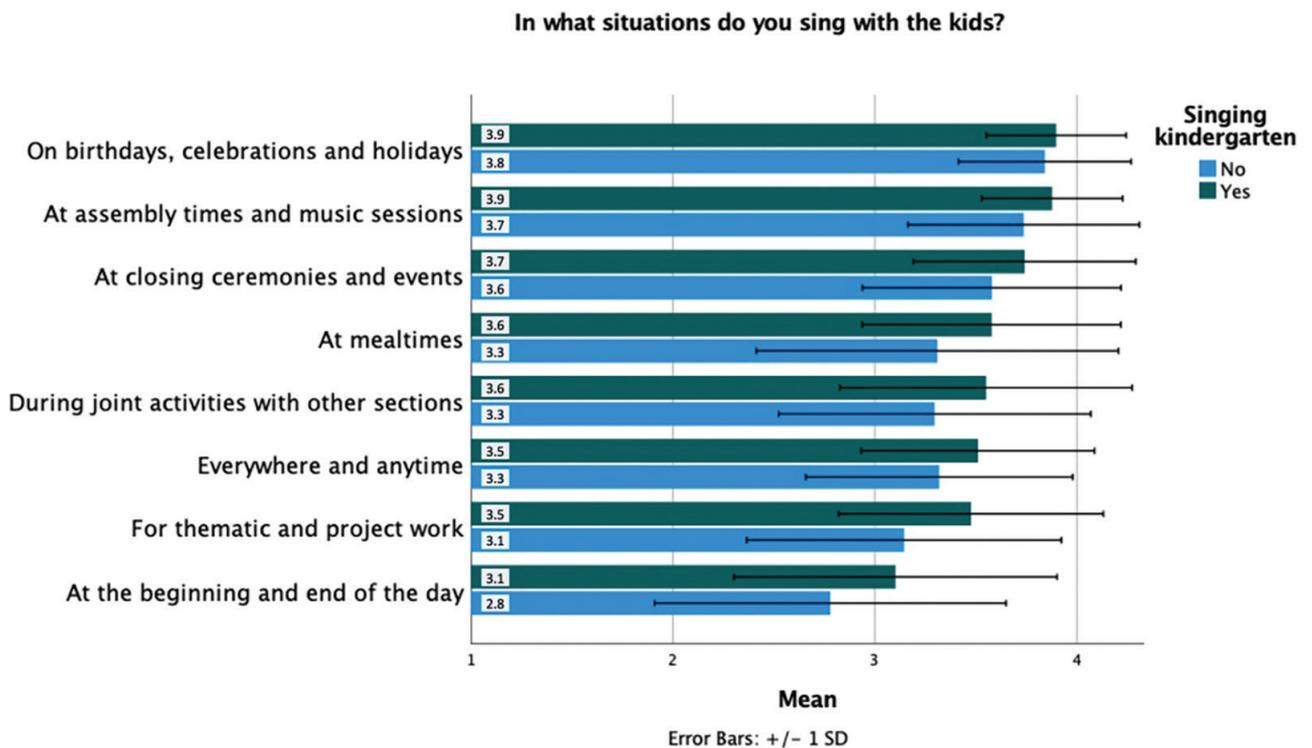
15 The beta coefficient has to be significant, and collinearity statistics have to be acceptable (tolerance > .10; VIF < 10; condition index < 15). In addition, we checked the standard errors of the regression coefficients and the part and partial correlations of each predictor variable.

16 Note that *all* variables that are *not* included in the regression model have, accordingly, no influence (e.g., the geographical location of a kindergarten or the gender of teachers).

the regression analysis becomes clear here: controlling for several variables at the same time shows that, in the end, it matters less whether a kindergarten participates in the Singing Kindergarten programme. Rather, whether the teachers have *de facto* musical expertise and, in particular, whether the teaching team collectively values singing, are more important.

*Situations in which teachers sing with children*

Figure 5 shows the results for the question “In what situations do you sing with the children?”. All items had a score above the scale midpoint of 2.5, indicating that teachers sang often in these situations. The situations in which singing is most common are “birthdays, celebrations and holidays”, “assembly times and music sessions”, and “closing ceremonies and events”. In contrast, the “beginning and end of the day” are the situations in which the least singing takes place.

