

#### Contents lists available at ScienceDirect

# **Poetics**

journal homepage: www.elsevier.com/locate/poetic





# The nested relationality of perceived legitimacy: Mapping taste hierarchies with granular digital traces

## Massimo Airoldi

Assistant Professor of Sociology at Department of Social and Political Sciences, University of Milan, Via Conservatorio 7, Milano 20122, Italy

#### ARTICLE INFO

Keywords: Taste Cultural hierarchies Music classification Youtube Digital traces

#### ABSTRACT

The article has a double purpose. On the one hand, it contributes to theories of cultural legitimacy and classification. Based on data about consumers' music evaluations, it shows that taste hierarchies are configured as nested and relational classificatory systems. Nested, because rank systems of symbolic value are collectively recognized, reproduced, and negotiated by consumers not only at the level of genres, but also at lower, nested levels – e.g., sub-genre, artist, single artwork; relational, because the value attributed to music by consumers is ordinarily assessed and constructed through analogies and comparisons, and partly depends on the classifier's relative position in the social space. On the other hand, this paper makes a key methodological contribution by analyzing large amounts of YouTube data through computational methods and in combination with survey data, it illustrates how the granularity of digital traces can advance sociological research on cultural categories, meaning structures and symbolic imaginaries.

#### 1. Introduction

Cultural fields are organized in hierarchical ways. The perceived legitimacy of genres, sub-genres, artists, and single artworks is unevenly distributed: cultural producers, intermediaries, and audiences regard some as "standards of excellence", and others as a "mark of infamy" (Bourdieu, 1984:17). The resulting hierarchies can have different degrees of universality (DiMaggio, 1987): they may matter to many or be recognized solely by specific social groups – e.g., subcultural enthusiasts, or high-class snobs. Cultural hierarchies change over time, at varying paces (Schmutz, 2016), and enable the micro-social display of cultural capital at the root of distinction mechanisms (Lizardo, 2008).

Cultural classification and stratification are established topics in sociology. Yet, the literature has mostly theorized the erosion and fragmentation of cultural hierarchies, rather than illuminating their underlying social dynamics and complex "meaning structure" (Mohr, 1998). Furthermore, while several contributions examine the classifications and evaluations of cultural producers and intermediaries, audiences' classificatory practices have received considerably less scholarly attention. This is partly due to an eminently epistemological reason: the folk classifications and situated cultural evaluations of myriad individuals are much harder to grasp and measure than those objectified by press articles, restaurant guides, or artistic awards (Schmutz, 2016; Johnston & Baumann, 2007).

However, lay consumers play a major role alongside cultural intermediaries in determining the market trajectories and (eventual) consecration of cultural genres and producers. DiMaggio (1987) notes that artistic classification systems are co-constructed by both producers and consumers, with the latter decisively contributing to the collective (re)drawing of categorical boundaries ranking cultural content. Through their boundary works and legitimacy judgments, art publics ordinarily separate "fine", "high" and

E-mail address: massimo.airoldi@unimi.it.

"authentic" tastes and cultural forms from "low", "popular", and "inauthentic" ones – spontaneously drawing symbolic hierarchies that only partly overlap those recognized by art professionals. These "taste hierarchies" can be defined as the result of consumers' shared taste patterns and "classificatory imagination" (Beer, 2013).

With the diffusion of digital platforms, consumers' aesthetic evaluations and stratified tastes have become more visible and influential, as in the case of online ratings and reviews (Verboord, 2014). The present article makes at once a theoretical and methodological contribution, by illustrating how the computational study of digital traces extracted from online platforms can advance research on cultural classification processes. This methodological approach ultimately opens up new directions for a structural analysis of cultural systems (Kirchner & Mohr, 2010) interested in how the symbolic meanings collectively attached to the (dis)taste for specific music artists and genres "are built up out of structures of difference" (Mohr, 1998: 365). The network and content analyses of large amounts of public music evaluations retrieved from YouTube, integrated by an *ad hoc* survey investigation, allowed me to map the configuration of taste hierarchies in the Italian field of music consumption, illuminating their – otherwise hidden – "nested relationality", a term that I have borrowed from Jarzabkowski and colleagues' work on global markets (2015). That is: the perceived legitimacy of music artists and categories by Italian consumers appears to be organized as a set of genre-specific hierarchies relationally embedded in a broader hierarchical structure of shared symbolic meanings.

The article is organized as follows. Section 2 discusses unresolved theoretical tensions underlying the literature on legitimacy and cultural classifications (objects vs. categories, specific vs. general legitimacy, homogeneous vs. heterogeneous perceptions), which lead to three research questions on the understudied structural configuration of taste hierarchies. Section 3 highlights the methodological opportunities brought by fine-grained, relational and inductive analyses of digital traces to the study of cultural stratification. Section 4 describes the data, methods and context of my empirical research, which focuses on the Italian field of music consumption. Section 5 illustrates the findings, presented through a series of visual network analysis outputs. Last, Section 6 discusses the contributions and limitations of the present work.

## 2. Taste hierarchies as meaning structures

The socio-cultural processes through which legitimacy is built and maintained within markets and social fields produce what cultural sociologists call "cultural hierarchies": shared understandings of the prestige associated to entities such as literary genres, movies, or composers (Bourdieu 1993; Cattani et al., 2014; van den Haak, 2020). Individuals may privately disagree with such legitimacy rankings, and yet then tacitly recognize them as "objective" social facts (Johnson et al., 2006: 55).

