



Article

COVID-19: Uses and Perceptions of Music during Lockdown from a Gender Perspective

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Abstract: Starting in the middle of March 2020, various lockdown measures and degrees of confinement were put in place in most European countries as a result of the COVID-19 pandemic. Although this situation meant that more people were likely to experience poorer mental health, largely due to the imposition of social distancing measures, many individuals incorporated music into their coping routines to help improve their psychological well-being. Using a gender perspective, this study analyzes how individuals used music during lockdown and explores the differences between men's and women's views on the impact that listening to and making music has on their perceived level of well-being. A questionnaire, MUSIVID19, was administered to a sample of 1868 participants from all the autonomous regions in Spain. The results reveal that in the uses and perceptions of music, the stereotypes underlying the patriarchal system were also reproduced during confinement.

Keywords: gender; music; music perceptions; COVID-19



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1. Introduction

The COVID-19 pandemic has had profound effects on people worldwide since its emergence in December 2019. To curb the spread of the virus, numerous countries, including those in Europe, declared public health emergencies and implemented confinement measures. In Spain, these measures began on 16 March 2020, with citizens required to stay at home, social distancing enforced, and non-essential industries shut down (Tobías 2020). Subsequently, on 30 March, even stricter lockdown measures were imposed, aimed at further limiting mobility and allowing access only to essential stores nationwide (Mitjà et al. 2020). This study took place during this period of confinement, allowing for an examination of its effects.

While confinement successfully slowed down the spread of the virus, it also had a negative impact on individuals' psycho-social well-being (Puertas-González et al. 2021; Rodríguez-Rey et al. 2020; Sandín et al. 2020; Zhang et al. 2022). Social distancing measures, as well as other changes in people's circumstances, increased the probability of new mental health problems and exacerbated existing mental illnesses (Caballero and Campo 2020). In the absence of interpersonal communication, disorders associated with depression or anxiety are more likely to arise or worsen (Xiao 2020; Zandifar and Badrfam 2020). These factors influence the social realm, emphasizing the need for research that delves into the short- and long-term effects of this confinement on people's lives, especially those most vulnerable, in order to understand the impact on physical, social, and psychological well-being. In this regard, the preamble of Recommendation 205 on employment and decent work for peace and resilience of the International Labour Organization (2017) states the

need to recognize that crises affect women and men differently. This occurs because an androcentric perspective has been imposed, which disregards the feminine perspective and assumes that issues affecting men as a collective can be generalized to all of humanity, neglecting the specific challenges faced by women, their activities, their time management, their modes of perception and emotion, and their viewpoints on reality (Durán 2000). Fortier (2020) cites a significant number of studies (e.g., Allen et al. 2000; Almqvist and Duvander 2014; Bakker 2007) that demonstrate how women are negatively impacted by a range of socioeconomic challenges, many of which have been exacerbated by the COVID-19 pandemic and particularly affect their well-being. These studies underscore that women disproportionately assume caregiving responsibilities, largely due to gender roles. This renders women particularly susceptible to short- and long-term economic insecurity (with jobs that are sometimes less prioritized than those of men, part-time, with lower and less stable incomes), and decreased well-being. For all these reasons, it is necessary to raise awareness of this situation and conduct research that has a gender focus to avoid this type of generalization.

The pandemic impacted the psychological well-being of men and women in different ways. Although COVID-19 was less prevalent among women than men (Conti and Younes 2020), confinement had more severe effects on women's psychological well-being (Amnistía Internacional 2020; García 2020; Wang et al. 2020). Some of the reasons for this included the fact that the lockdown measures had a significant impact on service-oriented industries, which typically exhibit a high level of female employment (Osland et al. 2020), disproportionately affecting women. Moreover, owing to gender role stereotypes, women undertake a disproportionate amount of unpaid caregiving responsibilities, exacerbated by the lack of support systems (e.g., extended family) during the pandemic (Collins et al. 2020). Sandín et al. (2020) found that, during the pandemic, likely due to the caregiving roles they assumed as dictated by gender stereotypes, women exhibited more symptoms of post-traumatic stress associated with lower sleep quality, increased apprehension regarding the health or mortality of family members, and the inability to visit close family or friends. Furthermore, some women faced a greater risk of gender violence due to being confined with their aggressors (Fortier 2020).