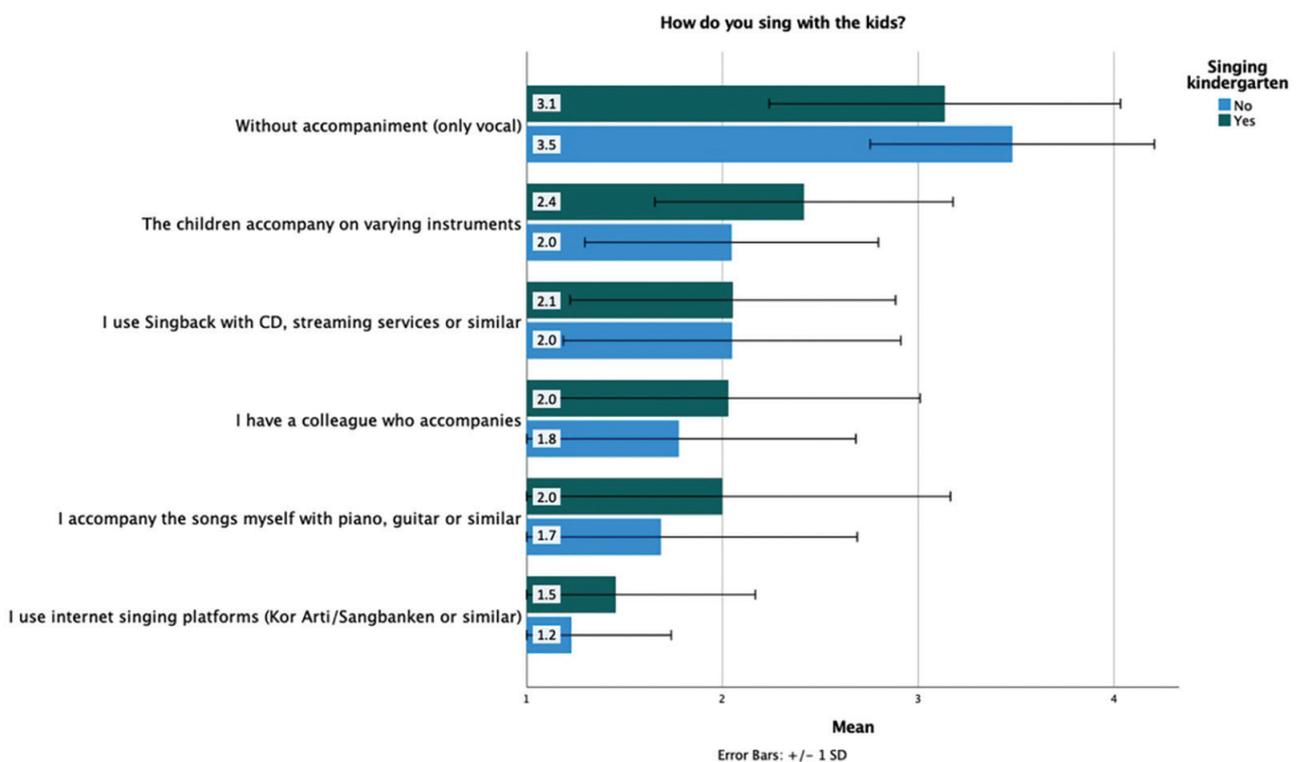


**Figure 5:** Teachers' situational singing habits (1 = very rarely, 4 = very often)

Another result is that the “singing” kindergartens consistently sing slightly more often in the given situations. These kindergartens appear to actually implement the idea that singing is part of the entire kindergarten’s everyday life (for all situations, the mean value is between “often” and “very often”). However, the same is true in principle for the “ordinary” kindergartens. The only situation in which the Singing and “ordinary” kindergartens differ by more than 0.3 scale points is “thematic and project work”, and the only situation in which the “ordinary” kindergartens score slightly below the “often” level is “at the beginning and end of the day”.

*Teachers' methods of singing with the children*

Figure 6 shows the results regarding how the teachers sing songs with the children. The clearly preferred method is to sing with the children “without accompaniment” – most teachers do this “often” or “very often”. Almost all other items had a score below the scale midpoint of 2.5, indicating that teachers use these methods/resources “rarely” or even “very rarely” on average: streaming services, accompaniment by a colleague or the teacher him/herself, and Internet singing platforms. When we compare the Singing Kindergartens with the “ordinary” kindergartens, we find a very similar pattern for both teacher groups. However, there are three items for which large differences appear: Singing Kindergarten teachers let the children sing *a cappella* significantly less often and, instead, accompany them significantly more often or let the children accompany themselves on musical instruments.<sup>17</sup>



