Artists in the COVID-19 Pandemic: Use of lockdown time, skill development, and audience perceptions in Colombia and Spain

Javier A. Rodríguez-Camacho
https://orcid.org/0000-0003-4273-8452

Pedro Rey-Biel
https://orcid.org/0000-0002-1606-2631

Jeremy C. Young
https://orcid.org/0000-0002-6858-9144

Mónica Marcell Romero Sánchez
https://orcid.org/0000-0002-7569-9456

Abstract
This chapter examines how artists used their time during the COVID-19 lockdown and the resulting consequences for the quality of their work. We surveyed artists from different disciplines in Colombia and Spain to learn how they allocated their time to developing their artistic and/or their business skills. About half indicated that they used more time during the lockdown than previously to study, train, and practice. The Colombian artists devoted a significantly greater number of hours to studying business topics than before the lockdown. We also evaluated the works created by a subset of these artists before and after the lockdown, using an experimental design in which participants anonymously rated artists' works. We found that artists who spent time developing their skills during the lockdown obtained higher ratings. However, whereas experience and education were positively correlated with reviewer ratings, time spent on developing skills during the lockdown was not. This may indicate that although more skilled artists create higher-quality works, the time when these skills materialize in their works is not obvious. In light of these findings, we discuss a potentially paradoxical effect of the pandemic, since concentrating on skill development may divert time from creation to education or income-generating activities, inadvertently affecting the quality of artworks.

Keywords (chapter): artistic skills, business skills, contemporary art, Colombia, Spain

Keywords (for the index): experiment, audience ratings, lockdown, visual arts

The effects of the COVID-19 pandemic have been felt in different ways across the creative industries. On one hand, the performing arts almost completely ceased normal operations, since performance and rehearsal venues closed with no clear reopening date (Chuba 2020). In the music industry, the losses due to the impossibility of performing and presenting live music shows during 2020 were estimated at $8.9 billion worldwide (Pollstar 2020). On the other hand, some creative

sectors adapted to the new context faster, finding ways to restore some type of operations or even thriving in the so-called "new normal." For example, the growth of the video streaming market during the pandemic has been estimated at around 55%, increasing from $104.11 billion in 2019 to $161.37 billion in 2020 (Ball 2020). Similarly, music streaming platforms such as Spotify increased their number of paying users by 21% between March 2020 and March 2021 (Nicolau 2021). Outside the arts, other creative industries have also boomed in this period; for instance, about 30% of adults reported having tried a new gaming activity during the lockdown (Arkenberg 2020).

These disparate outcomes aside, one arguably uniform effect has taken hold across the creative industries, in the form of a surplus of available time. The reduction in commuting time, social commitments and other activities curtailed by the pandemic, particularly during the lockdown periods, gave nearly everyone additional free hours. It was not unusual, especially in the initial stages of the pandemic, to find people sharing in their social media the creative objectives they were pursuing, the lectures they had attended (remotely), or even the TV shows and reading they were catching up with. On the supply side, creators may have faced a similar situation. Indeed, evidence from a survey of Spanish artists and workers in the cultural sector found that they continued to spend significant amounts of time during the lockdown on activities related to their creative practice—starting new projects, adapting existing ones, picking up others, and even splitting some of that time with more market-oriented activities, such as rethinking their business models or increasing their marketing efforts (Abeledo Sanchís 2020). The situation was paradoxical in one sense, as artists may have had more time to spend on creative activities but limited access to circulation and distribution spaces, resulting in fewer chances to present their work, commercialize it, and gauge audience reactions.

This study examines the net effects of these shocks, linking artists' use of time to the reactions that the works they created during the pandemic generated from an audience. We exploit the unexpected shock of the time surplus described above to investigate the strategies that artists used to deal with the effects of the pandemic. Among the many ways in which artists could have used their lockdown time, we focus on two types of activities: developing artistic skills and improving business, marketing, and entrepreneurship skills. These two are not mutually exclusive, as improvements in one of these areas could have affected the other and some artists may have worked on both types of skills. We propose three mechanisms for the development of these skills: formal training by following a structured program, autonomous training (e.g., reading on one's own, attending webinars, rehearsing), and teaching others one's practice. We used a survey to understand and measure these activities during the lockdown, including two kinds of questions. The first type asked respondents for their subjective perception of the changes experienced in these activities because of the lockdown; we then asked them to indicate the exact number of hours spent in a typical week on activities connected to the development of their artistic and business skills.

A non-probabilistic sample of 345 artists from Colombia and Spain participated in the survey. These two countries were chosen because of the size and characteristics of their creative industries, cultural and linguistic proximity, and the research team's access to artists and audiences. We found that a majority of artists in both countries reduced the time spent on production, distribution, and circulation activities during the pandemic. The capacity to adapt and the access to digital creation, production, and circulation spaces seems to have been essential for the continuation of creative

activities. Nevertheless, many artists devoted more time to reflection, research, and preparation of creative works during the lockdown, irrespective of their field or material restrictions. Learning activities were also among the ones most frequently mentioned by the artists. Furthermore, the Colombian artists in our sample invested a statistically significant additional amount of time in autonomous learning related to business, marketing, and entrepreneurship. The differences in time allocations for the Spanish subset of the sample were not statistically significant.

A second stage of our study applied an experimental design to assess the audience reactions to the work of 18 Colombian visual artists who participated in the survey. Each artist chose two works, one created before and the other after the start of the pandemic, both of which they considered equivalent in format, material, technique, and effort. These works were randomly and anonymously presented to 290 experiment participants in Colombia, recruited from a pool of university students, who were asked for their subjective evaluation and emotional reactions. Additionally, a panel of experts evaluated these works to provide a more objective measure of their quality and characteristics. We found that the ratings of pre- and post-pandemic works created by a specific artist were statistically different, whereas there was no similar difference in the total sample of audience and expert scores. That is, the overall field of painting or digital illustration has not been changed by the pandemic, although some artists' work has been affected in ways that observers can notice. On average, audience and expert ratings of post-pandemic works were lower. Changes in the creators' skill level may explain these differences, as all the cases where an artist's post-pandemic work obtained a higher audience rating involved creators who used their lockdown time to develop their artistic and/or business skills.

Furthermore, when we estimated an econometric model with the post-pandemic audience rating as the dependent variable and skill levels and use of time during the lockdown as independent variables, we found that higher-quality work was created by artists who had spent time developing their skills in the past, though not necessarily during the pandemic. However, the time when newly developed skills materialize in one's work is not obvious, making it harder to parse the short-term effect of lockdown time allocations. There were, however, strong and evident links between training, work quality, and ratings. Moreover, selection effects were involved in the decision to use time developing a certain type of skills: 67% of the artists who worked on their artistic skills had a below-average self-assessed skill level, while 89% of those who focused on business skills reported already having an above-average business skills level. It is also possible, however, that choosing to use lockdown time to develop one's skills may negatively affect artists' work, if they reduce their creative time to perform market-related activities or even for further training.

The rest of this chapter is organized as follows. First, we present some contextual information on the state of the creative industries in Colombia and Spain in the wake of the pandemic. Next, we introduce our model and its theoretical foundations, the research instruments, and the empirical strategy. We then discuss the results, beginning with the survey findings and continuing on to the experimental study, including the estimation of the econometric model. We close with brief concluding remarks and recommendations.

An overview of the creative industries in Colombia and Spain

Despite the many macroeconomic and sociopolitical differences that may exist between Colombia and Spain, their creative industries share several similarities in their development and magnitude. Between 2014 and 2019, the contribution of the creative industries to Colombia's GDP was 3.2% on average (Departamento Administrativo Nacional de Estadísticas 2020); in Spain during the same time period, it averaged 3.27% (Ministerio de Educación, Cultura y Deporte 2020). On the demand side, a national survey in 2017 showed that 40.5% of Colombians age 12 or older had gone to the cinema at least once, 53.9% had listened to recorded music, and 67.9% had watched other types of audiovisual content in the past year (Sistema de Información de Economía Naranja 2021). In Spain, a similar survey conducted in 2018 and 2019 found that 57.8% of the population age 15 and over had gone to the cinema at least once in the past year, 85.8% listened to recorded music at least once a month, and 65.1% had watched videos or other types of audiovisual content in the past 12 months (MECD 2019). Although there are certainly important differences between the two markets (for instance, Spain's access to a common European market finds no parallel in Colombia), a macroeconomic look at both countries suggests a proximity that may not be as transparent for other countries in their regions, such as Argentina (where creative industries made a 2.5% contribution to GDP in 2017) or the UK (5.9% in 2019) (Department for Digital, Culture, Media and Sports 2021; Ministerio de Hacienda 2018).