Scholars have extensively theorized the social and institutional mechanisms through which specific entities are "consecrated" and new cultural hierarchies emerge (Schmutz, 2016; Cattani et al., 2014; Johnston & Baumann, 2007); how perceived categorical boundaries weaken, and cultural hierarchies erode (Janssen et al., 2011; DiMaggio, 1987); how hierarchies of legitimacy are enacted and socially enforced by cultural producers and intermediaries, as well as actively resisted and contested from below (Bachmayer et al., 2014; see Lizé, 2016). This paper undertakes a different direction and illuminates the "meaning structure" of the cultural hierarchies resulting from lay consumers' everyday aesthetic evaluations and legitimacy judgments – what here I call "taste hierarchies". I empirically investigate how the forms of cultural hierarchization resulting from collective taste patterns and discourses within a consumption field jointly work as a "cultural meaning system" (Mohr, 1998). What are the relationships between their ranked entities – artistic categories, as well as objects? Is a taste hierarchy as simple and unidimensional as a ladder, or complex and multidimensional like a rhizome? And how do different audiences relate to and imagine hierarchies of legitimacy? Below I discuss these open questions in light of the scholarly tradition on the quantitative measurement and structural analysis of culture (Mohr et al., 2020; Mohr, 1998), by evidencing three main theoretical tensions underlying the existing literature: objects vs. categories, specific vs. general legitimacy, homogeneous vs. heterogeneous perceptions.

## 2.1. Objects vs. categories

Traditionally, studies of cultural stratification have focused on the shifting legitimacy associated to broad cultural categories, such as music genres or gastronomic styles (van Venrooij & Schmutz, 2010; Johnston & Baumann, 2007; Lizardo, 2008). An example is research on cultural omnivorousness, which highlighted the historically declining importance of the categorical boundary dividing highbrow and lowbrow tastes among high-status consumers (Peterson, 2005). More recently, a growing literature has criticized the near-exclusive scholarly focus on cultural categories as supposedly coherent wholes (Bachmayer et al., 2014; Atkinson, 2011; Rimmer, 2012). In particular, research has shed light on the atypicality of objects within categories (Goldberg et al., 2016), calling for a closer look at the relationship between the two. For instance, classical composers' perceived prestige depends on whether their oeuvres are considered "difficult" or "light", and rappers' one on whether they are considered as "underground" or "commercial"; such "within-genre" distinctions affect the legitimacy of single musical objects, which may therefore differ from the legitimacy of the whole category (Atkinson, 2011). As Childress and colleagues note (2021: 231), "culture simultaneously operates at the level of categories (such as genres of music, film, or television) and at the more fine-grained level of objects (such as discrete musicians, movies, or shows)". Their recent empirical study shows that category-level aesthetic evaluations tend to be more "inclusive" than object-level ones, and that this difference shapes the situated social processes through which high-status taste is displayed. Notably, this important finding on the "vertical" relations between cultural categories and their lower-level entities has not yet been translated into a more nuanced understanding of taste hierarchies and their structural configuration (Mohr, 1998). If it is true that the perceived legitimacy of a given cultural object does not necessarily correspond to the one of the category it belongs to, then we should expect taste hierarchies to present complex, multi-layered structures segmented by both inter- and intra-genre boundaries (Airoldi, 2021), rather than simpler,

ladder-like configurations. These considerations lead to my first research question:

RQ1 How do patterns in the cultural evaluation of objects and of their respective categories structure taste hierarchies?

## 2.2. Specific vs. general legitimacy

According to Bourdieu (1984: 52), consumers' cultural evaluations are necessarily relational, being "always implicitly based on reference to 'typical works', consciously or unconsciously selected because they present to a particularly high degree the qualities more or less explicitly recognized as pertinent in a given system of classification". Such "typical works" (and typical categories) act as shared "cultural symbols" signaling legitimacy and illegitimacy (Lizardo, 2016), elements within a hierarchized system of interconnected tastes and cultural meanings.

It is important to note that, while Bourdieu postulated the existence of a quite rigid and general idea of what constitutes cultural capital (and what does not), other scholars have argued that aesthetic judgments depend on the contexts of evaluation (Collins, 2000; Lamont, 1992). For instance, a conversation about rap music will likely see interlocutors mention Kendrick Lamar or Eminem's records as "typical works", rather than Mozart or Schubert's sinfonias, given the semantic proximity of the firsts in the "heads and habits" of individuals (DiMaggio, 1987:441). Sociological research shows that forms of "subcultural capital" (Thornton, 1995) cohabit with more general, mainstream ideas of what is deemed as "good taste" in a field - to the point that, as van den Haak (2020) shows, Radiohead are "next to Bach", according to Dutch consumers' perceptions of cultural hierarchy. This implies that, as Lamont (1992) puts it, a plurality of hierarchies exists. Different taste hierarchies are likely not to be mutually exclusive, but rather to juxtapose and interpenetrate in a complex "web of meanings" (Geertz, 1973), connecting at once specific and general understandings of legitimacy in a field of consumption. Following Childress and colleagues (2021: 254), we can "imagine multiple levels of culture that exist on a continuum of specificity", ranging from "entire domains of culture" (e.g., television, music, literature) to genres, sub-genres, artists, and even single cultural products. Hence, high-level taste judgments on what constitutes "good music" will probably rely on more "general" boundary works than low-level ones about "good rap", "good jazz", or "good records by The Doors". Notably, the complex "topologies" of legitimacy that are likely to emerge from such multi-layered "horizontal" relations among culturally hierarchized entities are understudied in the literature, which so far has measured the perceived legitimacy of objects and categories in isolation (van den Haak, 2020), without adequately accounting for the networks of symbolic relations and hierarchized taste patterns surrounding them (Vlegels & Lievens, 2017). From this, a second research question follows:

RQ2 How does the coexistence of general and specific ideas of legitimacy shape the structure of taste hierarchies?