**Figure 6:** Teachers' methods of singing with the children (1 = very rarely, 4 = very often)

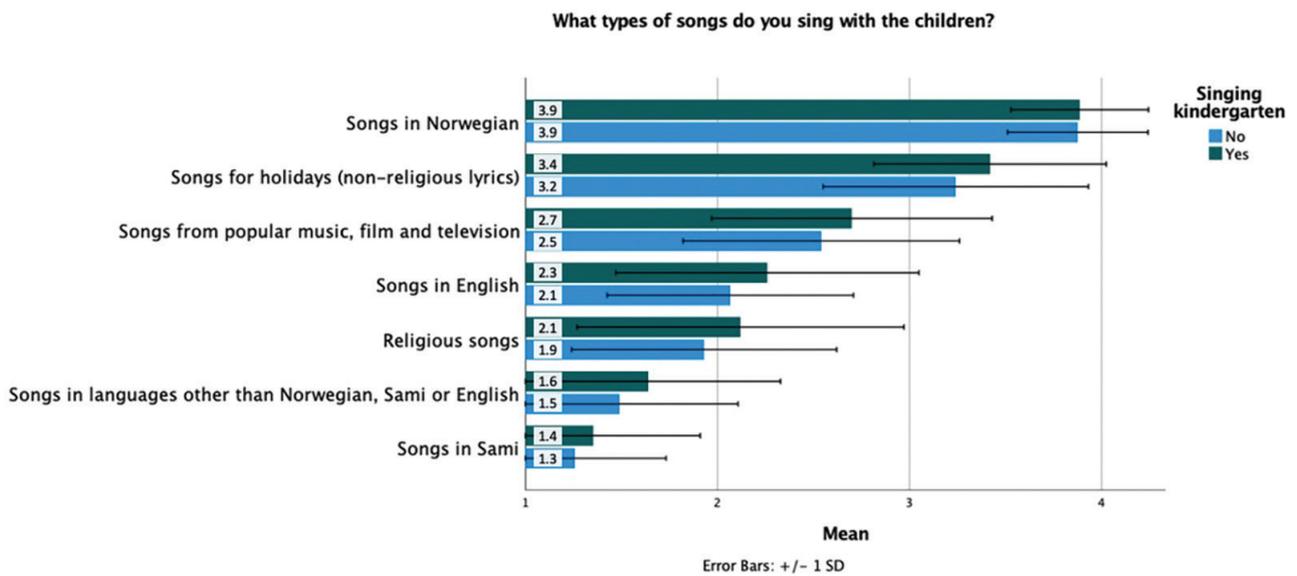
Against the background of these results, we conducted further correlation and regression analyses to determine whether we could find factors related to whether teachers accompany the children's singing or not (this methodological procedure has already been described above). We found only two variables that have a significant influence on whether a teacher

<sup>17</sup> Without accompaniment:  $t(214.8) = 4.38, p < .001, d = .43$ ; teacher accompanies:  $t(226.5) = 3.17, p < .01, d = .31$ ; children accompany:  $t(245.8) = 5.34, p < .01, d = .50$ .

accompanies children with an instrument:<sup>18</sup> first, male teachers seem to use an instrument more often than female teachers; second – and this is the much stronger factor – teachers with more musical expertise more commonly accompany the children when they sing. This finding suggests that it is not mainly a didactic conviction on the part of the teachers who sing only *a cappella* with the children that is important. Rather, this is a question of musical expertise. In other words, those who can accompany tend to do so (21.5% of the teachers), while the others tend not to (78.5% of the teachers).

*Types of songs teachers sing with the children*

Figure 7 shows that the most popular song genres are songs in Norwegian and songs related to holidays (e.g., christmas) and celebrations (most teachers sing these songs “often” or “very often”) – songs from pop music, film and television come third. By contrast, songs in other languages than Norwegian are only sung “rarely” or even “very rarely” on average – this is especially true for Sami<sup>19</sup> songs, which are hardly ever sung (in fact, only 1.2% of teachers sing Sami songs “often” or “very often”).



**Figure 7:** Types of songs teachers sing with the children (1 = very rarely, 4 = very often)

A comparison of the “ordinary” and Singing Kindergartens shows the same pattern for both groups. The only difference is that the Singing Kindergartens sing some genres slightly more often (however, the mean differences are only between 0.1 and 0.2 scale points).