Sandín et al. (2020) also found that women were more inclined to seek positive experiences during the pandemic. Among the positive experiences sought by the general population, Cabedo-Mas et al. (2021) found that during confinement, music was used as a means to relax, escape, and improve mood, which also resulted in an enhancement of the perception of the value of music in relation to personal and social well-being.

Music, Gender and Uses of Music

Music has been shown to have a positive effect on improving psychological and social well-being (Campayo-Muñoz and Cabedo-Mas 2017; Croom 2015; Daykin et al. 2017; Lamont 2012). Existing research has described music's function in daily life as a tool through which to manage stressful situations or experiences (Henry et al. 2021). Similar effects have been examined in challenging circumstances such as isolation or confinement (Edri and Bensimon 2019).

Listening to music makes us feel connected to others and may help to create a sense of belonging (Ziv and Hollander-Shabtai 2022). Other contextual and personal variables could also influence the effect of music on emotional well-being during confinement, as would be expected when considering prior results on personal and contextual variables, both on the use of musical behaviors for affect regulation, well-being and the emotional effects of the lockdown on Spanish citizens (Martínez-Castilla et al. 2021). Different studies (Soares-Quadros Júnior et al. 2019; North et al. 2000; Upadhyay et al. 2017) have found a significant relationship between gender and the more social and emotional use of music, which means that women, in contrast to men, are more likely to listen to music for emotional and social reasons. Specifically, they listen to music to experience positive emotions, to escape from routine, and to socialize with other people. Along the same lines, they are more likely

to respond to the emotional effects of music (Manolika et al. 2021). Furthermore, Soares-Quadros Júnior et al. (2019), along with Upadhyay et al. (2017), found that women prefer certain music that helps them in expressing themselves; this means that music provides a creative way to share internal emotions, thoughts and experiences. This occurs especially when this music helps them to express themselves through dancing (Amado et al. 2017).

North et al. (2000) found marked gender differences in adolescents' reasons for listening to music. Girls were more likely to state that music could be used as a means to regulate their mood or satisfy their emotional needs. However, boys listened to music for the impressions it can make on others, even though they stated that they usually listened to music alone. North et al. (2000) also relate gender stereotypes to young people's ideas about whether certain instruments are primarily for boys or girls. For this, their study suggests that adolescent boys, in particular, assume gender stereotypes and models associated with music, not only in regard to the musical styles they listen to (the study mentions, for example, the image of male pop/rock musicians who mainly play guitar and drums), but also to everyday musical practices (choice of instrument, preference for different forms of participation in music, etc.).

In a study by DeNora (2000) on the use of music in the lives of women, music was found to be a significant resource in women's memory and emotional lives, indicating that, for example, in relation to the role of music in intimate culture, "women value the temporal structures and embodied practices commensurate with a slow pace, with leisured intimate activity" (pp. 178–79). Boer et al. (2012) and Dobrota et al. (2019) found that the music preferred by women is more related to emotional and/or social reasons. The female listeners interviewed in both investigations included affective and contemplative elements among their reasons for listening to music, which was not the case in the male respondents. In addition, Colley (2008) conducted an examination of the relationship between gender-related traits and the breadth of musical taste, thereby updating and expanding upon previous works on gender differences in musical preferences and their structure. In accordance with the obtained results, it is concluded that being male or female is a predictive factor for preference towards gender styles. Young men tend to value a wider range of styles than young women, but expressive traits associated with feminine stereotypes were found to correlate with a higher appreciation of styles. This suggests a linkage between the reinforcement of expressive traits in gender role socialization and the development of musical behavior.

Several authors state that this enhanced feeling of well-being essentially occurs when people actively engage in musical practices in a social context (Wuttke-Linnemann et al. 2019). By approaching music from this perspective, we highlight the definition of music as a practice, with a focus on the individuals who participate in the musical action or activity and on the social and cultural context in which they do so, given that "music is much more than a theoretical, formal language; it is a social phenomenon in which composers, musicians, and listeners converge and interrelate in a wide range of spaces, times and ways" (Loizaga 2005, p. 169). We, therefore, consider musical practice as an active engagement with music. This occurs when people intentionally devote time and attention to listening to music and, especially, to making music, engaging in activities such as singing, playing an instrument, dancing, composing, etc.