Although detailed statistics on the effects of COVID-19 on the creative industries are still being developed, it is already possible to find evidence indicating the impact of the pandemic. Colombia's GDP decreased 6.8% in 2020 relative to the previous year (DANE 2021); whereas in Spain the estimated reduction in GDP was around 11% (Instituto Nacional de Estadística 2021). Between January and September 2020, the number of creative industry workers in Colombia decreased by 11.9%, compared to the same period in 2019 (DANE 2020). In Spain, the number of these workers decreased by 5.9% from 2019 to 2020 (MCUD 2021).

Less systematic accounts paint a similarly complex picture. In April 2020, the Observatorio de la Cultura, a Spanish think tank specializing in the creative industries, surveyed a sample of 476 creative workers, finding that 23% of them had completely stopped their activities, with 66.7% continuing their work remotely, albeit with significant reductions in output. Moreover, the average expected loss of revenue for the year was 36%, with more than 35% of respondents claiming that they would lose between half and all their revenue for 2020 (Observatorio de la Cultura 2020). More than three-quarters of organizations and workers in the creative industries in Spain stated that their plans for the year were affected by the pandemic. The strategies these organizations used to deal with this shock included working remotely and reducing their workforce, with 42.5% reducing their activity to the bare minimum. Those in the interdisciplinary and performing arts were the most heavily affected, with larger organizations and those in the editorial business or cultural management facing the greatest reductions in the size of their workforce (Abeledo Sanchís 2020). In Colombia, up to 34% of the activities in the punk rock circuit had still not resumed in either live or virtual formats as of late 2020 (Campion & Rodríguez-Camacho 2020), a figure that was probably approximately applicable to live music in general. For their part, Colombian art galleries and museums lost more than 60% of their income, and some were facing the threat of permanent closure, despite increasing their audience in 2020 through digital channels (Noriega & Lizarazo 2021).

Some of these effects were unavoidable, given the restrictions on circulation and gatherings entailed by the obligatory lockdowns. In Colombia, a strict national lockdown started on March 24, 2020 (Symmes Cobb 2020) and, after many extensions, ended on September 1, 2020 (Mercado 2020; Taylor 2020), after which selective lockdowns continued. In Spain, a strict national lockdown started on March 13 (Hernández 2020) and continued until June 21 (Martinez 2020). The two-month difference between the lockdown periods is amplified by the fact that some cultural activities returned in Spain during the summer until the second wave of the pandemic forced new restrictions, whereas in Colombia activities such as concerts or live theater performances did not return until very late in 2020. In this study, our artist-level approach helps us bypass the heterogeneities between countries and artistic fields that we would otherwise face when trying to make cross-country comparisons regarding the effects of the pandemic. That is, we compare each artist with himself or herself by comparing the same artist's works before and after the start of the pandemic, thereby isolating the variable pertaining to their use of time and enabling us to explore its correlation with audience ratings of the works created.

Theoretical foundations of the study

Our approach to this study is grounded in three streams of prior literature. The first concerns the role of creative and business skills in the career outcomes of artists. Since at least the 1990s, several U.S. universities have been supporting different types of initiatives aimed at developing the business skills of their arts students (Beckman 2007). In more recent years, these efforts have become widespread and systematic. In 2018, more than 30 major U.S. universities had arts-business incubators or arts ventures competitions, with a growing number offering dedicated arts entrepreneurship programs or certificates (Mullaney 2018). Similarly, in Colombia and Spain, arts entrepreneurship programs are being offered in increasing numbers and several business-oriented courses can be found in arts schools' curricula. Our research extends this line by empirically investigating the role of both creative and business skills in the market performance of artists, in the context of how these artists used their time during the lockdowns.

The second stream pertains to audience evaluation of cultural goods through user reviews. Artistic works are defined as experience goods, meaning that their quality is unknown to buyers until after they have purchased or consumed them (Nelson 1970). This literature postulates that expert and/or user reviews offer information on an artistic work's quality, such that higher quality goods obtain better reviews and therefore attain superior market results. A very fertile research line has explored these ideas (Basuroy et al. 2003; Gemser et al. 2007; Liu 2006; McKenzie 2012; Souza et al. 2019). Our model measures the number of hours artists invested in various activities during the lockdown and uses that number as an independent variable when examining the audience ratings of the works these artists created before and after the pandemic. We hold that artists who improved their artistic skills during the pandemic should attain better ratings for their post-pandemic work. Similarly, artists who developed their business skills should have become better at marketing and promoting their own work. The role of promotion and customer engagement via marketing strategies is positively correlated with the market performance of artistic and entertainment goods (Elberse & Eliashberg 2003; Hackley & Tiwsakul 2006; Hennig-Thurau & Houston 2019; Ho-Dac et al. 2013). Therefore, we propose that by improving their artistic skills, artists can offer a higher quality of work and hence obtain better ratings. Similarly, or in conjunction, by improving their business

skills, artists could understand and engage their audiences in a more meaningful way, resulting in higher ratings of their work.

We are interested in measuring the different responses to the pandemic observed among artists, specifically their use of time during the lockdown, to understand the market outcomes to which these actions could lead. We propose a model in which our dependent variable, representing market results, is based on user reviews (ratings) of a work, and we explore the correlation of this variable with our measure of the artistic and business skills of its creator. Participants in an experimental design provided the ratings of these works. In this way, we draw on the third relevant research stream, which approaches consumer behavior using experimental methods (Gneezy et al. 2012; Hennig-Thurau et al. 2006; Kalwani & Yim 1992; McKenzie et al. 2019).

By combining these three approaches, we can analyze the pandemic's effect directly on artists, since we obtain audience ratings for the works they created before and after the beginning of the pandemic. Moreover, we can discuss the implications of the strategies used by the artists to deal with the pandemic lockdowns and how these strategies impact audiences' perceptions of their work. We can characterize the emotions these works generate in the audience and whether respondents can determine if a work has been created before or after the pandemic. Furthermore, we obtain primary evidence on the role of artistic and business skills in the market performance of artworks, shedding light on the role these types of skills play in an artist's career.

Methods and materials

In this section, we present our hypotheses and empirical strategy, the experimental design, the survey used to collect data, and the econometric model we estimated.

Hypotheses

Building on the works cited in the preceding section, we formulated the following hypotheses:

1. Audience ratings will increase with the (self-reported) level of artistic skills of the creator.
2. Audience ratings will increase with the (self-reported) level of business skills of the creator.
3. Audience ratings will increase with the quality of a work (as rated by a panel of experts).
4. The audience rating of works created by artists who used their time during the lockdown to develop their artistic skills will increase relative to the rating of their works before the pandemic.
5. The audience rating of works created by artists who used their time during the lockdown to develop their business skills will increase relative to the rating of their works before the pandemic.

We test these hypotheses by (1) comparing the audience's ratings of the works created by a given artist before and after the pandemic (H4, H5), and 2) estimating an econometric model in which the dependent variable is the audience's ratings of an artist's post-pandemic work (H1, H2, H3).

We chose audience ratings of the work created by the artists as our dependent variable because actual market outcomes could be affected by the economic impacts of the pandemic, perhaps on a

lagged basis. Moreover, if we asked participants a question like "Would you buy this work?" the validity of the findings might be limited by the hypothetical nature of the purchase decision, since no real money would be involved in the experiment. However, audience ratings are a good proxy for the market performance of a cultural good. User reviews in the form of ratings or evaluations have often been used as indicators of the quality of such goods (Chintagunta et al. 2010; Dhar & Chang 2009; Zhou & Duan 2016). We also sought to address the often-idiosyncratic nature of popular ratings by including in our analysis an expert assessment of the works, which provided us with a more objective evaluation of the goods. Other researchers have applied a similar strategy, obtaining expert ratings from websites or databases and analyzing them in combination with user reviews. We asked a panel of art critics and educators to anonymously rate the works presented to the experimental participants, and we include this control in our model. The complete description and coding protocols for the econometric model can be found in the appendices.