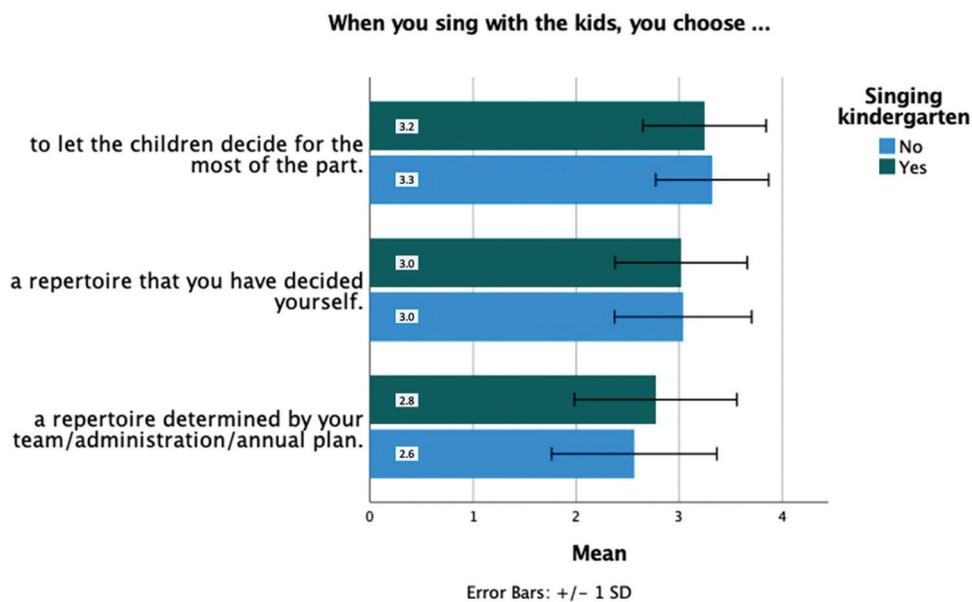
18 Explained variance of the dependent variable:  $R^2_{adjusted} = .28$ ;  $p < .001$ . Standardised Beta coefficients ( $p < .001$ ): .206 (teachers’ gender), .463 (teachers’ musical expertise).

19 The Sami people are the aboriginal people of Norway. Schools and kindergartens are required by Norwegian curricula to disseminate Sami music.

We also asked the teachers about their favourite songs (an open-ended question) and received a wide selection of answers. In line with previous research (Hagen & Haukenes, 2017), the results indicate that kindergartens have a kind of “standard” repertoire – these songs are old, short, musically uniform, and simple. Furthermore, the teachers emphasised songs in connection with holidays and anniversaries, and there was a large selection of Christmas songs.<sup>20</sup> The mentioned songs were often used in connection with topics such as friendship and environmental protection.

*Selection criteria for the singing repertoire*

Figure 8 shows the teachers’ answers regarding factors relevant to their choice of repertoire. On average, the teachers said that they “often” chose the repertoire themselves. Furthermore, administration and curricular guidelines were less relevant to the choice of repertoire. Because curricula traditionally have a great deal of steering power, it is somewhat counterintuitive that teachers found the annual plan (Framework Plan) to be the least relevant. One interesting finding is that the children had the strongest influence on the kindergarten teachers’ choice of repertoire. Again, a comparison between the two kindergarten groups (Singing versus “ordinary”) shows only marginal differences.



**Figure 8:** Relevant criteria for the choice of repertoire (1 = very rarely, 4 = very often)

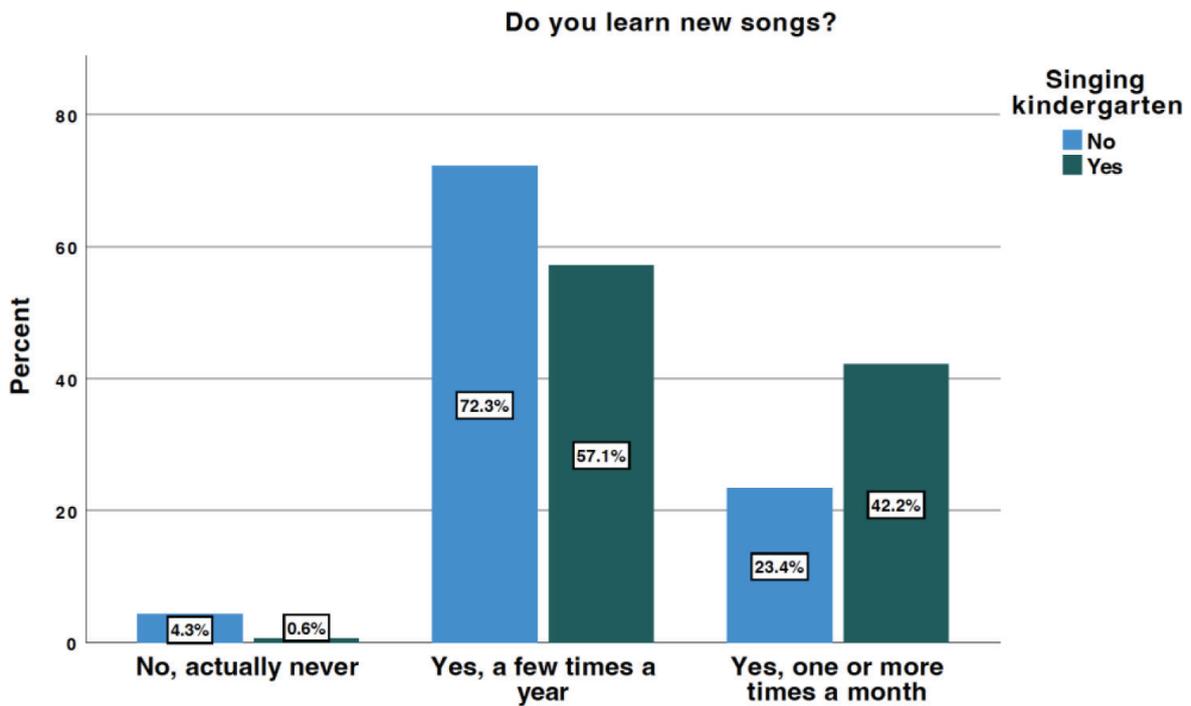
Another selection criterion can be found in the teachers’ cultural background. A migration background was reported by 14.1% of the kindergarten teachers. A large