In terms of the enhancement of well-being related to musical practices in social contexts, music has often been cited as a particularly useful medium for group cohesion in group musical activities such as singing or playing instruments (Tarr et al. 2014; Pearce et al. 2015), or with group listening activities such as going to concerts together (Papinczak et al. 2015). In this regard, studies such as those conducted by Kokotsaki and Hallam (2007) acknowledge the potential of music to foster a sense of belonging, facilitate personal identity formation, and promote group cohesion. However, most of these group activities were restricted during lockdown or were difficult to carry out. During the lockdown situation, numerous digital electronic devices, now common in many homes, provided immediate access to music. This instant availability allowed people to develop certain

habits to break the routine or to accompany them while they worked from home. It should be noted that people who listen to recorded music are also taking part in the musical experience by encountering, interpreting, or reinterpreting the music in their own personal way. According to Finnegan (2003, p. 8), “‘listening’ to recorded music covers a wide spectrum of possibilities, purposes, levels of attention and contexts” which may be closely intertwined with the listeners’ lives. Although we might assume that listening to recorded music was already an intrinsic part of people’s lives, the ways in which the music is experienced, how it is interpreted, or how individuals express what they listen to during confinement provides interesting data about the lockdown experience, information that is even more revealing if we take the listener’s gender into account. The same occurs when musical practices such as playing an instrument, singing, or dancing are explored in terms of analyzing different aspects according to gender.

This research has two main objectives:

First, to investigate how Spanish individuals utilized music during periods of strict confinement, examining whether they reported an increase or decrease in the time spent engaging with musical activities, and analyzing any variations based on gender.

Second, to assess gender differences in perceptions regarding the importance of music for enhancing personal and social well-being during lockdown.

2. Materials and Methods

2.1. The Setting and Procedures

The study primarily focused on descriptive analysis, aiming to gather data on various aspects, dimensions, and components of the phenomenon under investigation (Hernández et al. 2021). Data collection was conducted through a nationwide survey in Spain. The questionnaire, named MUSIVID19, utilized the Google Form application and was disseminated via social media and university institutional channels. MUSIVID19 was available for responses from 3 April to 18 April 2020. Participants provided informed consent as part of the questionnaire.

Researchers from two universities situated in different regions of Spain collaborated on the design of the questionnaire. Prior to its administration, the questionnaire underwent review by ten experts from various fields including educational research methods, pedagogy, psychology, music, and music education. A pilot study involving 20 respondents was conducted to refine the questionnaire before its final distribution. The sample comprised 1868 participants from all autonomous communities of Spain. While “missing data” were minimal, not all participants answered every question, resulting in a varying N = 1868 throughout the study. Of the participants, 69.3% were women and 30.7% were men, with ages ranging from 18 to 84 years, demonstrating a Gaussian distribution tendency [Figure 1]. The distribution showed good symmetry, with a mean age of 42.52 years (CI at 0.95: 41.9–43.2; standard deviation \pm 13.96 years), closely aligning with the median age of 42 years. Just over 5% of the participants were over 65 years old, and only 6 people were \geq 80 years old.

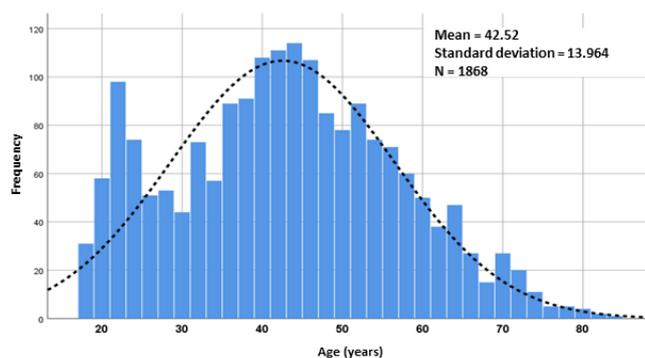


Figure 1. Composition of the sample according to AGE. (N = 1868).