Our identification strategy rests on the fact that the pandemic has given us a natural quasi-experimental setting in which to study the effect of artistic and business skill development on the market performance of artists. Categorical responses can be established based on how artists used their time during the lockdown, and these may be identified as treatments into which they self-select. Those who did not alter their pre-pandemic time allocations or used their time to study or work on unrelated subjects would function as the control group. Additionally, we have self-reported measurements of the artists' skill levels, as well as expert ratings of their current and past work; variables we include in our model in order to isolate as much as possible the time-allocation effects.

Data collection and experimental design

This study comprised two stages: an analysis of the artists' responses to the pandemic in terms of their use of the surplus of time derived from the lockdown, and audience and expert evaluation of the works created by the artists before and during the pandemic. In this section, we present the instruments developed to obtain the data in each stage.

Artist survey

The information from the artists was collected by means of an online survey. It was distributed, using a targeted approach, in Bogotá from December 2 to 18, 2020, and in Barcelona from January 25 to February 10, 2021. In Colombia, the survey was posted on Pontificia Universidad Javeriana social media accounts, sent to faculty in the relevant departments (Arts, Design, Media), and shared with associations of artists (musicians, illustrators). In Spain, the survey was shared with professors in the arts faculty at Universidad de Barcelona, Universidad de Sevilla, Universidad Complutense de Madrid, Universidad de Vigo, Universidad de Salamanca, Universidad del País Vasco, Universidad de Granada, Universidad Politécnica de Valencia, and Universidad de Zaragoza, as well as with associations of artists (magicians, musicians). Additionally, research team members used their informal social networks to distribute the survey. A non-probabilistic, convenience sampling method was followed. A total of 345 artists and workers in the creative sector received the survey, 202 from Colombia and 143 from Spain. After the exclusion of participants who did not complete the survey, our final non-representative sample included 123 artists, 68 from Colombia and 55 from Spain. Given the exploratory nature of this stage of the

study, we consider the size of the sample adequate, particularly since the study also involved a larger number of participants who evaluated these artists' work. The descriptive information obtained from the survey helps us to establish a context for our analysis, but the estimations and statistical analysis take place at the level of the artist, drawing on a pool of over 2,500 audience ratings.

The research team developed the artist survey. It included questions on how the artists used their time during the lockdown, specifically in relation to activities that may lead to changes in artistic and business skills. These activities fell into the following categories: Creation/Reflection/Exploration (i.e., time to think about and work on their art), Formal Learning, Autonomous Learning, and Teaching. We based these mechanisms on the work of Fiorella and Mayer (2013, 2014), who explored the relative effects of learning by teaching others and found that teaching leads to greater persistence of learning in those performing the activity. In other words, artists could improve their artistic skills by teaching others their practice, aside from taking courses or training on their own. We measured the weekly number of hours devoted to each of the aforementioned activities, comparing these to the hours they reported having dedicated to the same activities before the pandemic. For instance, we asked, "How many hours did you spend in a typical week, before the pandemic, teaching others your artistic practice?" We then repeated the same question for the period during the lockdown. Subjective measures of artists' perception of how the pandemic changed their use of time were also included.

With regard to business skills, since the heterogeneity in the responses could be so great and specific to each field and context, we decided to use training in business as a proxy for the time allocated by each artist to developing the business side of their creative practice. That is, we asked the artists if they had taken formal training on business-related topics during the lockdown (e.g., registering for a course on marketing), or if they informally searched for and learned from information or training on business-related topics (e.g., attending webinars, watching videos, reading, searching for mentors).

We also asked the artists to assess their own skills before and after the pandemic, as well as their experience, professional training, past achievements, and some market performance indicators during the pandemic (e.g., "Did you generate any income from works created during the pandemic?"). We controlled for the artistic discipline as well, since not all artists could have used the time to continue creating, due to technical challenges or lack of access to equipment or appropriate spaces. Questions on the artists' ability to use the spaces where they most often created and circulated their work were also included. We asked the participants to focus on a representative period before the pandemic when responding to these questions; otherwise, some of the possible forms of cultural participation would have been affected by the lockdown and restrictions.

The survey was validated by means of a protocol analysis with 12 academicians and artists. We showed them the survey form and asked them to answer the questions with us, suggesting adjustments in how the questions were worded, options we may have forgotten in multiple-choice questions, or possible additional questions. Some minor adjustments were made following this process, to make the instrument easier to understand for participants in each country, using regional versions of Spanish. The full survey can be found in the appendices.

Experimental design

The experimental stage of this study sought to link the ways artists used their time during the lockdown with potential market results. To achieve this, we asked the artists who participated in the survey to share their works with us and then presented these to some participants using an experimental design. These were Colombian adults recruited from a pool of university students, faculty, graduates, administrative staff, and others in the personal networks of research team members. No qualification was required other than residing in Colombia and having Internet access. A total of 290 individuals participated in this phase.

To obtain the works needed for the experimental stage, the artists who had expressed interest were invited to voluntarily share with the researchers two comparable works of art, one created before and another during the pandemic. We screened these works to confirm that they were indeed comparable. The works deemed suitable for the experimental study were coded and randomly presented to the participants, without indicating the artist, whether the work was created before or after the lockdown, or any other information. After observing each work, the participants completed a quantitative questionnaire. These scores were used as proxies for the market performance of such works. Our goal was to understand the role artistic skills and business skills play in the audience evaluation of cultural goods. Hence, obtaining an indicator from the audience such as their subjective valuation of the works allowed us to make suitable comparisons between artists who used their time during the lockdown differently and who have different levels of artistic and business skills.

The experimental design was developed based on Gross and Levenson (1995), Ray and Gross (2007), and Gilman et al. (2017), who have presented audiovisual works to participants and recorded their emotional reactions using original questionnaires. We used Ray and Gross's (2007) scale for emotion elicitation for film, translated it into Spanish, and included an item to measure each participant's valuation of the works presented. This new item was analogous to the scales presented on websites where individuals can rate a cultural good (IMDB, Filmaffinity, Rate Your Music, Discogs, Goodreads, etc.). Often these scales do not include any instructions next to them, implying that they are meant to capture a subjective valuation of the good in question. Instead of the usual five stars found in such cases, we used a scale from 0 to 8 to maintain consistency with the emotion elicitation scale.

The experimental sessions were conducted remotely by sending the participants an anonymous link to access an online form created using Qualtrics. The participants were presented with the instructions, followed by a trial run to familiarize them with the experimental setting and procedure. The experiment comprised three rounds. In each round the participant was shown a work of art and was then asked to answer the experimental questionnaire (rating and emotional reactions). A round was completed when five different artworks, all randomly taken from the pool, had been presented to a participant. Therefore, each participated rated 15 works. Participants were not shown the same artwork a second time. A 30-second mandatory break followed the completion of each round, to allow the participants to rest and to reduce their emotional and cognitive demands. The next round started immediately after that. After the third round was completed, a post-experimental survey was presented, including questions on cultural participation and their demographic information.

The experiment contained two (implicit) treatments, related to whether the work a participant was presented had been created by an artist who developed his or her (1) artistic and (2) business skills during the pandemic. We followed a within-subject design; that is, the works viewed by each participant were completely randomized and could include pre- and post-pandemic works by artists who did or did not use lockdown time to develop their business or artistic skills. This design minimized potential biases due to the order of presentation.

A representative screenshot of the experimental setting, including a work of art from our pool, the subjective valuation question, and the scale included in the experimental instrument, is shown in Figure 1.

Figure 1. Representative screenshot of the experimental setting presented to each participant when asked to rate a work (in Spanish). Gabriel Angel with permission for its anonymous use in the experiment and its inclusion in this chapter.

When asked for their emotional reaction, participants were given a list of 18 emotions, such as *amusement*, *pride*, *fear*, *contempt*, *joy*, *interest*, *surprise*, *happiness*, and *confusion*, and were instructed to select, on a scale from 0 to 8, the number best indicating the intensity of the emotion they felt when observing the work. They could choose as many or as few emotions as they wished. Next, they were asked whether they felt any other emotion not included on the list and, if so, to report the name and intensity of that emotion on the same 0-8 scale. After this, participants were asked when they believed the work had been created—either before or after the beginning of the pandemic. Finally, they were asked if they had previously seen the work. The experimental instructions and post-experimental questionnaire are included in the appendices.

Results

In this section, we present the results from the different stages of the study, beginning with the artist survey and continuing with the audience reactions.