<sup>20</sup> Data collection was conducted in November.

proportion of these teachers (55.9%) stated that they used songs from their non-Norwegian childhoods.

*Ways teachers learn new songs*

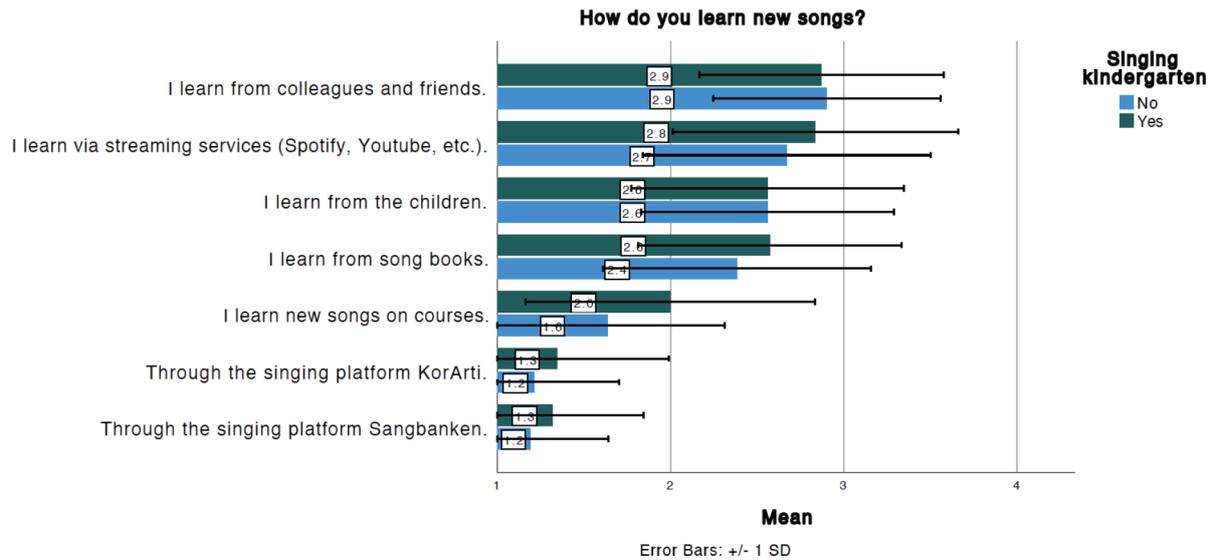
We asked the teachers how often they learned new songs. Figure 9 shows that almost all teachers learned at least a few songs over the course of a year. However, if we look more closely at the individual categories, we actually find major differences between the “ordinary” and Singing Kindergarten teachers: Only 23.4% of the “ordinary” kindergarten teachers but 42.2% of the Singing Kindergarten teachers learned new songs frequently (i.e., at least once a month).<sup>21</sup>



**Figure 9:** Teacher statements regarding the frequency of learning new songs

Additionally, we asked the teachers how they learned new songs. Figure 10 shows that most teachers rarely used the available learning resources – this was true for collections of materials, as well as for workshops/courses. In contrast, the most commonly used learning strategies of kindergarten teachers were to either learn new songs from colleagues and friends or use streaming services for this purpose. Interestingly, it is the children themselves who are named in third place by the teachers as an important source of learning.

<sup>21</sup> This group difference was significant,  $\chi^2(2, N = 641) = 23.3, p < .01$ .