The study revealed that a considerable majority of respondents, accounting for 88.1%, resided with others, while just under half, at 43.1%, shared their living space with minors. Moreover, a significant proportion of the surveyed individuals, amounting to 74.8%, possessed a university degree, whereas a mere 3.6% had completed only primary education or less. In terms of employment during the COVID-19 lockdown, slightly over half, standing at 51.9%, carried out their work remotely from home, while 10.1% continued to work outside the home. The remaining participants were not engaged in active employment due to various reasons. Ethical review and approval were waived for this study due to the low-risk nature of the research and the absence of potential harm to participants. The collected data did not include any information that could enable the identification of participants, as no details such as names or information of the identities were gathered. The survey was distributed using a snowball sampling method. The authors of the article are unaware of the respondents' identities. Additionally, all participants who indicated being underage or did not specify their age range were excluded from the sample. A clause was included in the survey, outlining the implications of participation and obtaining authorization to utilize the provided information.

2.2. Measures

To carry out the design and development of the questionnaire, the researchers created a first draft which consisted of several demographic-related questions and three sections: (1) musical participation during confinement; (2) uses and knowledge of COVID-19 musical initiatives, and; (3) perceptions about the impact of music. The survey initially included 30 items that were distributed in each of the three sections described.

Musical participation during confinement: This section aimed to gather data on individuals' reported frequency of engaging with music and their perceptions regarding the extent to which they currently utilize musical activities compared to pre-confinement times. The survey sought to explore potential curiosity in expanding musical preferences during the confinement period, specifically by inquiring whether participants had been listening to a wider range of musical genres or had discovered new musical groups.

Uses and knowledge of COVID-19 musical initiatives: This section aimed to gather insights into participants' awareness of various social initiatives utilizing music that emerged during the confinement period. Participants were asked about their familiarity with musical projects aimed at enhancing personal and social well-being, led by both professional musicians and amateurs. These initiatives included streaming open concerts, musical campaigns, open access platforms, free online music lessons, collaborative musical creation endeavors, and activities like playing music on balconies. Additionally, the survey aimed to capture data on participants' engagement with these initiatives, including which types of initiatives were more commonly utilized.

Perceptions about the impact of music: In this final section, participants were asked about their perceptions regarding the potential of music to enhance various aspects of well-being, such as providing relief, fostering trust, alleviating anxiety or loneliness, boosting mood, aiding in coping with difficult situations, and fostering a sense of connection with others. Additionally, the survey aimed to gather data on how the current situation had influenced participants' views on the value of music, its ability to enrich leisure time, its impact on well-being and the societal appreciation of musicians, and the role of music in education. This aspect pertains to the desired model of human beings and society, exploring the potential of arts, particularly music, to bolster the development of diverse realms of experience and forms of expression grounded in ethical, aesthetic, and social values through education.

To carry out the validation of the questionnaire, a qualitative expert judgment was performed. Expert judgment is a validation method used to verify the reliability of research that is defined as "an informed opinion of people with a track record in the subject matter, who are recognized by others as qualified experts in the subject matter, and who can provide information, evidence, judgments and assessments" ([Escobar-Pérez and Cuervo-](#)

[Martínez 2008](#), p. 29). A total of ten national and international experts in the field were asked to include comments on each of the items. Once the reports were submitted, and taking into account the experts' suggestions, the survey finally included 22 questions, most of them consisting of a 5-point Likert-type scale and some of them including single or multiple-choice responses. We assessed the reliability of the questionnaire. While not all questions have the same response format, the only option utilized was the Intraclass Correlation Coefficient, akin to the Cronbach's Alpha equation method. The result obtained is 0.873 (95% CI: 0.862–0.884) on a scale of [0–1], indicating a high level of reliability.

2.3. Data Analysis

The analysis of the questionnaire includes contrast descriptive and inferential statistics. The classical parametric methods could be disregarded due to the clear asymmetries observed in the distributions of these variables and be replaced by non-parametric alternatives. However, the high N we had implied that the results of these alternatives are very similar to those of classical parametric tests. As suggest by [Tanujaya et al. \(2022\)](#), nonparametric statistics have less power than parametric tests when tested on large samples. Hence, given the considerably large sample size of this study, parametric statistics were used in this research. Moreover, the margin of error considering the total N of the sample in relation to the population is $\pm 2.25\%$, and this is small enough to consider statistical representativeness ([McEwan 2020](#)). The study utilized the chi-square test to ascertain significant differences between categorical variables, accompanied by effect size calculations to gauge the magnitude of these differences. Effect size estimation was conducted using the R^2 scale derived from the square of the Cramer's V index. For variables presented in Likert response format, contrasts were conducted employing parametric methods such as Student's t-test and ANOVA. Additionally, effect size values were calculated to evaluate the magnitude of differences, allowing for comparisons with those identified through other procedures. This was achieved by expressing the effect size in R^2 format, obtained through the conversion equation from Cohen's "d".