Demographic information and descriptive statistics

As noted above, we received 68 valid artist survey responses from Colombia and 55 from Spain.[1] A full demographic breakdown of the survey participants is included in the appendices. Table 1 summarizes the artistic work and training of the respondents.

Artistic field of work	Proportion of respondents in the sample (%)	
	Colombia	**Spain**
Visual arts	23.53%	14.55%
Music	17.65%	16.36%
Film and video	14.71%	1.82%
Performing arts	11.76%	47.27%
Dance and ballet	8.82%	0.00%
Photography	5.88%	5.45%
Electronic and transmedia arts	4.41%	0.00%
Literature	4.41%	5.45%
Traditional arts and artisanship	1.47%	1.82%
Others	7.36%	7.28%
Education		
Professional training in the artistic field of their practice	68.79%	65.45%
Other artistic training	7.01%	3.64%
Other type of training	24.20%	30.91%
Experience		
Less than five years	23.56%	27.27%
Five to ten years	34.39%	25.45%
More than ten years	42.05%	47.28%

Table 1. Distribution of fields of artistic specialization in the sample

The Colombian sample was 39.7% female, with 3% of respondents not identifying as binary or preferring not to answer. The overrepresentation of male respondents aligns with the gender distribution of the creative industries in Colombia. The mode of the sample's age distribution was the 41-45 age group (22.9%), followed by the 18-24 age group (18.0%). The Spanish sample was only 16.3% female, with 4.6% of respondents not identifying as binary or preferring not to answer. Although female participation in the creative industries in Spain continues to be below the average across all productive sectors, in 2020 it was estimated at around 41.4% of the total workforce (MCUD 2021a). Our sampling bias with regard to gender could be an effect of the age distribution of the respondents: 33.3% of them were 51 or older, followed by 14.3% at age 36-40 and 14.3% at 41-45. In the last decade, the gender gap in the Spanish workforce was the largest in the 55-64 age bracket. This gap was 14.2% in 2019, with a national average of 10.8% (INE 2020). The remaining demographic variables in the Spanish sample were consistent with those found in the Colombian sample.

Table 1 shows the largest group of Colombian respondents worked in the visual and cinematographic arts (44.1% including visual arts, film, video, and photography). In the Spanish sample, nearly half of all respondents were working in the performing arts, with the visual and cinematographic arts (visual arts, film, video, and photography) ranking second at 21.8%. The proportion of musicians was nearly identical in both samples. This distribution generally aligns with recent surveys of the creative industries in Spain, such as that of Abeledo Sanchís (2020), in which the performing arts (including music) represented the largest cultural sector in their sample (33.2%), followed by the visual arts (17.3%). Our somewhat different percentages may be an effect of the sampling frame, since the survey was shared with networks of stage performers (magicians, musicians, actors) in Spain and faculty in the Department of Visual Arts in Bogotá. We do not claim representativeness of the samples, but simply that the two subsets of the sample are sufficiently similar to enable comparisons between them.

Despite these differences in the fields of specialization, the samples are consistent with regard to the artists' training and experience. A large majority of the Colombian respondents (70.6%) had professional training in their field of practice, and over 63% used more than half of their weekly productive time to work on their creative practice. About 41.2% of the respondents started devoting that amount of time to their work within the last five years (2015-2019), whereas 35.3% started doing so in 2009 or earlier. In the Spanish sample, 65.45% had professional training in their field, a figure comparable to the 71.9% determined by the Spanish Ministry of Culture across the industry (MCUD 2021a), and 38.2% used more than half of their weekly productive time to work on their creative practice.

Use of time during the lockdown and the effects of the pandemic
Our survey included two types of questions regarding the use of time. The first set was based on subjective measures (perception), and the second asked respondents to specify the number of hours spent on certain types of activities (objective). The activities covered in these questions roughly correspond to those entailed by the creative industries value chain (*Creation*, *Production*, *Distribution*, and *Participation*) and were intended to register the time used in learning activities concerning their artistic and business skills. Table 2 presents the results from the first type of questions.

Activities	Colombia					Spain				
	A lot less	**Less**	**Same**	**More**	**A lot more**	**A lot less**	**Less**	**Same**	**More**	**A lot more**
Research. reflection. and preparation	10.29%	25.00%	23.53%	26.47%	14.71%	20.00%	10.91%	21.82%	34.55%	12.73%
Training or study	14.71%	19.12%	14.71%	30.88%	20.59%	18.18%	12.73%	27.27%	25.45%	16.36%
Creation	16.18%	23.53%	19.12%	25.00%	16.18%	16.36%	21.82%	21.82%	29.09%	10.91%
Production	22.06%	27.94%	10.29%	25.00%	14.71%	23.64%	25.45%	27.27%	16.36%	7.27%
Distribution and circulation	38.24%	19.12%	10.29%	22.06%	10.29%	47.27%	14.55%	27.27%	7.27%	3.64%
Managerial or entrepreneurial tasks	20.59%	25.00%	20.59%	22.06%	11.76%	38.18%	20.00%	23.64%	14.55%	3.64%

Table 2. Artists' self-reported perception of the time allocated to different activities connected to their creative practice during the lockdown.

As Table 2 shows, more than 51% of the Colombian artists felt they had allocated more or a lot more time to training or studying during the lockdown. Looking exclusively at creation activities, 41.2% claimed they used more time or a lot more time, with 19.1% indicating they had used the same time as before the lockdown. These results seem to suggest that overall, extra time was allocated to learning and training activities, whereas the preparation and actual creation of new works did not seem to be affected as clearly in either direction. In our sample of Spanish artists, 41.8% reported using more or a lot more time on learning and studying, while 47.3% allocated more or a lot more time to research, reflection, and preparation. This behavior is consistent with the evidence that artists continued working, albeit remotely, during the lockdown. Indeed, the creation of "new ideas, products, and projects I had no time to work on before" was the action most frequently reported in the survey conducted by Abeledo Sanchís (2020) on the use of time during the lockdown. The same study found that education, training, and the acquisition of new skills were among the activities that artists most frequently undertook during the lockdown.

Along the same lines, 35.3% of the Colombian sample reported having continued to create and produce works that were similar or comparable to those before the pandemic. Among the Colombian artists sampled, 79.4% said they regularly create their work in their home or their own workshop, with 66.2% stating that they had access to that space during the lockdown. Thus, it is not entirely unexpected that more than one-third of them were able to continue creating. The same cannot be said of production, distribution, and circulation, with 49.5% and 57.4% of the Colombian artists in the sample saying they used less or a lot less time in those activities during the lockdown, respectively. Looking at the use of time in production activities reported by the Spanish artists, we see that their answers skew towards a reduction; 49% claimed to have used less or a lot less time, with another 27.3% reporting that they used the same amount of time as before the lockdown. This was also the case for circulation, with 61.8% using less or a lot less time for such activities. Since the circulation spaces available for performing artists (nearly half of the Spanish sample) are strongly connected to public, physical locations such as theatres, concert halls, and venues with stages, which were largely inaccessible during the lockdown period and even afterwards, this finding is predictable.

In Colombia, 51.5% of the sample reported not generating any income through their creations during the lockdown. Among those who did, for 20.6% of them the income came from works created before the pandemic, while 19.1% generated this income with works created during the lockdown. These figures merit consideration by social planners, given that 22.1% of the sample said they had no other sources of income. Regarding government initiatives supporting the creative sector in the pandemic, only 1.5% of Colombian respondents received state funds. The proportion of Spanish artists in our sample who did not generate income during the lockdown was 61.8%, higher than the Colombian case, perhaps due to the prevalence of performing artists in the sample, as this group had a harder time replacing their circulation spaces during the lockdown. Additionally, the 20% who generated economic resources in the period did it with works predating the pandemic, and only 1.8% had access to government funds. Moreover, at least 26% of the respondents in the Spanish sample did not have income sources other than those connected to their creative practice. These results resonate with other works on the effects of the pandemic on the

creative industries, in both Spain and Colombia, and attest to the economic impacts of the pandemic on the sector.