**Figure 10:** Teachers' learning resources for song learning (1 = very rarely, 4 = very often)

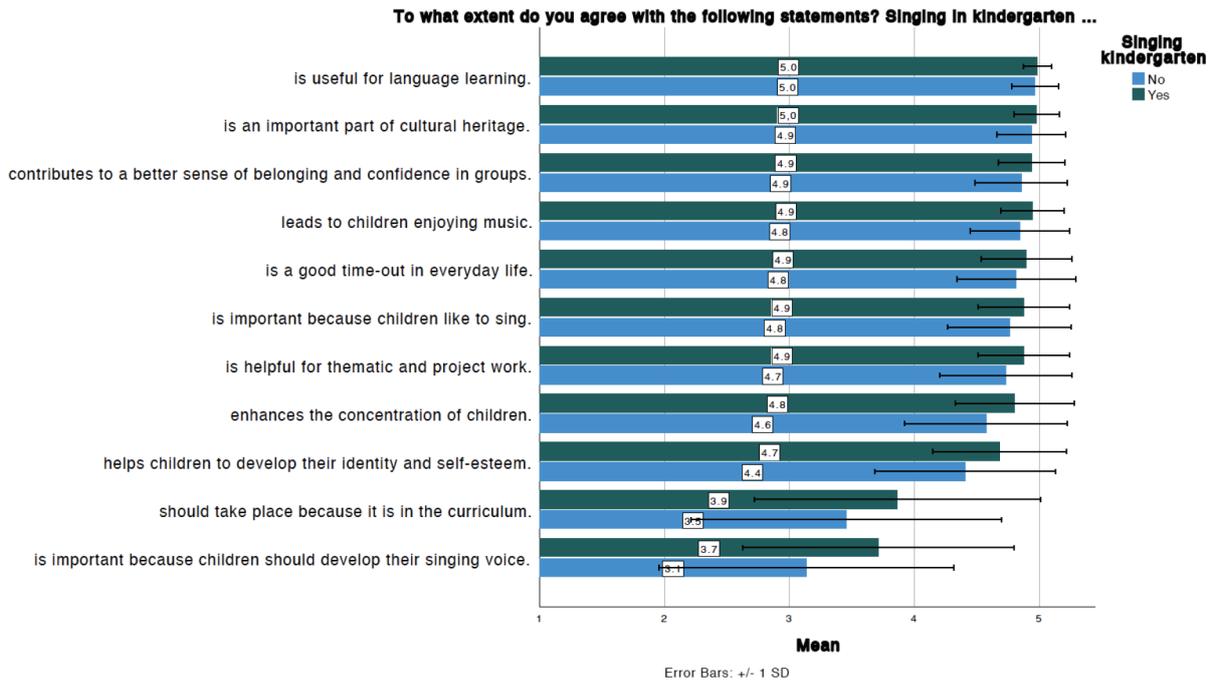
Regarding the two teacher groups (Singing versus “ordinary”), we only find a slightly larger difference for one item: Singing Kindergarten teachers attend courses to learn songs slightly more often, but even they do this only “rarely” on average.

#### *Teachers' goals and beliefs regarding singing in kindergartens*

In the last section of the questionnaire, we asked the teachers about their personal singing-related goals and the effects they believed singing could have. Figure 11 shows that most items had scores above 4.4. The teachers strongly agreed that singing is useful for language learning, is an important part of cultural heritage, contributes to a better sense of belonging and confidence in groups, leads to children enjoying music, is a good time-out from everyday life, is important because children like to sing, is helpful for thematic and project work, enhances the concentration of children, and helps children to develop their identity and self-esteem. In sum, the teachers assumed that singing leads to especially positive psychological, social, and cognitive effects in children.

Only two statements received scores below 4 (*partially agree*): on average, the teachers rate the statement “singing should take place because it is in the curriculum” as significantly less important. Interestingly, the statement that received the least positive response was the only one related to musical development in terms of skills: “singing is important because the children should develop their singing voices”. When looking at the two groups of teachers (“ordinary” versus Singing Kindergartens), it is also precisely these two items where major differences occur. Both times, the Singing Kindergarten teachers show a significantly higher level of agreement – the difference is particularly large with regard to the item regarding the relevance of the development of singing skills.<sup>22</sup>

<sup>22</sup> Curriculum:  $t(281.5) = 3.74, p < .001, d = .34$ . Singing voice development:  $t(280.4) = 5.44, p < .001, d = .49$ .



**Figure 11:** Teachers' singing-related goals and beliefs (1 = disagree, 3 = neutral, 5 = agree)

## Discussion

In the Introduction section, we raised the question of whether the status of singing in Norwegian kindergartens is somewhat “threatened”, as suggested by a historical review of kindergarten Framework Plans, as well as various practice initiatives and a few qualitative studies (e.g., Ehrlin & Wallerstedt, 2014; Hagen & Haukenes, 2017; Kulset & Halle, 2020; Schei & Åvitsland, 2016). Based on our data, we cannot confirm these assumptions. As shown, both the appreciation (Figure 2) and frequency of singing (Figure 3 and 4) are quite high among kindergartens in our sample. However, this is certainly not a conclusive result. On the one hand, it must be taken into account that our sample is not representative and likely positively biased toward singing; i.e., the appreciation and frequency of singing are very likely overestimated to a certain extent. On the other hand, a more detailed look at the data leads to more nuanced answers and questions: Although the mean values for the total sample indicate a relatively high status for singing, detailed analyses show that there is nevertheless a certain degree of variance – i.e., there are indeed kindergartens where there is little or even close to no singing with the children. Accordingly, the question can be reformulated as follows: What causes some teachers to sing (very) often, while others sing (very) rarely? In other words, how can the existing variance be explained? Our regression analyses (Table 2) showed that various factors influenced how often teachers sang with children: the teachers’ musical expertise, the teachers’ age, the age grouping of the children, and the appreciation of singing by colleagues. In particular, teachers with a high level of musical expertise who worked in a setting that