3. Results

The first block of questions in our survey correspond to participation in music during confinement. [Table 1](#) shows that a high percentage of respondents reported listening to music every day, with the largest group, 45.6% ($n = 712$), doing so between one and two hours a day. In this case, we found no significant differences in the amount of time men and women spent listening to music.

There were, however, notable differences regarding musical diversity during lockdown. According to our data, women were more likely than men to discover new styles of music. In turn, 35.4% of the women surveyed were aware of and followed musical projects designed to contribute to people's well-being and did so to a greater extent than men (21.7%), a difference that was also statistically significant. However, men actively participated in projects more frequently than women (31.3% of men vs. 21.1% of women).

Regarding the second block of questions, as shown in [Table 2](#), uses and knowledge of COVID-19 musical initiatives during confinement, nearly all the respondents (96.3%) listened to music during lockdown as much as or more than they previously did. No significant differences were found between men and women in this regard.

Table 1. Comparative inferential analysis of women and men: Participation in music during confinement.

VARIABLES/Categories	Total Sample	Percentage		Chi-Squared Test		Effect Size
		MEN	WOMEN	Value	p Value	
FREQUENCY OF LISTENING TO MUSIC	(N = 1865)	(n = 573)	(n = 1292)	2.58 NS	0.462	0.001
<1 time/week	1.8%	1.7%	1.9%			
1–2 days/week	4.6%	4.5%	4.6%			
3–5 days/week	10.0%	8.4%	10.8%			
Every day	83.6%	85.3%	82.8%			
HOURS LISTENING TO MUSIC	(N = 1558)	(n = 489)	(n = 1069)	4.39 NS	0.222	0.003
<1 h/day	11.0%	9.8%	11.6%			
1–2 h/day	45.7%	44.2%	46.4%			
3–5 h/day	31.4%	31.9%	31.2%			
>5 h/day	11.9%	14.1%	10.9%			
MUSICAL DIVERSITY	(N = 1852)	(n = 567)	(n = 1285)	7.80 **	0.005	0.004
Always listens to the same music	73.7%	78.0%	71.8%			
Discovered new musical styles	26.3%	22.0%	28.2%			
DISCOVERED NEW GROUPS	(N = 1845)	(n = 566)	(n = 1279)	0.06 NS	0.813	0.000
Yes	53.1%	52.7%	53.2%			
No	46.9%	47.3%	46.8%			
KNOWLEDGE OF MUSICAL INITIATIVES	(N = 1855)	(n = 568)	(n = 1287)	42.32 **	0.000	0.023
No knowledge	6.6%	7.6%	6.1%			
Has heard about them	38.0%	39.4%	37.4%			
Knows about and follows them keenly	31.2%	21.7%	35.4%			
Knows about and has participated in them	24.3%	31.3%	21.1%			

NS = Not significant at 5% ($p > 0.05$) ** = Highly significant at 1% ($p < 0.01$). In bold, categories in which significance is appreciated (residual ≥ 2).

Table 2. Comparative inferential analysis of women and men: Uses and knowledge of COVID-19 musical initiatives.

VARIABLES/Categories	Total Sample	Percentage		Chi-Squared Test		Effect Size
		MEN	WOMEN	Value	p Value	
LISTENING TO MUSIC	(N = 1850)	(n = 568)	(n = 1282)	4.12 NS	0.128	0.002
Less than before	3.7%	4.8%	3.3%			
The same as before	46.5%	48.2%	45.7%			
More than before	49.8%	47.0%	51%			
SINGING	(N = 1694)	(n = 494)	(n = 1200)	31.28 **	0.000	0.018
Less than before	8.7%	9.9%	8.2%			
The same as before	65.0%	73.1%	61.7%			
More than before	26.3%	17.0%	30.2%			
DANCING	(N = 1690)	(n = 485)	(n = 1205)	90.61 **	0.000	0.054
Less than before	14.2%	17.3%	12.9%			
The same as before	54.2%	68.0%	48.6%			
More than before	31.6%	14.6%	38.4%			
PLAYING AN INSTRUMENT	(N = 1511)	(n = 493)	(n = 1018)	11.39 **	0.003	0.008
Less than before	13.5%	10.8%	14.8%			
The same as before	56.4%	54.0%	57.6%			
More than before	31.6%	35.3%	27.6%			
LISTENING TO OTHER MUSICAL STYLES	(N = 1637)	(n = 503)	(n = 1134)	2.52 NS	0.283	0.002
Less than before	5.3%	6.4%	4.9%			
The same as before	62.9%	63.8%	62.4%			
More than before	31.8%	29.8%	32.7%			

NS = Not significant at 5% ($p > 0.05$) ** = Highly significant at 1% ($p < 0.01$). In bold, categories in which significance is appreciated (residual ≥ 2).