## 2.3. Homogeneous vs. heterogeneous perceptions

As any classification system, taste hierarchies are collectively maintained by the intersubjective agreement of individuals. However, cultural classifications can be more or less "universal" (DiMaggio, 1987), meaning that different collectivities vary in the extent to which they recognize and reproduce a given taste hierarchy, as well as in the ways they perceive it. Deeming the latest Depeche Mode record as "commercial" is a classificatory practice that might bear no meaning to a young consumer born in the 2000s. Also, thinking that "classical music is the best" does not necessarily imply a refined knowledge of Beethoven or Mozart's works, since – as Atkinson remarked (2011: 170) – "what counts as 'classical' for one person might not for another". On top of this, different mechanisms of cultural legitimacy can be identified (Cattani et al., 2014), from public acclaim by fans to professional recognition by peers. All this implies that different audiences (i.e., producers, intermediaries, and consumers) might have different ideas of what legitimacy means in a given cultural field (Janssen et al., 2011), and that disagreement might arise also within each of these audiences, due to the different habitus and "aesthetic views" characterizing sociodemographic segments (Bourdieu, 1984; Rawlings & Childress, 2021).

The sociological literature suggests that, despite the eroding boundaries between highbrow and lowbrow tastes and shifting legitimacy of genres, a homogeneous consensus on cultural hierarchies persists among professional critics in fields like popular music (van Venrooij & Schmutz, 2010), gastronomy (Johnston & Baumann, 2007), or television (McCoy & Scarborough, 2014). However, when it comes to consumers, there is a general belief that democratization, globalization, individualization, as well as massive digitalization processes have disrupted previously shared taste hierarchizations and ideas of legitimacy across all cultural fields (Verboord, 2014; Alexander et al., 2018; Janssen et al., 2011). This would imply that different segments of consumers have contrasting, heterogeneous perceptions of cultural legitimacy.

In sum, when we consider the "external" relations linking cultural objects/categories to their audiences, we can have more or less homogeneous understandings of legitimacy, based on the degree by which different social groups agree on what is valuable and what is not in a given field (Johnson et al., 2006). The degree of homogeneity of perceptions of legitimacy is likely to have important implications on the configuration of taste hierarchies as cultural meaning systems: the existing literature implicitly suggests that heterogeneous perceptions of legitimacy by art publics may weaken categorical boundaries, while homogeneous perceptions are likely to make them stronger (DiMaggio, 1987; van den Haak, 2020; Lamont, 1992). Yet, there is a lack of empirical studies examining the impact of audiences' varying perceptions of legitimacy on the overall configuration of taste hierarchies. A third research questions guiding this work is the following:

RQ3 How do homogeneous vs. heterogeneous perceptions of legitimacy configure the structure of taste hierarchies?

## 3. Studying taste hierarchization with digital traces?

It can be argued that one major reason for the lack of empirical research on the structural aspects of legitimacy is epistemological. In

fact, "conventional" data and methods struggle to grasp the always shifting, contingent, relational, multi-layered and often conflicting understandings of legitimacy by cultural producers, intermediaries and, especially, consumers (Beer, 2013).

On the one side, survey data have been traditionally used to produce large-scale representations of classification systems and taste patterns (see Peterson, 2005; Bourdieu, 1984), but are now widely criticized for falling short in grasping the "inherent dynamism of the social world" through predefined, close-ended questions about broad genre categories (Atkinson, 2011: 171; Rimmer, 2012; Beer, 2013). On the other, while canonical qualitative methods have decisively contributed to research on cultural evaluation and legitimacy (e.g., Bachmayer et al., 2014; Atkinson, 2011; van den Haak, 2020), the focus on small samples of the population does not allow to understand large cultural systems in their entirety (Mohr, 1998). Furthermore, qualitative interviews about aesthetic judgments can be subjected to biases due to social desirability processes (Jarness & Friedman, 2017).

As a response to these limitations, alternative methodological approaches have emerged in the study of cultural classification and taste. Following the "network turn" in cultural sociology (Pachucki & Breiger, 2010), scholars have proposed to analyze survey data with network and cluster analysis techniques, aiming to produce more inductive and relational interpretations of consumers' self-reported cultural preferences and categorizations (Lizardo, 2018; Sonnett, 2016). For instance, Vlegels and Lievens (2017) have investigated Flemish consumers' music categorization patterns through the network analysis of open-ended questions about favorite artists and bands. Moreover, press articles and cultural guides written by professional critics have been extensively scrutinized through qualitative and quantitative content analysis methods (Janssen et al., 2011; van Venrooij & Schmutz, 2010; Johnston & Baumann, 2007), including computational techniques like topic modeling (Light & Odden, 2017). Nonetheless, neither survey data nor press articles allow to map how lay persons negotiate and reproduce taste hierarchies from below (Vlegels & Lievens, 2017), outside of the staged context of interviews (Peterson, 2005), through their everyday, socially situated boundary works (Collins, 2000; Bowker & Star, 1999).