valued singing tended to sing very frequently with the children. The latter result corresponds with a study on kindergarten employees by Kulset and Halle (2020), which shows that the importance of a “we” feeling among employees leads to more singing and less voice shame. Furthermore, from a didactical perspective, it is very interesting that a smaller age range in the children’s groups leads to a higher frequency of singing. This result could indicate that teachers may find it more difficult to select suitable songs and apply a suitable singing methodology as the age range of the group of children increases. This hypothesis should be addressed with a corresponding question in a revised questionnaire. Based on the results of the regression analysis, we would like to elaborate on one additional finding: although we almost consistently find in the analyses that there is slightly more singing and variation in Singing Kindertartens, the regression model showed that participation in the Singing Kindergarten programme has no influence on the frequency of singing when various other variables are controlled for. However, this does not mean that Singing Kindertartens are not a relevant factor at all. Even though our study did not allow for any causal conclusions, due to its cross-sectional design, the following hypothesis seems to be reasonable: Singing Kindertartens are likely not so much the cause of more singing but, rather, the result of particularly singing-interested teacher teams succeeding in convincing their administration that their kindergarten should become a Singing Kindergarten.<sup>23</sup> This hypothesis is supported by the fact that the proportion of teachers who rate their musical expertise more highly and have colleagues who also value singing is significantly higher in Singing Kindertartens than in “ordinary” kindertartens. Furthermore, it is quite conceivable that singing-interested teachers whose kindertartens have finally become Singing Kindertartens, receive an additional boost through this change and that their singing activities intensify as a result. In this sense, participation in a special singing programme (such as Singing Kindertartens) may not be understood as the original cause but, rather, as an amplifier for existing attitudes, competencies, and activities. However, to verify these considerations, a longitudinal study would be necessary, one in which kindertartens are included that are not Singing Kindertartens at the start of the study but, rather, join the programme throughout the study.

Through the regression analysis a certain amount of variance (12.9%) could be traced back to several factors. Nevertheless, it is important to point out that further research and further development of the questionnaire is needed here. Firstly, this concerns the measurement of the frequency of singing, which was not sufficiently differentiated in the questionnaire, resulting in a relatively limited amount of overall variance due to a variable that was not normally distributed. In a revised version of the questionnaire, additional response categories will therefore be included. Secondly, the further development of the questionnaire concerns also the factors (predictors), which, on the one hand, must be measured in

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23 It could also be the other way around: kindertartens become Singing Kindertartens, and this leads to the teachers perceiving themselves as more musical and the appreciation of singing in the entire staff increasing.

a more differentiated way in the future.<sup>24</sup> On the other hand, the question of which further factors are potentially relevant and must be included in the revised questionnaire should be considered accordingly.<sup>25</sup> Against this background, our finding that singing has a relatively high status in kindergartens should be reflected upon critically – because the extent to which this result can be generalised and the extent to which the influencing factors found prove to be valid must be left to future studies.

Regarding how the teachers sang songs with children, we found that they mainly sang a cappella and only rarely accompany singing with a piano or guitar. Unfortunately, our data are limited in explaining these results. One potential explanation could be that the teachers sing without accompaniment, because learning an instrument is not necessarily part of kindergarten teacher training (a revised version of the questionnaire should address this). More specifically, we suspect that this finding is at least partly due to a competence deficit rather than a didactic conviction on the part of the teachers. This hypothesis is indeed supported by our analyses – again, it is the musical expertise of the teachers that is strongly related to whether a teacher accompanies the singing or not. There are likely other factors that are relevant but were not covered by the questionnaire (e.g., a lack of appropriate rooms and instruments) – however, if it should become clear in further studies that the teachers would actually like to practice singing in a more varied way but lack the necessary competence for this (e.g., a knowledge of playing the guitar), then it would be important to address this through appropriate qualification offers, such as in-service training.

We asked the teachers not only how they facilitated singing situations but also what they were singing. In line with previous research (Hagen & Haukenes, 2017), our analyses showed that kindergartens have a kind of “standard” repertoire. One interesting finding is that Norwegian songs were clearly favoured, while international and Sami songs were hardly ever sung. Especially the fact that teachers almost completely neglect the singing of Sami songs – although it is explicitly required in the Framework Plan – points to necessary future research. Here, too, the question of whether the explanation is a particular lack of teacher competence or other factors, such as contextual conditions, geographical location, or the personal attitude of a teacher, are crucial areas. Corresponding questions will be included in the revised questionnaire.