However, some statistically significant gender differences were seen in active musical practices. Men were more likely than women to play an instrument more during confinement than before (35.3% vs. 27.6%). In turn, women sang and danced more than they did before the health crisis. Specifically, women tended to sing more than before (30.2% vs. 17.0%) while the men sang to the same extent as during the pre-confinement period (73.1% vs. 61.7%), both of which are significant differences; women also danced more than men (38.4% vs. 14.6%) while men danced as much as they had previously (68.0% vs. 48.6%). Finally, 62.8% of the participants reported listening to other musical styles as much as before lockdown, compared to 31.8% who claimed to do so more frequently.

Although there is a slight variation in the response percentages in the third block of questions about perceptions of the psychological impact of music during confinement, the differences in the average values for men and women are neither large nor significant. Data is provided in Table 3.

Table 3. Comparative inferential analysis of women and men: Perceptions of the impact of music.

VARIABLES: MUSIC...	Total Sample	Average Value (Standard Deviation)		Chi-Squared Test		Effect Size
		MEN	WOMEN	Value	p Value	
HELPS YOU RELAX	4.27 (0.92)	4.23 (0.93)	4.29 (0.92)	1.33 NS	0.183	0.001
(sample sizes)	(N = 1833)	(n = 560)	(n = 1273)			
% of categ. A LOT	53.1%	49.6%	54.6%			
HELPS YOU ESCAPE	4.32 (0.92)	4.25 (0.97)	4.34 (0.89)	1.94 NS	0.053	0.002
(sample sizes)	(N = 1818)	(n = 555)	(n = 1263)			
% of categ. A LOT	56.1%	52.6%	57.6%			
IMPROVES MOOD	4.44 (0.84)	4.40 (0.86)	4.46 (0.83)	1.24 NS	0.215	0.001
(sample sizes)	(N = 1830)	(n = 555)	(n = 1275)			
% of categ. A LOT	62.9%	60.4%	64.0%			
KEEPS YOU COMPANY	4.35 (0.91)	4.32 (0.95)	4.36 (0.89)	0.96 NS	0.339	0.001
(sample sizes)	(N = 1825)	(n = 554)	(n = 1271)			
% of categ. A LOT	58.1%	56.9%	58.6%			
HELPS YOU COPE BETTER WITH CONFINEMENT	4.20 (1.01)	4.16 (1.04)	4.22 (0.9)	1.33 NS	0.184	0.001
(sample sizes)	(N = 1826)	(n = 556)	(n = 1270)			
% of categ. A LOT	51.5%	48.6%	52.8%			
BOOSTS CONFIDENCE/POSITIVITY	4.19 (0.98)	4.12 (1.02)	4.22 (0.96)	1.92 NS	0.054	0.002
(sample sizes)	(N = 1810)	(n = 549)	(n = 1261)			
% of categ. A LOT	49.9%	46.8%	51.3%			
IMPROVES CONNECTION WITH OTHERS	4.09 (1.06)	4.07 (1.09)	4.11 (1.05)	0.75 NS	0.452	0.000
(sample sizes)	(N = 1770)	(n = 538)	(n = 1232)			
% of categ. A LOT	46.9%	46.5%	47.1%			

NS = Not significant at 5% ($p > 0.05$).

However, perceptions of the social value of music revealed statistically significant differences in all variables, as shown in Table 4. Women scored higher than men in all the items in this section, showing that during lockdown women’s perceptions of the value of music (3.54 for women vs. 3.34 for men), the value of the work of musicians (3.66 for women vs. 1.24 for men), the role of music in education (3.71 for women vs. 3.48 for men), the value of music to enrich free time (3.82 for women vs. 3.66 for men), and the influence of music on personal well-being (3.84 for women vs. 3.64 for men) were higher than those of the men.