Time allocations to improving artistic or business skills during the lockdown

We now turn to the results of the second type of questions, regarding how the artists used their time during the lockdown. We asked the participants to indicate the exact number of hours they spent on each of seven activities on a representative week both before the pandemic and during the lockdown, as shown in Table 3. The seven activities were presented in a list and the participant needed simply to write in the number of hours. Respondents could leave fields blank. The difference between self-study and formal study was made clear in each question; the latter entailed participation in a structured program at an institute, university, conservatory, or online, whereas the former referred to watching videos, reading on their own, or attending webinars or mentorship sessions.

| | | Hours spent in a representative week | | | |
| | | Colombia | | Spain | |
	Activities	**Pre**	**Post**	**Pre**	**Post**
Artistic skills	Formal study of your creative practice.	6.28	6.06	3.24	3.74
	Self-study, rehearsal, and autonomous improvement of your creative practice.	7.94	8.62	8.62	8.88
	Teaching others your creative practice.	7.53	7.20	4.47	3.54
Business skills	Formal study of topics related to business, marketing, and entrepreneurship.	2.51	2.87	1.48	1.11
	Self-study of topics related to business, marketing, and entrepreneurship.	3.02	4.42	2.41	2.31
Other skills	Formal study of topics other than arts or business.	3.29	3.37	4.27	3.80
	Self-study of topics other than arts or business.	3.78	4.31	3.02	6.76

Table 3. Use of time by Colombian and Spanish artists before the pandemic and during the lockdown.

There was a small increase in the time dedicated to improving artistic skills autonomously in both countries, and a decrease in the number of hours used to teach others. In Colombia, the time used for the formal study of artists' practice decreased, whereas it increased in Spain. This difference may be due to the different distributions of fields and ages between the two samples. Spanish artists reported that they devoted less time to improving their business skills, both through formal and/or autonomous study, in contrast to the Colombian results, which show an increase in the two allocations related to business skills. This difference may reflect the availability of broader welfare programs in Spain but not in Colombia, where artists had to search for alternative sources of income during the lockdown. Interestingly, there was a noticeable increase in the hours the Spanish artists devoted to autonomous study of topics other than arts or business. However, none of the differences was statistically significant. The only statistically significant difference concerned the self-study of topics related to business, marketing, and entrepreneurship among Colombian artists, with a greater number of hours being used during the lockdown. This reinforces our intuition on the changes in income-generating activities and the economic preoccupations artists in the two

countries faced during the pandemic, with those in Colombia feeling more strongly compelled to explore new ways to make money.[2]

In both countries, several artists claimed to have experienced changes in their skills as a consequence of the pandemic. The participants were asked to rate themselves on certain aspects of their creative work (i.e., technique, experience, promotional skills, commercial skills, teamwork, creativity, awards and accolades, learning capacity, teaching capacity, innovation, and research), using a scale from 1 (lowest) to 5 (highest). Next, they were asked whether they believed some of those scores had changed due to the pandemic. More than 40% of the Colombian sample reported an increase in their skills. Another 11% said they improved their technique, 9% said they strengthened their creativity, and 7% improved their marketing and business skills. The reason provided was the extra time available to focus on a specific task. In the Spanish case, 47% reported a change in their skills after the lockdown. Technique improvement was reported by 14.5% of respondents, though none mentioned business skills at all. Asked about the reasons for this improvement, the Spanish artists primarily cited the extra time to think, practice, read, research, and create.

On the other hand, 25% of the Colombian and 20% of the Spanish respondents reported a decrease in their skill level. In Colombia, 9% claimed their experience and access to awards and grants had decreased. An additional 6% mentioned that their business skills declined. The Spanish participants reported a reduction in their teamwork skills (5.4%) and experience (3.6%). The reasons reported were the lack of access to their teams and equipment, social distancing due to healthcare restrictions, and the absence of circulation spaces. Emotional and psychological issues such as depression, lack of motivation, and concerns about the future were frequently mentioned, particularly in the Spanish sample.

The increase in the time used by Colombian participants on the informal study of business cannot be explained in a simplistic manner. The experimental stage of our study allows us to comment on such changes from the perspective of their potential market performance, as measured through audience ratings.

Experimental results

The experimental stage of the study took place between April and May 2021 in Colombia only, comprising three phases.[3]

Twenty-eight Colombian artists accepted the invitation to participate and shared their works with us, around 41% of those who participated in the survey. From this pool, we selected 36 works created by 18 different artists, based on their comparability and ease of presentation (e.g., we excluded videos over 5 minutes long or functional designs that could not be embedded in the experimental software). All artists were offered a participation incentive of 100,000 Colombian pesos (about 23 EUR). The complete list of participating artists can be found in the appendices.[4] Figure 2 shows two representative works shared by one of the artists who took part in the experiment.
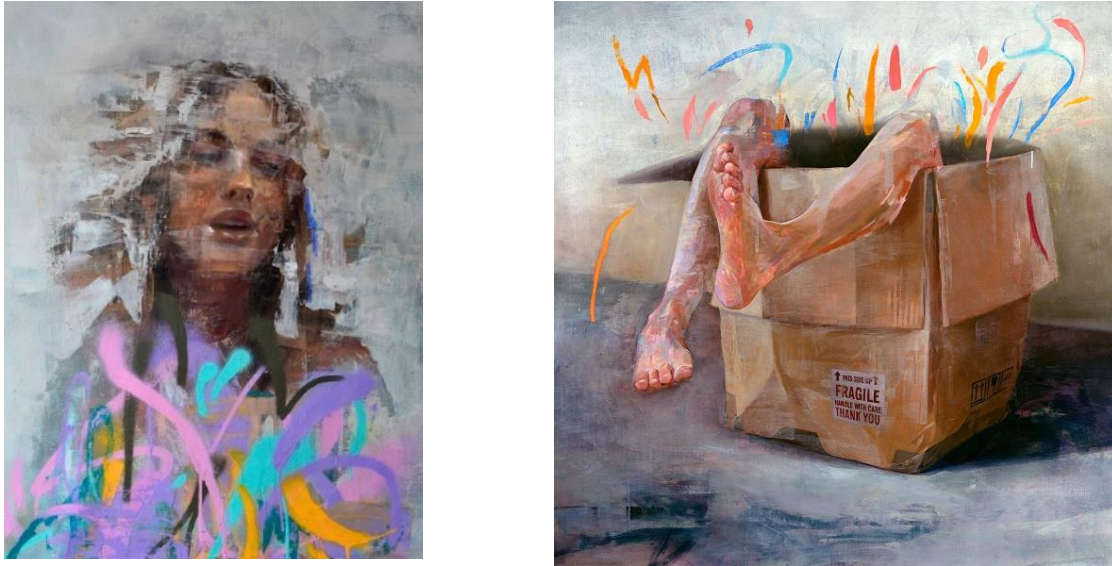
Figure 2. The two works provided by one artist for our experiment: pre-pandemic (left), post-pandemic (right). Andrés Kal with permission for its anonymous use in the experiment and its inclusion in this chapter.

In the second phase, to obtain expert evaluations of the 36 works used in the experiment, we contacted 12 evaluators with highly recognized careers in the arts, who have been involved in processes of evaluating artworks for awards or grants. None of these had taken part in the survey or the experiment. Each evaluator was presented with seven works, randomly selected from our pool, and asked to rate them using a quantitative instrument based on the criteria applied by the Colombian Ministry of Culture in its grant competitions. These criteria were *Technique* (dexterity in the use and transformation of artistic materials), *Investigation* (evidence of research in the creation process), *Experimentation* (critical and creative appropriation of the formal and conceptual practices of the discipline), and *Impact* (contributions to the artistic and cultural fields in the context in which the work was created). A link to a questionnaire programmed on Qualtrics was shared with the experts, using an environment and design similar to the one shown in Figure 1 above. The expert rating of a work, our proxy for an objective evaluation, was calculated as the average of the four evaluation criteria for all experts rating that work, on a scale from 0 to 8. We obtained 84 observations (full ratings of different works) from the 12 experts. The full list of experts, their qualifications, and the evaluation instrument they used can be found in the appendices.

The final phase of the experiment comprised audience interactions with the selected works. A total of 290 Colombian adults participated in this phase. We obtained 2,516 observations, or an average of 8.68 per participant. The 18 works received an average of 69.88 observations (minimum 60, maximum 81). An observation consisted of a participant's rating of a work, on a scale from 0 to 8, as shown in Figure 1. Participants were additionally asked to indicate the emotions they felt when observing the work, rating the intensity of each emotion on the same scale. Finally, the participants were asked to state whether they believed the work had been created before or after the start of the pandemic. Each person spent an average of 26.7 minutes participating in the experiment, which was accessed remotely using a Qualtrics link at the participants' convenience

and using the device of their preference. Demographic characteristics of the participants are presented in Table 4. The results, including audience and expert ratings for the 36 works, the main emotions generated, and the accuracy of the predictions regarding when the works were created, appear in the appendices.