Finally, we asked the teachers for their opinions regarding their personal singing-related goals and the potential effects of singing. In sum, teachers strongly agreed that singing has positive psychological, social, and cognitive effects on children – a result in

24 For example, the teachers were not asked how many ECTS credits they had in music-specific subjects, only whether they had any music courses at all in their studies. This means that the variable “music studies” does not differentiate between teachers who, for example, have only taken a single music course worth 5 credits and teachers who have completed a full Master’s degree with a major in music (240 credits).

25 These could be factors at the institutional level (e.g., facilities in kindergartens, resources for in-service training), as well as the individual level (e.g., personality).

line with other studies showing that preschool teachers regard music mostly as a tool to support the development of these skills (Bamford, 2009; Ehrlin, 2012; Gooding, 2009; Hallam, 2010; for a theoretical discussion of various traditions of legitimising music in the Norwegian education system, see also Varkøy, 2015). On the other hand, the only statement that was related to musical skill development (“singing is important because the children should develop their singing voices”) received the lowest score among kindergarten teachers. A more detailed analysis of the teachers’ arguments for singing is to be published elsewhere (Balsnes et al., in review); the results suggest that what goals and beliefs a teacher associates with singing – or whether a teacher considers singing to be a primarily subject-specific and aesthetic practice or, rather, an activity that is relevant/useful for non-musical purposes – depends mainly on the teacher’s gender, work experience, and musical expertise.

In the course of our analyses, we frequently found that teachers’ musical expertise is a crucial factor for how their singing praxis looks like in the kindergartens. Of course, this is not particularly surprising. What did surprise us, however, was the actual musical expertise of the teachers (according to their self-assessments). The teachers in our sample considered themselves significantly less musically competent (42nd percentile) than the general population. This finding is even more dramatic if we focus only on the “ordinary” kindergarten teachers (i.e., we exclude the Singing Kindergarten teachers from the analysis) – then, our sample is at the 38th percentile (i.e., far below average as compared to the general population). If we additionally take into account that our sample is presumably positively biased to some extent (i.e., more interested in singing than the average of all Norwegian kindergarten teachers), we must assume that the “true value” of musical expertise is actually below the 38th percentile. This insight inevitably leads to the question of why people who describe themselves as having below-average musical abilities choose a profession in which musical activity plays an important role. Unfortunately, we cannot provide an answer to this question on the basis of our data. However, a comparison with other studies suggests that our results are not completely surprising for the Norwegian kindergarten context (Angelo, 2021). In a recent study of 1,019 kindergarten student teachers published by Torgersen and Sæther (2021), only 35.6% of the student teachers considered themselves to be musically proficient at the start of their first semester of study. Torgersen and Sæther (2021) conclude their chapter with the hope that kindergarten teacher education will develop students’ musical competence and, thus, students will change the way they evaluate their own musicality. Even though Torgersen and Sæther’s way of measuring musicality is not directly comparable to the operationalisation of musical expertise chosen in our study (Gold-MSI; Müllensiefen et al., 2014), it is remarkable that we still find very similar results among kindergarten teachers after graduation and with some years of professional practice. Whether the evaluation of one’s own musical expertise/musicality is a very stable personality trait or

higher education simply does not foster sufficient musical competence in teachers should be investigated in further studies.<sup>26</sup>

We would like to conclude our article with some methodological remarks. Earlier, we discussed the limitations of the sample in terms of the response rate. Although the analysis of some variables indicated that our sample reflected the conditions of the population well (gender, educational background and geographical location), the analysis of other variables suggested a response bias (e.g., the proportion of kindergartens participating in the Singing Kindergarten programme). The low response rate does not allow for representative conclusions based on our data. Thus, we have already started a follow-up study with a systematic sampling approach to obtain nationally representative data, with the revised questionnaire to allow for further analysis.

One central objective of this study was to ensure the comprehensibility, psychometric quality, and differential quality of the questionnaire. Although some questions and items required revision because they did not differentiate sufficiently between individuals or did not cover content areas comprehensively enough (see discussion above), a major part of the questionnaire has the necessary quality and can be used accordingly for research on singing in Norwegian kindergartens and schools. The final revised questionnaire will be published after the follow-up study.

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<sup>26</sup> In this context, the results of the LongGold study, which investigates the development of musical expertise on a longitudinal basis, are likely to be interesting. Unfortunately, however, no kindergarten teachers are part of the study (Müllensiefen, 2017).

children's songs, and use of digital tools in music education. Further information: <https://www.oslomet.no/om/ansatt/livanha/>

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