On a positive note, it has become increasingly evident that consumers' "classificatory imagination" is systematically archived by platforms and apps in the form of "digital traces" – i.e., by-products of online communications and activities (Bail, 2014; Lewis, 2015). Despite the recent boom of digital research and computational methods in the social sciences (Stoltz & Taylor, 2021; Salganik, 2018; Wagner-Pacifici et al., 2015), up to now this major epistemological shift has received limited attention in the multidisciplinary literature on cultural fields and classification systems (Airoldi et al., 2016).

The present article proposes to exploit digital traces of platform users' aesthetic evaluations to map the meaning structure of taste hierarchies on a large scale, from the ground up, and in a relational way (Mohr, 1998; Beer, 2013), combining text mining techniques and network analysis. Here I argue that three main methodological opportunities brought by the computational analysis of platform data can advance research on classification systems, that is: granularity, relationality, and unobtrusiveness.

## 3.1. Granularity

While usually very "big", datasets of unstructured digital traces are also "granular" – meaning, they can be examined at different levels of detail (Halford & Savage, 2017), thus allowing for "close" as well as "distant" readings of socio-cultural phenomena (Mohr et al., 2015). As Latour et al. (2012:18) put it, digital traces "may provide another way to render the social sciences empirical and quantitative without losing their necessary stress on particulars". The granularity of digital datasets can be appreciated in computational analyses of large text corpora with techniques such as topic models or word embeddings (Stoltz & Taylor, 2021), which allow to "zoom in" at the level of single words or documents, as well as to "zoom out" and grasp broader structural patterns in topics and document categories. This property of large collections of digital traces has the potential to advance our theoretical comprehension of the multi-layered structure of classification systems, which comprise single cultural objects as well as broad cultural categories (Childress et al., 2021). In sum, the "power of new [digital] datasets is in offering specificity about artforms" (Hanquinet et al., 2019:198). For the purposes of the present paper, such granularity is needed to measure the differential evaluation of objects and categories (RQ1).

## 3.2. Relationality

Resulting from the technological mediation of communications and online transactions, digital traces are inherently relational. The links connecting Internet users, content, webpages, profiles, and any other digital object or infrastructure are traceable, and therefore suitable for a relational analysis – i.e. interested in patterns of relations among entities, rather than on the study of single entities in isolation (Kirchner & Mohr, 2010; Bourdieu, 2002). From ties among Facebook "friends" (Hofstra et al., 2017) to algorithmically related videos on YouTube (Airoldi et al., 2016), platform data have been frequently analyzed using network analysis techniques (see Salganik, 2018 for a review). The relationality of digital traces favors visual and computational representations of complex social phenomena (Venturini et al., 2021), which have proved to be useful to inductively reconstruct the configuration of classification systems (Beer, 2013). This second property of digital traces ultimately enables a fine-grained, large-scale "cartography" (Stoltz & Taylor, 2021) of perceived relations among culturally hierarchized entities and tastes (see Section 2), thus fostering a topological reading of the symbolic associations linking objects and categories in a given cultural system (RQ2).

#### 3.3. Unobtrusiveness

Unlike data "provoked" through interviews or experiments, digital traces are "found" by-products of datafied social practices (Lewis 2015). Digital traces are a crucial component of the data-intensive business model of apps and platforms, and yet – when

publicly available – can be repurposed for academic research (Salganik, 2018). Data about product reviews, social media posts and content, comments, likes, can all be collected in an unobtrusive manner. Research on cultural classification and boundary works can decisively benefit from this unobtrusiveness. As Peterson noted (2005: 272): "rather than asking people what they like and what they do, it would seem preferable to unobtrusively observe people as they make consequential everyday choices that are open and publicly available". Digital traces allow precisely this: on the one hand, the unobtrusive analysis of online cultural evaluations reduces the risk of biases due to the presence of the researcher (Jarness & Friedman, 2017); on the other, lay persons' everyday aesthetic boundary works can be studied for the first time truly "from the ground up" (Beer, 2013) within the (digital) context of social situations (Collins, 2000), thus illuminating the collective making and negotiation of shared discourses on (il)legitimate taste.

Still, in the absence of informed consent by research participants, this unobtrusiveness also brings delicate ethical implications (Salganik, 2018). Furthermore, a key epistemological limitation of public platform data lies in the lack of information about the users (Goldberg et al., 2016). Without asking questions, in fact, it is impossible to ethically obtain details about people's sociodemographic background – details that, for the purposes of the present paper, are essential to measure how perceptions of legitimacy vary across audiences and social segments (RQ3).

## 4. Data, methods and research context

Aiming to map the structural configuration of taste hierarchies, the present study consists in the computational analysis of aesthetic evaluations and analogies publicly shared by Italian music consumers, based on large amounts of textual data retrieved from video sharing platform YouTube, integrated by an *ad hoc* survey investigation. Below I describe the data collection and pre-processing phases, the methodological approach, and the research context – that is, the Italian musical field.