Table 4. Comparative inferential analysis of women and men: Perceptions of the impact of music II.

VARIABLES	Total Sample	Average Value (StandardDeviation)		Chi-Squared Test		Effect Size
		MEN	WOMEN	Value	p Value	
THE VALUE OF MUSIC	3.48 (1.31)	3.34 (1.40)	3.54 (1.27)	3.04 **	0.002	0.005
(sample sizes)	(N = 1810)	(n = 555)	(n = 1255)			
% of categ. A LOT	30.8%	28.8%	31.7%			
THE VALUE OF THE WORK OF MUSICIANS	3.59 (1.29)	3.43 (1.39)	3.66 (1.24)	3.46 **	0.001	0.007
(sample sizes)	(N = 1806)	(n = 553)	(n = 1253)			
% of categ. A LOT	33.8%	30.9%	35.1%			
THE ROLE OF MUSIC IN EDUCATION	3.64 (1.30)	3.48 (1.40)	3.71 (1.25)	0.355 **	0.000	0.007
(sample sizes)	(N = 1811)	(n = 555)	(n = 1256)			
% of categ. A LOT	36.7%	33.7%	38.1%			
MUSIC ENRICHES FREE TIME	3.77 (1.23)	3.66 (1.32)	3.82 (1.19)	2.69 **	0.007	0.004
(sample sizes)	(N = 1814)	(n = 557)	(n = 1257)			
% of categ. A LOT	39.0%	36.4%	40.2%			
INFLUENCE OF MUSIC ON PERSONAL WELL-BEING	3.78 (1.24)	3.64 (1.33)	3.84 (1.19)	3.31 **	0.001	0.006
(sample sizes)	(N = 1830)	(n = 560)	(n = 1270)			
% of categ. A LOT	39.8%	36.3%	41.4%			

** = Highly significant at 1% ($p < 0.01$). In bold, significantly higher average values.

4. Discussion

The results of this study did not show statistical differences in the time women and men reported listening to music. We, therefore, did not find any evidence to conclude that the time listening to music was determined by gender during confinement. However, the research revealed that women explored new musical styles more than men did. Previous literature (Hagendoorn 2003; Tepper and Hargittai 2009) affirms that discovering new music has positive benefits such as generating pleasure and stimulating enjoyment and appreciation of music. As Dobrota et al. (2019) noted, women prefer a wider variety of music and, consistent with North et al. (2000), Spanish women more widely explored music and the positive benefits associated with it during confinement.

Similarly, women are more likely than men to follow music projects aimed at improving personal well-being, although men engage actively in these projects. For years, many women authors have drawn attention to the difficulties women who want to actively participate in music face both in historic musicology (Citron 1993; Green 1997) and in popular music (Frith and McRobbie 1978; Mercer-Taylor 1998; Bayton 1998). Although the obstacles identified include lack of money or time, these are problems that can also affect men. According to Kozel (2019), despite the increased visibility of women in recent years, women are chronically underrepresented in virtually every aspect of music, both onstage and off, whether as musicians or as executives. The distribution of and access to music outside the domestic sphere historically led to criticism of women that could affect their work, which on numerous occasions discouraged them from participating in public spaces. According to research, although women in Spain participated and followed musical initiatives, men were more present in leading and publicly participating. Schmutz and Faupel (2010) found this effect even in the cultural consecration of female artists in popular music because music critics tend to lend legitimacy to male artists more frequently based on historical importance, artistic autonomy, and high art, emphasizing, for example, their

autonomy in the creative process, the originality, and complexity of their music, while portraying female artists through their personal and professional connections and in terms of their emotional authenticity. Gender, therefore, continues to have a significant effect on determining the disadvantages and difficulties women artists face in gaining legitimacy in the dissemination and visualization of their music.