Gender	
Male	40.29%
Female	58.27%
Others	1.44%
Age	
18 – 24	73.05%
25 – 30	8.51%
31 – 35	2.84%
36 – 40	2.13%
41 – 45	2.84%
46 – 50	4.96%
51 or more	5.67%
Occupation	
Undergraduate student	70.71%
Graduate student	5.01%
Other type of student	11.43%
Full-time worker	2.14%
Other	10.71%

Table 4. Demographic characteristics of the experiment participants

The average pre-pandemic expert rating for the works was 5.47, with a maximum of 7.50 and a minimum of 3.70. The audience pre-pandemic ratings were distributed between 6.30 and 3.43, with a mean of 4.80. There were no statistically significant differences between the two distributions. Moreover, the highest-rated work for the audiences was in the top five expert ratings and vice versa. This could mean that both the experts and audiences can identify a high-quality pre-pandemic work and are aligned in their appreciation of it. We observed some divergence at the lower end of the rating distributions, since some of the works rated highest by the audience received below-average ratings from the experts. We will further discuss possible reasons for these potential discrepancies when presenting the results of the econometric model. For the post-pandemic works, the expert ratings averaged 5.40 with a maximum of 7.25 and a minimum of 3.08. For the audiences, the minimum was also 3.08, but with a maximum of 6.00 and an average of 4.74. The distributions were not statistically different. Interestingly, the top expert and audience-rated works from the pre- and post-pandemic groups were all created by different artists. The low scores were consistent across the two groups, with experts and audiences picking the same works. Hence, we could say that both could agree on what is a relatively low-quality post-pandemic work. In contrast, there was greater divergence as to who received the highest post-pandemic ratings.

A correlation analysis reveals that pre- and post-pandemic audience scores were strongly and positively correlated, signaling a consistency in the artistic preferences of the audience. On the other hand, there was almost no correlation between the pre- and post-pandemic expert ratings. We believe this is a consequence of the type of evaluation performed by experts, who (unlike the taste-driven audience members) may rate a work unfavorably if it fails to meet some objective criteria such as technique or innovation, even if it fits their individual preferences. In contrast, audiences may stick with their preferred artist even if the post-pandemic work has suffered relative

to some objective and/or technical standard. Nevertheless, the post-pandemic expert and audience ratings were strongly and positively correlated. The literature proposes a positive link between high-quality experience goods and their audience reviews. We hold that the correlation just described confirms the link between our measure of quality (expert ratings) and audience ratings, one of our modeling assumptions. The full correlation matrix for our dataset can be found in the appendices.

Looking at how the artists responsible for the top- and bottom-rated works fared across time, we see that the creator of the highest audience-rated post-pandemic work was also the creator of the lowest expert-rated pre-pandemic work. Again, this result might point to disparities in quality evaluation criteria between the audience and experts. Strikingly, the creator of the highest expert-rated pre-pandemic work was also the creator of the lowest-rated post-pandemic work according to the experts, and the creators of the lowest expert-rated post-pandemic works were also responsible for two of the top four pre-pandemic works as rated by the experts. Thus, these changes in performance by the same creator over time may not indicate differences in evaluation capacities between experts and audiences as much as possible loss of skill during the lockdown, limitations in the creation or production processes, or even thematic disparities. Indeed, artists' own perception that their skills decreased during the pandemic was correlated with the post-pandemic expert ratings.

Regarding thematic differences in the works, the emotions most frequently reported in the observations of pre-pandemic works were Interest, Surprise, Confusion, Joy, Fun, and Happiness. For the post-pandemic counterparts, Interest and Confusion were the leaders, with Fun and Joy also appearing rather frequently. However, the post-pandemic works also induced more frequent reactions of Anger, Anxiety, and Misery, which were not mentioned in pre-pandemic works. The prevalence of Confusion may indicate that these works were hard for the audience to analyze and rate, whereas the experts may not have faced such problems. This explanation would be similar to that offered above for some of the rating differences, where the experts rated works poorly when the audience did not.

Table 5 presents the results of artist level *t*-tests performed to check if there were differences between their works' pre- and post-pandemic ratings. The table also shows the change in the weekly number of hours the artists used to develop their artistic and/or business skills, to help us identify potential cases of skill development and/or loss.

Artist code	Differences in ratings (Pre-pandemic score minus post-pandemic score)		Differences in use of time (Pre-pandemic hours minus post-pandemic hours)	
	Audience	**Experts**	**Artistic skills**	**Business skills**
ach	0.4876	- 2.2083*	8.00	- 2.00
ac	- 0.2148	- 1.3333	- 8.00	0.00
ad	- 1.0935***	1.2500**	3.50	- 1.50
ag	- 1.4236***	- 1.7500	9.00	- 1.00
ap	1.1850***	0.3750	10.00	- 18.00
ar	1.1296***	0.1667	- 6.00	4.00
cd	0.4338	2.2917*	- 3.00	4.00
fb	1.1638***	3.4167	1.00	0.00
js	- 0.7244**	0.3750	- 6.00	- 7.00
ka	0.8205**	0.8750	- 1.00	0.00
mb	- 0.1084	1.7500**	9.00	2.00
pa	- 0.3676	- 0.8750	0.00	- 7.00
pl	0.0044	- 0.9167	8.00	0.00
rc	0.7755**	0.2917	- 9.00	- 1.00
rs	0.5607*	- 0.6250	5.00	1.00
rj	- 0.2347	- 0.7500	- 50.00	- 10.00
ss	- 1.3901***	- 0.0417	- 6.00	4.00
sg	- 0.0306	- 1.1250	- 15.00	- 4.00
Group	- 0.0210	- 0.1910	- 2.81	- 2.03

*p-value < 0.1, **p-value < 0.05, ***p-value<0.01.

Table 5. Artist-level differences in the pre- and post-pandemic ratings of their work and time invested in developing their skills.

There are ten cases where the differences between the pre- and post-pandemic audience ratings are statistically significant; six of these have a higher pre-pandemic evaluation. This comparison is harder to make for the expert ratings, since the number of observations is very small (between one and three, compared to the average of 69 audience ratings per work). When testing for differences in means for the whole group of pre- and post-pandemic scores, we found that the pre- and post-pandemic audience ratings were not statistically different, nor were the pre- and post-pandemic expert ratings. This supports our intuition to focus on the artist-level effects of the pandemic as a determining factor in the differences. Indeed, the hypothesis that the two sets of audience scores and expert scores are different is rejected, with p-values 0.823 and 0.283 respectively, at 95% certainty. Thus, we can conclude that the average quality of the pre-pandemic works in our sample is not different from the average quality of the post-pandemic works.

Looking at the specific artists, we see that in three of the six cases where the pre-pandemic work had a superior audience rating, the artists used less time to develop their artistic skills during the lockdown than before the pandemic. On the other hand, in all the cases where the post-pandemic work had a superior audience score, the artists used their lockdown time to develop at least one type of skill (artistic skills for one artist, business skills for two artists, and both skills in one instance). Therefore, we confirm hypotheses H4 and H5, concerning an anticipated increase in

post-pandemic audience ratings for the artists who spent their lockdown time developing one or both types of skills.

It is also interesting that all the artists with a superior pre-pandemic audience rating had above-average artistic skills in the self-assessment requested from them in the survey, and none of them reported perceiving a loss in artistic skills. This could hint at selection effects in the decision to spend time developing a particular type of skill. Two-thirds of the artists who worked on their artistic skills started at self-reported below-average levels. On the other hand, 89% of the artists who worked on their business skills started at an above-average level in that area. Half of the artists who used time to develop both artistic and business skills already had a baseline level above average on both types. No artist of the 18 involved in the experimental stage reported perceiving a decrease in artistic skills, while one-third indicated that their business skills suffered through the lockdown. Moreover, 30% mentioned perceiving an increase in their technique, 25% in their experience, and 15% in their creativity, all of which are part of their artistic skills. Many said that having extra time to work and think was the reason for that increase. Nevertheless, an even larger proportion referred to the prevailing uncertainty, isolation, severe lack of funds, and economic hardship as factors affecting their work. A study by Spiro and coauthors (2021) conducted in the UK during the first 2020 lockdown similarly found a prevalence of uncertainty, vulnerability, and anxiety among performing artists, with implications for their emotional wellbeing. All these factors should be considered when contemplating the possible occurrence of skill loss during the lockdown and its potential effect on audience or expert ratings and perceptions.