## 4.1. Data collection and pre-processing

The first data collection phase consisted in retrieving all user-generated comments to a set of 17,734 YouTube music videos uploaded by Italian users, by querying YouTube API version 2.0 with Python. This large textual corpus (N = 2145,857) was preprocessed in R and filtered based on a) date of publication and b) sentiment. First, only comments published between January 2014 and April 2015 were retained (N = 399,292); second, by fine-tuning an existing sentiment dictionary (Russo et al., 2016) through a manual and context-sensitive classification of terms occurring at least 10 times in the corpus, a custom list of positive and negative terms was derived, and subsequently used to remove "neutral" comments that did not express any aesthetic judgment. The resulting dataset of 130,577 user-generated cultural evaluations covers a wide range of Italian and international popular music, including content featuring 498 music artists. \(^1\)

A second phase aimed to identify YouTube users' situated *music analogies*. By querying once again Spotify's search API in R, this time using the (pre-processed) text of comments as prompt, I could automatically identify all those cultural evaluations that mentioned music artists other than the one in the commented video (N = 12,503). The resulting corpus was then manually inspected by the author in order to a) clean out inaccurate mentions (e.g., niche artists mistaken for more popular ones) and b) qualitatively classify analogies based on their positive, neutral, or negative character. For instance, all artists mentioned in the comment below (i.e. Mina, Lucio Battisti, Fabrizio De André, Franco Battiato) are positive mentions with respect to the artist in the video (i.e. Negramaro), discursively employed as symbols of artistic value and legitimacy.

"Have you ever listened to **Mina, Lucio Battisti, Fabrizio De André, Franco Battiato**? Have you ever listened to real music?" (Artist: **Negramaro**; genre: Classic Italian Pop Rock)

Last, a survey study was purposefully designed to measure sociodemographic variations in *perceptions of cultural legitimacy* among digital music listeners, since they cannot be investigated through public digital traces (see Section 3). The questionnaire featured items on sociodemographic characteristics (i.e. gender, age, education), as well as open-ended questions asking respondents to list at least one artist they associated to shared notions of "good" and "bad" music. The online questionnaire was distributed via email during July 2016 to 19.303 users of 50 public libraries located in the north-west area of Milan, Italy, and 1591 respondents aged 18–71 years old completed at least part of it (8.24 % response rate). Though the surveyed sample is obviously not representative of the Italian population, it approximates the sociodemographic composition of YouTube users at the time of the data collection (IFPI, 2016): in fact, the large majority of my respondents declared to consume music via this platform (82 % amongst individuals born after 1989). For analytical purposes detailed below, I subsequently segmented respondents based on educational level (university degree, or not); age (born after 1980, or earlier) and gender (female, or male). This way, eight main socio-demographic profiles were derived (see Fig. 3).

<sup>&</sup>lt;sup>1</sup> Notably, there is no native music genre classification in YouTube. I therefore obtained the artists' self-assigned genre tags from streaming platform Spotify, by querying its search API through R package 'spotifyr' (Thompson et al. 2019). Then, I aggregated Spotify genre tags into the following twelve categories, and classified the artists in my dataset accordingly: Classic Italian Pop Rock, Contemporary Italian Pop, Italian Hip Hop, Italian Folk/Regional Music, Italian Indie/Niche, International Rock, International Pop, Classical/Opera/Soundtrack, Jazz/Blues, Dance/Electro/Disco, Reggae, Latin Music (see Table 1).

<sup>&</sup>lt;sup>2</sup> The open-ended questions about "good" and "bad" music analysed in this paper followed survey items inquiring about respondents' musical likes and dislikes, and their formulation was aimed at measuring general perceptions of cultural (il)legitimacy rather than individual taste.

## 4.2. Methodological approach

The datasets (*cultural evaluations corpus, music analogies corpus, survey data on legitimacy perceptions*) were analyzed through a combination of content and network analyses, following a "structural mode of interpretation" interested in the relational configuration of meanings (Mohr, 1998; Kirchner & Mohr, 2010). In particular, the use of visual network analysis methods in open-source platform Gephi (Venturini et al., 2021) was motivated by the need to adopt a "structure-preserving simplification" capable of inductively illuminating the multidimensional patterns characterizing the investigated cultural system (Mohr, 1998: 365). The empirical analyses are articulated in three methodological steps. First, in order to map the collective patterns of evaluation of objects and categories in the Italian musical field (RQ1), I followed the dictionary-based content analysis method outlined above to calculate the percentage of positive music evaluations in the *cultural evaluations corpus*, at the level of artists, on the one hand, and genres, on the other. Any comment featuring more positive than negative words was classified as a "positive" cultural evaluation. I then considered the percentage of positive comments and subsequently calculated the internal variance per each genre category through a simple standard deviation measure (Table 1). I subsequently mapped the multi-layered structure of inter-genre and intra-genre evaluations by building a bipartite network (Lizardo, 2018) linking two different types of nodes: artists (N = 498) and YouTube commenters (N = 82,441). In this large graph (Fig. 1), edges represent the positive and negative comments included in the corpus (N = 130,577). This visual mapping enabled a fine-grained and ultimately qualitative exploration of multi-layered evaluation patterns (Venturini et al., 2021; Halford & Savage, 2017).

Second, I mapped the relational topology of taste hierarchies in the Italian musical field (RQ2) through a visual network analysis of the *music analogies corpus*. A series of unimodal graphs based on YouTube commenters' music comparisons was derived as follows: a directed edge from artist A to artist B was established if artist B was mentioned in comments on artist A. Edges in this network are classified and visually displayed according to their sentiment (see Fig. 2). The difference between each artist's amount of positive and negative mentions, divided by the total number of mentions, is employed here as indicator of their perceived legitimacy by YouTube audiences. In fact, differently from individual preferences shared in private or semi-private contexts (e.g., responses to questionnaires and interviews), YouTube comments are embedded in public social situations involving at once the author and the platform's "invisible audience" (Baym & boyd, 2012). As such, they must be interpreted as identity markers subject to wider mechanisms of social influence (Goldberg et al., 2016: 226), conveying the shared cultural meanings associated to artists and genres (Bourdieu, 1984). In other words, the common digital practice of substantiating one's aesthetic judgment by positively (or negatively) mentioning artists other than the one in the commented music video (as in the excerpt above) reflects and objectifies a tacit intersubjective agreement on the artistic value and recognized legitimacy (or illegitimacy) of the chosen artistic references – which may or may not correspond to the actual taste of the commenter, and yet informs us on the relational structure of taste hierarchies.