The results of this study confirm that, compared to women, men played an instrument more frequently during lockdown than previously, whereas women sang and danced more often. These results again reproduce the music stereotypes underpinning the patriarchal system. It seems that, according to [Green \(1997\)](#), in all ages, even though women's approach to music has been limited, women have had more freedom to sing than to play. The possibility of playing an instrument has been one of the most significant differences between men and women throughout history, because women have been more involved with domestic tasks and lifecycle events (birth, marriage, and death), which are closely associated with singing ([Carrasco and Herrero 2015](#); [Ho 2003](#)). In addition, men have had more freedom to participate in different musical activities and have received greater public recognition. Moreover, women's limited access to the public sphere has left the way open for men to dominate music production and the music industry, while women play subordinate roles ([Ramos 2003](#)). This subordination is also still associated with the traditional female role: the passive muse, established in ancient Greece, as the source of inspiration, in contrast to the active role of men as composers and creators. Indeed, as [Wolfe \(2019\)](#) indicates, today "The field of popular music production is overwhelmingly male dominated" (p. iii). Thus, as women may not always see themselves as creators, they easily became recipients of music, a role which continues today in the concept of the female fan ([Hill 2016](#)).

The results of this study also reveal that women sing more than they did before confinement; this may be because, for women, higher life satisfaction is associated with singing, theatre, and dancing, but the well-being benefits are limited to dancing for men ([Cuyppers et al. 2012](#)). What seems to be clear is that active methods of music engagement generally provide greater individual benefits than passive engagement ([Kokotsaki and Hallam 2007](#)). In this sense, women are more likely than men to listen to music for enjoyment, consolation, releasing negative emotions, or reducing loneliness ([Lonsdale and North 2009](#); [Chamorro-Premuzic et al. 2012](#); [Ter Bogt et al. 2017](#)).

The study also provides significant evidence of the differences in men's and women's perceptions of the value of music. Women increased their appreciation of the value of music, the work of musicians, the role of music in education, the value of music in enriching free time, and its influence on personal well-being more than men. In some ways, this sentiment had already been identified before the pandemic by [Hargreaves et al. \(1995\)](#), who suggested that women place greater value on music, are open to listening to a greater number of musical styles, and show a greater preference for music in general. Women may also have a more positive perception of how music can potentially improve other people's psychological and social well-being, but compared to how much they think music affects their own lives, there are no significant differences between women and men (although the average values for women are more positive in all categories). This aspect is of vital importance given that the impact of COVID-19 on Spanish people's psychological well-being during the initial stages of the pandemic revealed high levels of depression, anxiety, and post-traumatic stress disorders ([Cabedo-Mas et al. 2021](#); [González-Sanguino et al. 2020](#); [Ozamiz-Etxebarria et al. 2020](#)).

Even though the reported differences by gender have been justified through high statistically significant differences ($p < 0.01$), there are certain limitations that readers must consider when analyzing the results and conclusions derived from this research. The first and most evident limitation is the asymmetry in the sample between male (69.3%) and female respondents (30.7%). Given the fact that the survey was disseminated through university institutional channels and there are many more female students than male students in Spain, this asymmetry could be expected and is consistent with previous research in similar contexts ([Marchena et al. 2020](#); [Rodríguez-Larrad et al. 2021](#)). However, as stated by

Pernagallo (2024), this asymmetry could also cause several biases. Another important limitation is that the study has not addressed respondents' characteristics, such as education, age, or the use of internet resources. Hence, caution is required when interpreting the conclusions provided in the manuscript, since the male and female samples are not necessarily representative of these populations, and they may be products of differential selection. Moreover, the decision of using parametric tests for the statistical analysis must also be considered, as the authors of this research assumed a normal distribution of the sample.

Furthermore, this research did not include qualitative evidence in relation to the types of musical activities they engaged in, how they used music, what type of music they listened to, and if there had been changes since COVID-19, along with the potential relationship with practices conducted during confinement, among others. This can be seen as a limitation, and we identify the possibility of continuing this study with open interviews to delve deeper into the findings as a potential future line of research. Other future lines of inquiry include conducting the questionnaire again to assess the continuity of musical habits acquired during confinement and their relationship with gender stereotypes. This would also help to track the evolution of potential relationships between musical activities and/or materials and gender perspectives over the past few years.

The present study extends previous findings on gender differences in music use and gender role socialization. In summary, it shows that, during this period of confinement, gender continues to be a factor that favors musical practices influenced by gender stereotypes. Therefore, the musical discourse must be revised and favor proposals that promote equality for all. The use of music must go further to contribute to the empowerment of women, rescuing the capabilities that have been denied to them for centuries and include men in the construction of a more egalitarian model, so that they can function from another place in society and adopt models usually associated with femininity and see the advantages of a more open use of music.

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