Our data suggest that skill development and loss are complex processes, which may not necessarily be represented by continuously increasing or decreasing functions, nor do the slopes of their development and loss necessarily match each other, even taking into account that the timing of the manifestation of a skill gain or loss in one's work may vary. Maintenance of a basic skill level may require time too, not to mention the presence of emotional and health elements at play in the learning and/or training processes, as well as in the creative work itself. The mood of the creators, their environment or context of creation, and the thematic elements present in the work are intertwined, as one could surmise from the examples shown in Figure 2. The audience and expert ratings support the hypothesis that these differences can be perceived, although the underlying mechanisms are not obvious.

However limited, our insights align with theoretical and empirical predictions on the relevance of skill level in the rating of a creative work. We further explored this relationship by estimating the econometric model. From our pool of experimental results, we took the 1,246 observations corresponding to post-pandemic audience ratings as our dependent variable. We then combined these with the information on the creator, obtained from the survey conducted in the first stage of the study. Next, we added the expert ratings for the specific works. Finally, since we had only 500 paired observations due to the within-subject randomization—that is, ratings from the same participant for both the pre- and post-pandemic works of a given artist—we used the following procedure to complete the missing pre-pandemic values: (1) For artists with statistically non-significant differences in their pre- and post-pandemic audience ratings (Table 5), we used the same rating as the post-pandemic rating that the participant assigned to the work. (2) For artists with statistically significant differences, we imputed a value that maintained the same difference from the participant's post-pandemic value. Thus, we had 500 observations with both ratings from

the participants, and for the remainder we had an actual post-pandemic rating from the participants and a value we computed for the pre-pandemic score.[5]

The dataset we constructed by combining results from the survey, the expert evaluations, and the experiment had some limitations. The main limitation was that it represented an individual-level dataset built from work-level observations. This had implications for the variability and correlations of the variables, in the first case due to the repetition of certain values (e.g., all 65 observations for one artist had different user ratings but repeated the values for skills, experience and use of time), and in the second due to the construction of some variables (the hours allocated to each type of skill added up to the total of hours used before or after the pandemic). A correlation analysis was used to determine the exclusion of the problematic variables, which we omitted. The correlation matrix and its analysis are included in the appendices. Table 6 presents the results of our econometric model.

	A	B	C	D
Audience Rating Pre	0.7525***	0.7456***	0.7562***	0.7555***
	(0.0184)	(0.0216)	(0.0210)	(0.0214)
Expert Rating Pre	-0.1968***	0.1540	-0.1005*	-0.5879***
	(0.0584)	(0.1148)	(0.0596)	(0.1651)
Expert Rating Post	0.1162**	0.1263	0.2994***	0.4750***
	(0.0590)	(0.0852)	(0.0661)	(0.1013)
Education	0.5264***			
	(0.1158)			
Art Skills	-0.3710***	-0.2845**		-0.2601**
	(0.1023)	(0.1327)		(0.1305)
Business Skills	-0.0601	0.3832***		-0.5231***
	(0.0540)	(0.1308)		(0.2008)
Learning Skills	-0.0840	0.0151		-0.6757***
	(0.0759)	(0.1128)		(0.1575)
Male	0.3733***	0.2589	0.4239***	1.4624***
	(0.1151)	(0.2332)	(0.1530)	(0.3004)
Experience				
Between 5 and 10		0.7736***	0.9922***	1.0054***
		(0.1527)	(0.1486)	(0.1549)
More than 10 years		0.5759***	0.5341***	0.6378***
		(0.1685)	(0.1613)	(0.1667)
Total Hours Pre			0.0316***	0.0632***
			(0.0074)	(0.115)
Total Hours Post			-0.0165***	-0.0349***
			(0.0035)	(0.0057)
Constant	2.8835	-1.0553	-1.0549	4.9282
	(0.6821)	(1.1089)	(0.5633)	(1.4585)
N	1,245	969	969	969
R^2	0.5849	0.5869	0.5892	0.6028

*p-value < 0.1, **p-value < 0.05, ***p-value<0.01; numbers in parentheses are standard errors.

Table 6. Effect of skill levels and lockdown time allocations: regression results for the post-pandemic audience ratings.

We estimated four variants of the main model and found in all of them that the pre-pandemic audience rating was strongly and positively correlated with the post-pandemic score, which is to be expected since the works were created by the same artists in a short span of time and since they went through a selection process focusing on their comparability. Post-pandemic expert ratings were also positively correlated with the post-pandemic audience score, which supports our hypothesis that higher-quality work obtains superior audience ratings (H3). As discussed in the theoretical section, this is what the literature predicted. On the other hand, it is somewhat surprising that the pre-pandemic expert score was negatively correlated with the post-pandemic audience score. Some studies have found discrepancies between the audience and expert evaluations of experience goods, with the former centering on taste or enjoyability while the latter offer more technical assessments (Holbrook 2005; Thrane 2019; Wallentin 2016). The media and many film fans have noted that the opinions of critics and audiences can diverge, such as in the case of critically praised films that receive lukewarm audience reviews and vice versa, as can be seen in review aggregators such as Rotten Tomatoes or Metacritic (Moore 2018). Something along these lines may be happening in our experimental sample.

These factors may also be at play in the case of skill levels and audience ratings, since we found that artistic, business, and learning skills were negatively correlated with post-pandemic audience scores. A higher skill level may entail more complex work, the quality of which may be harder for audiences to appreciate. Simpler experience goods, which appeal to the senses to communicate their quality rather than to expertise or critical authority, are known to perform better among untrained consumers, as would be the case with the students who participated in our experiment (Schiefer & Fischer 2008). Nevertheless, the education and experience of the artists were strongly and positively correlated with the post-pandemic audience rating. These findings suggest that simply possessing highly developed skills may not be all one needs to create highly-rated artworks. Instead, one must put those skills to specific uses and develop them within the structure of a discipline or line of work, as evidenced by the relevance of the experience variable in our model. Even the gender variable aligns with this intuition, since being male is correlated with having earned accolades and prizes (something that may have long-standing gender biases at its root as well). Therefore, although we reject our hypotheses on the influence of artistic and business skills on the audience ratings (H1, H2), these factors may still be involved through other mechanisms.

Finally, the total number of hours spent developing an artist's skills before and after the pandemic were both strongly correlated with the post-pandemic audience rating. However, whereas the pre-pandemic time allocation showed a positive correlation, the use of time during the pandemic appears to have exerted influence in the opposite direction. We find in these results a paradoxical effect that, nonetheless, may be connected to matters of skill development. To be precise, the time used to develop skills before the pandemic may be reflected only in the work created after the crisis began. Similarly, while undertaking other tasks during the lockdown, and perhaps increasing their total time allocation to these activities, artists may actually have been reducing their creative time in order to devote it to education (reading about digital distribution channels, following training programs) or market-related activities. Even if these new activities may increase their experience or develop their skills, with potential eventual effects on audience ratings, this may happen over a longer time frame than the one afforded to them by the pandemic and this study.

Having considered all the results, we conclude that our findings align with theoretical predictions that higher-quality works should obtain better ratings from consumers and experts, potentially performing well in the market even within the unprecedented context of the pandemic. Moreover, such works are often created by artists who have spent time in the past developing their skills, whether through practice (experience), education, or self-development. Thus, our empirical evidence confirms to some extent the extant literature in the context of the pandemic. Regarding the specific impacts of the pandemic on artist creation, both experts and audiences rated pre-pandemic work higher. The emotional reactions of the audience to post-pandemic creations, due to changes in the themes of the works and the mood of the artists, seem to be more relevant to that perception than skill development or loss.

Concluding remarks

This study shows that skill development and loss are part of complex processes intertwined with creative activities. Indeed, skilled artists tend to produce works that obtain positive reviews from both audiences and experts, but the exact mechanism connecting artistic and business skills with the ratings remains to be more fully explored, both within and outside the context of the pandemic. Our study, which is among the first to take works of art, created under defined conditions, to an audience and then measure their reactions, may lead to further research along similar lines.