Last, building on recent research in cultural sociology applying network analysis techniques to survey data (Lizardo, 2018; Vlegels & Lievens, 2017), textual responses to open-ended questions about artists associated to abstract notions of "good" and "bad" music were pre-processed and transformed in a bipartite network linking music artists to respondents' socio-demographic profiles (see Fig. 3). This analytical step has a double goal. On the one hand, by illuminating differences in legitimacy perceptions across gender, age and educational categories (RQ3), it complements the results of the YouTube study, adding otherwise missing information about the "social space" underlying cultural classifications (Bourdieu, 2002). On the other, the resulting symbolic associations allow to observe shared perceptions of legitimacy from a different angle, outside of the peculiar sociotechnical context of YouTube. Looking for overlaps and discrepancies between digital traces and survey responses can thus serve to triangulate online and offline methods and strengthen the empirical results (Hanquinet et al., 2019).

## 4.3. Research context

Featuring a huge variety of official and user-generated music videos accessible at no cost, YouTube is the most used music service and one of the three most visited websites in the world, with over 2 billion monthly logged-in users (YouTube, 2022). In addition to its frequent usage for music purposes, some of the technical aspects of the platform, such as the possibility of publicly commenting on videos and the availability of APIs for downloading data, make it an ideal – yet understudied – context for exploring cultural consumption and classification patterns (Airoldi et al., 2016). At the time of my data collection, Italy represented the third world-largest market in terms of YouTube usage for music – with 9 out of 10 visitors accessing the platform for music-related activities (IFPI, 2016). Italy presents a nationally bounded popular music market which has however experienced a significant contamination from international genres (Fabbri & Plastino, 2014). The enclosed and yet stylistically heterogeneous character of Italian popular music makes it an interesting case for studying how cultural hierarchies intersect genre boundaries (Janssen et al., 2011). Furthermore, it must be noticed that both mainstream and underground, contemporary as well as "classic" Italian music content is widely available on YouTube (Airoldi, 2021).

A last, more pragmatic rationale for the empirical focus of the present article is linked to language: Italian music listeners – and YouTube commenters – are largely Italian speakers. This linguistic homogeneity significantly simplifies the pre-processing and analysis of the textual corpora.

In addition to making a theoretical contribution (see Section 2), this paper has a methodological purpose, that is: providing an empirical illustration of how digital traces and computational methods can be employed to study legitimacy and categorization processes with a structural cultural analytical approach (Mohr, 1998). With this respect, the Italian musical field should be seen as "an exemplary case in a finite world of possible configurations" (Bourdieu, 2002: 268), which nonetheless can help highlighting the undertheorized structural properties of cultural hierarchies.

## 5. Results

#### 5.1. Cultural evaluations between objects and categories

The first research question guiding this paper asks how variations in cultural evaluation patterns between objects and their respective categories reverberate on the overall structure of taste hierarchies in the field. I first quantified the percentage of positive YouTube comments over the total number of comments received by single music artists – our objects – and music genres – our categories. Table 1 below shows the genre distribution of the 498 artists whose music videos are featured in the *cultural evaluations corpus*.

The distribution of cultural evaluations in the Italian musical field provides a first indication of the presence of forms of taste hierarchization. However, the data suggest that the structure of taste hierarchies in the field is not unidimensional: in fact, there are important inter-genre differences in the evaluation of artists' within genres. If we look at the standard deviation column of Table 1, we note that the percentage of positive comments to Jazz/Blues, Classical/Opera/Soundtrack and Dance/Electro/Disco artists is relatively close to the mean of the genre (STD ranging from 6.8 to 9.9 points); in other words, YouTube commenters in my dataset tend to attribute a similar value to all the objects belonging to these categories (Childress et al., 2021). However, commenters agree way less on the evaluation of other genres, such as International Rock (STD = 22.3), Italian Indie/Niche (STD = 27.5), or Latin Music (STD = 41.1). While these measures may be biased in the case of small-sized genres like the latter (see Table 1), we can observe these differences also when comparing large categorical groups, such as Classic Italian Pop Rock (N. of artists = 146; STD = 11.8) and Italian Contemporary Pop (N. of artists = 100; SD = 16). This result suggests that not only object-level evaluations tend to differ from category-level ones (Childress et al., 2021), but that the degree of this discrepancy varies from category to category. This finding might be interpreted by considering the configuration of within-genre cultural boundaries (Bachmayer et al., 2014; Atkinson, 2011): for instance, while the "ritual potency" (DiMaggio, 1987) of the underground/mainstream boundary is likely to be particularly strong in the case of popular music genres like indie rock and hip hop, such within-genre distinctions are probably less relevant in the evaluation of classical or jazz music - as my empirical analyses suggest. Still, it is important to note how these findings may also reflect different "commenting cultures" on YouTube: for instance, classical music listeners may be less keen to openly criticize what they dislike compared to pop music fans.

A more fine-grained picture of intra-genre and inter-genre variations in evaluation patterns, and of their structural outcome on taste hierarchies is offered by Fig. 1 below. This bipartite network maps how 130,577 YouTube comments (edges) link 498 music artists to their platform audiences (nodes). The left-hand side of Fig. 1 presents the distribution of artists and negative comments only (in red), while the right-hand side shows relations drawn by both negative and positive comments (in blue), separated by genre (Italian Hip Hop at the top, other genre categories at the bottom). The size of the labels is proportionate to the number of YouTube comments received, while their color depends on the artists' share of positive comments (blue = high, red = low, white in between).

Almost all Italian Hip Hop artists reside in the upper area of the left-hand side visualization (e.g. Fedez, Fabri Fibra, Emis Killa, Clementino, Lowlow, J-Ax), this indicating that they are commented by a specific set of YouTube users that rarely comment on other genres. The density of negative (red) edges is clearly higher in this cluster than in the rest of the map, as the average percentage of positive comments for this genre is the lowest (66.8 %, see Table 1).

It can be visually noted how object-level differences in legitimacy – e.g., between rappers Clementino (label in blue) and Fabri Fibra (label in red) – are particularly marked in the case of Italian Hip Hop and much less evident in the case of other large-sized genres like Italian Contemporary Pop and, especially, Classic Italian Pop Rock. These latter categories are characterized by a higher share of positive comments and a lower internal variance (see Table 1) – as witnessed by the homogeneous light blue of labels at the bottom of Fig. 1, where their artists are mostly located.

In sum, genres vary considerably in the extent to which their aggregate category-level evaluations correspond to the those of their objects. The meaning of a category like "rap music" is not univocal, as it is not its evaluation: there are many understandings of rap, since many rappers are positively evaluated, and many others are not. Conversely, other categories – like classical, or jazz – convey unambiguous perceptions of value, as there is a stronger correspondence between category-level and object-level taste judgments. Differences in platform usage across music audiences notwithstanding, this represents another empirical evidence corroborating the

**Table 1**Genres and positive comments. Columns indicate the average share of positive comments, the standard deviation of this measure, the number of artists included in the genre category, and the average number of comments per artist.

Genre category	% Pos. Comments	St. Deviation	N. Artists	Av. N. Comments Artists	
jazz/blues	96.1	6.8	6	16.5	
classical/opera/soundtrack	91.3	7.7	9	99.7	
international pop	89.4	14.9	51	99.8	
classic italian pop rock	89.1	11.8	146	284.7	
italian folk/regional music	88.5	16.2	28	139.7	
international rock	85.9	22.3	33	17.3	
italian contemporary pop	83.4	16.0	100	404.8	
dance/electro/disco	82.5	9.9	10	31.7	
reggae	80.8	14.2	8	41.5	
italian indie/niche	72.7	27.5	47	55.5	
latin music	72.3	41.1	5	20.6	
italian hip hop	66.8	17.5	52	665.3	

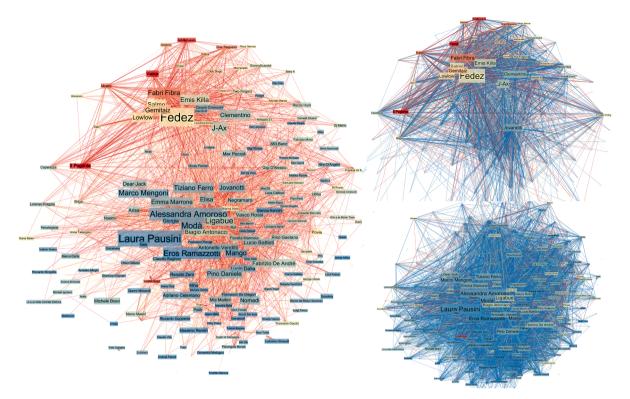


Fig. 1. Bipartite commenter-artist network. Label size is proportionate to the number of comments received. Left-hand side: entire graph, negative edges. Right-hand side: positive and negative edges, Italian Hip Hop (upper graph) and all other genres (bottom graph). Layout: OpenOrd.

many calls to go beyond category-only approaches in the measurement of cultural classification (see Section 2). While network visualizations as of Fig. 1 are no more than bidimensional spatializations (Venturini et al., 2021), they nonetheless evoke a rhizomatic, vertically indented relational structure, which becomes visible only when adopting a more fine-grained, object-level viewpoint on taste hierarchization.

## 5.2. Specific and general hierarchies

Our second research question is about the horizontal relations among hierarchized entities in a cultural system, and asks how both genre-specific and general understandings of legitimacy may intersect in a complex meaning structure (RQ2). To map this relational structure in a ground up way, this paper relies on the artistic references ordinarily made by YouTube commenters in their public cultural evaluations on the platform. Aesthetic judgments always imply analogies and comparisons (Bourdieu, 1984), used to reproduce and negotiate socially shared ideas of cultural legitimacy and illegitimacy. In the *music analogies corpus*, 718 artists and bands are mentioned 5585 times (average number of mentions per artist = 7.78). In some cases, commenters mention artists in a neutral fashion, to express perceptions of similarity or difference, as in the following example:

"The arrangement of the intro reminds me of "Runaway horses" by **Belinda Carlisle**, but then the song turns into something closer to **Placebo**'s sound" [...] (Artist in the video: **Elisa**; genre: Italian Contemporary Pop)