In our argument, audience scores serve as proxies for the market performance of the works considered. Hence, understanding the role that artistic and business skills play in the audience evaluation of cultural goods, in the context of the pandemic, allows us to explore artist-level effects of COVID-19. The combination of two methodological approaches, experimental with the audience and exploratory with the creators, lets us analyze the effects of the pandemic using novel and primary information obtained from potential consumers. We can observe how the works created during the lockdown, amidst the material and symbolic restrictions imposed by the global healthcare emergency, are perceived and rated by their consumers. Our contribution is hence twofold, moving beyond the immediate realm of COVID-19 to discuss the role of artistic and business skills in the audience evaluation of artistic works. This analysis could provide insights for the development of curricular plans for artists or could lead to the design of training programs with targeted characteristics that more efficiently benefit certain types of artists, thus facilitating the reactivation and recovery of the cultural industries after the pandemic.

Our main limitations derive from the experimental nature of the work, constrained to a laboratory-type setting instead of actual circulation and distribution processes, and the closeness in time of the lockdown, the creation of the works, and their evaluation. Future studies could look at longer time frames, which may allow for the skills developed during the lockdown to fully materialize in the artworks. Concerning the circulation dimension, over 70% of audience participants in the experiment were undergraduate students, with about one-quarter belonging to creative fields. We are aware that students may not be the core consumers of the works used in our design. However, although experimental studies drawing on student samples for marketing research are considered acceptable, if not widespread, for the examination of when examining causal models (Barsade 2002; Hennig-Thurau et al. 2006), it may be worthwhile to consider participants in the actual target audiences of the artists. Similarly, it is not possible to estimate our model using expert ratings as the dependent variable, keeping skills and/or use of time as independent variables—which could

have provided a potential robustness check—since the number of expert observations is too small. Involving more experts would bypass this problem in upcoming research efforts.

Regarding the artists, the experimental stage of the study included only those working in the visual arts in Colombia, and specifically the subset of artists who could continue creating under lockdown conditions. Expanding this pool is necessary before our findings can be generalized. Objective measures of the skills would also be useful, since we are currently limited to collecting self-reported values on a Likert scale. Likewise, a greater variability in the artists' time allocations would allow us to include clearer and more robust treatments in the experiment. In the present study, we used the experimental design to capture audience valuations and emotional reactions, without manipulations such as having some participants observe only the works of artists who did not change their routines during the pandemic or only those who increased the time allocated to a given type of skill. As for the emotional reactions, non-quantitative elements must be considered with regard to both creators and audiences, since a systematic way to compare emotional reactions using these quantitative scales has not yet been developed.

The immediate practical implications of our results indicate that artists would be wise to work on the development of their artistic and business skills, whether in formal programs, through their practice, or in self-study, as long as these activities do not reduce their dedication to creation or production. They must also understand that the results of their time investment may be perceived only on a delayed basis or only by a sufficiently qualified segment of their audience. Further work on audience and expert ratings, and their relation to skills, themes, experience, and formats will help bring light to these issues in the future.

Acknowledgements

Appendices

All the appendices and supplemental material mentioned in the document can be found here. The list of the artists who participated in the experimental stage of the study, and the list of the expert evaluators, are included in this version of the chapter.

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[1] The low response rate was a pervasive problem during data collection. Only one-third of the participants completed the survey, including the requested information on their use of time. Fewer than half of those who completed the survey expressed interest in providing examples of their works for the experimental stage. However, we were able to include 41% of the Colombian artists in the experimental stage.

[2] The fact that most of the differences in the time allocations were not statistically significant in either the Colombian or Spanish samples could be related to the small number of observations and the heterogeneity within the samples in terms of experience and fields. A difference-in-means *t*-test for each of these activities, comparing the use of time before the pandemic and during the lockdown, can be found in the appendices.

[3] We decided to limit the experimental stage to the Colombian subset of the sample because of the number of artists with comparable works, and within fields suited for the experimental design, who expressed interest in participating. Another factor was our access to a large pool of Colombian students with consistent demographic characteristics. Despite these limitations, since our analysis looks at the individual artist level for its comparisons and interpretations, we believe the findings can be generalized to other contexts, including Spain.

[4] The small monetary compensation was offered to the artists in exchange for their time and the opportunity to share their work with a limited number of experiment participant. The artists retained ownership of their work, and this "loan" entailed no risk for their copyright or the originality of the work, given that it did not amount to a circulation activity since it took place in a private setting.

[5] We opted for a complete, within-subject randomization to avoid potential biases resulting from the order of presentation (pre- or-post pandemic works being presented before the other) or due to the proportion of either type in each of the three experimental rounds. Therefore, not all participants observed a given artist's pre- and post-pandemic work.

Appendix 1

Artists who participated in the experimental stage of the study

This appendix presents a list of the artists who participated in the experimental stage of our study, either allowing us to (anonymously) share their work with the audience or taking part in interviews on the effect of the lockdown in their creative work. All of them participated in the first stage of the study, the survey on their use of time during the lockdown. They are presented in alphabetical order with a link to their website or social media where their work can be found.

Paulo Cesar Acosta Castaño
Photographer

Daniel Eduardo Acuña Torres
Visual Artist

Gabriel David Aguilar Angel
Visual Artist

Juliana Atuesta
Performing Artist

Felipe Barragán
Visual Artist

Mario Brume
Visual Artist

Ricardo Caicedo
Photographer

Angélica Chavarro
Visual Artist

Ana María Coral Fernández
Visual Artist

Camilo Daza
Visual Artist

Samanta García Pinzón
Sound Artist

Susan García
Visual Artist

Vicenta Gómez
Visual Artist

Lizana Mayel Herrera Zuluaga
Musician

Juliana Hernández Rocha
Visual Artist

Andrés Kal
Visual Artist

Jorge Enrique Magyaroff
Visual Artist

Alex Murcia
Musician

Alejandra Parra
Visual Artist

Andrés Rocha B
Visual Artist

Paola Rodríguez Lopera
Visual Artist

José Rosero
Visual Artist

Saris Sandoval
Visual Artist

Ricardo Scioville
Visual Artist

Jaroth Steve
Visual Artist

María Camila Velandia
Visual Artist

Appendix 2

Expert evaluators who participated in the study

This appendix presents a list of the artists, educators, and critics who participated in the experimental stage of our study as expert evaluators. Those with an asterisk next to their name also participated in the protocol analysis of the research instruments. They are presented in alphabetical order with a link to their website or professional social media.

Oscar Ayala
Visual Artist
University professor of humanities and visual arts
PhD student in the Arts & Humanities at Oporto University

Ingrid Benítez
Performing Artist
University professor of humanities and visual arts
PhD student in the Arts & Humanities at Oporto University

Luis Brun
Filmmaker
Film Critic
Specialist in audiovisual documentary production and transmedia technologies
University professor of media and social communication

Marcela Garzón
Industrial Designer
MSc in Cultural Management
Coordinator of the Visual Arts program at Universidad Antonio Nariño

Oscar Hernández Salgar (*)
Musician
University professor of musicology
Leader of the Creative and Cultural Industries initiative at Pontificia Universidad Javeriana
Technical Secretary for the Colombian Presidential Commission on the Creative and Cultural Industries (*Misión de Sabios*)
PhD in Social Science by Pontificia Universidad Javeriana

Andrés Laguna (*)
Film Critic
Programmer at the Huesca International Film Festival
University professor of media and social communication
PhD in Film History by Universidad de Barcelona

Ivonne Martínez
Visual Artist
MA in Visual Arts

Laura Morales (*)
Visual Artist
MA in Visual Arts
University professor of arts management and entrepreneurship
Cultural policy specialist in the cultural industries at Bogotá's district culture secretary

Camilo Niño
Musician
University professor of music theory
PhD student in Entrepreneurship in the Creative and Cultural Industries at QUT Australia

Vanessa Ortiz Severino (*)
Cultural Manager
MSc in Entrepreneurship in the Creative Industries
University professor of arts entrepreneurship in the performing arts
Arts entrepreneurship funding specialist at Findeter
Arts entrepreneur

Luis Rodríguez (*)
Filmmaker
Radio and podcast producer
MA in Documentary production
University professor of graphic design

Wilmer Rodríguez
Visual Artist
MSc in Arts Education
University professor of visual arts