More frequently, users drop artists' names in the guise of positive or negative terms of comparison aimed at publicly supporting their evaluations in front of the platform's "invisible audience" (Baym & boyd, 2012). When artists are mentioned as "standards of excellence" or "marks of infamy" (Bourdieu, 1984: 482), the tacit symbolic hierarchies dividing "good" and "bad", "authentic" and "inauthentic" music in consumers' imaginary become explicit:

"You've become a sellout. You were a giant of Italian rap and now you're a sellout [...]. We've got too many commercial rappers like **Emis Killa**, **Fedez** and, now, you" (Artist in the video: **Fabri Fibra**; genre: Italian Hip Hop)

Fig. 2 represents the semantic relation between the artist in the music video (e.g. Fabri Fibra) and those mentioned in the comment (e.g. Emis Killa, Fedez) as a directed edge in a network. This network of music analogies counts a total of 718 nodes (the artists) and 2625 edges with an average weight of 1.97 (29 % neutral, 46 % positive, and 25 % negative). Each node is connected to an average of 7.67 other artists. Colors indicate each artist's genre (Fig. 2.1) and average "symbolic value" (Fig. 2.2 and 2.3) – that is, a measure of the proportion of positive and negative mentions, ranging from dark red (all negative mentions) to dark blue (all positive mentions), with white in between the two extremes (n. negative mentions = n. positive mentions). The average symbolic value of genres varies considerably, in a way that partly resembles what illustrated in the previous section for the *cultural evaluations corpus*. In fact, mentions of Jazz/Blues, Reggae and Classical/Opera/Soundtrack artists present the highest values (respectively 1, 0.75, and 0.63) and Italian

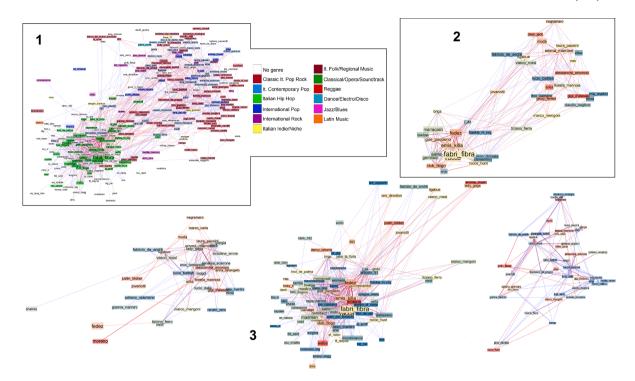


Fig. 2. Music analogies network. Label size is proportionate to the number of mentions. Only positive (blue) or negative (red) edges are shown. 1) Nodes with in-degree>2, colors indicate genre (no genre means "not in the video dataset"). 2) Nodes with the highest betweenness centrality, colors indicate symbolic value. 3) From left to right, mentions by the audiences of Italian Contemporary Pop, Italian Hip Hop and Classic Italian Pop Rock artists. Colors indicate symbolic value. Layout: ForceAtlas2.

Contemporary Pop, International Pop and Italian Hip Hop the lowest ones (0.02, 0.11, 0.17).

A structural separation between Italian Hip Hop on the left-hand side of the map (nodes in green in Fig. 2.1) and other genres in the right-hand side of the network (mainly Italian Contemporary Pop and Classic Italian Pop Rock) exists. In between these two main clusters, international artists used as cross-genre terms of comparison (e.g. Justin Bieber, Britney Spears, Rolling Stones, Elton John) reside, together with several Italian pop artists who have collaborated with Italian rappers (e.g. Gianna Nannini). This structural separation reflects the subcultural genesis of Italian Hip Hop (see Fabbri & Plastino, 2014) and indicates that its platform audiences' musical references significantly differ from those of other audiences (see Fig. 2.3).

Two types of artists are frequently employed by Italian Hip Hop listeners as symbols of cultural legitimacy: Italian "old school" rappers of the 1990s (e.g. Uomini Di Mare, Colle Der Fomento, Joe Cassano) and well-known American rappers (e.g. Tupac Shakur, The Notorious B.I.G.). These musical references are mainly used to discursively reaffirm a within-genre hierarchy ranking "authentic" and "inauthentic" hip hop music, with the latter largely corresponding to contemporary Italian rappers instead (e.g. Moreno, Fedez). Genre-specific hierarchizations in artistic analogies can be observed also in the case of the other music categories. Fig. 2.3 shows that the most valued artistic references among Italian Contemporary Pop commenters are largely Classic Italian Pop Rock artists, while those employed as symbols of artistic illegitimacy are mainly Italian Contemporary Pop, Italian Hip Hop and International Pop artists (e.g. Justin Bieber). This occurs also in the case of Classic Italian Pop Rock audiences and, to a lesser extent, in comments to videos of other genres.

These findings show that a plurality of hierarchies exists in this cultural system (Lamont, 1992). However, this does not imply that there are no "general" understandings of legitimacy at all. The second visualization in Fig. 2 (2.2) only presents the 40 artists with the highest betweenness centrality score, which is a measure of how often a node appears on the shortest paths between nodes in the network (Brandes 2001), and at least 10 mentions. These can be interpreted as hubs connecting different portions of the network, as they are frequently mentioned by distinct audiences. The prevalence of red and blue nodes visually shows that commenters tend to agree on the artists' (il)legitimacy. Indeed, only a few of them (those with labels in white) are symbolically contested, i.e. mentioned both as positive and negative examples. Furthermore, most of the dark blue nodes, which are those with the highest symbolic value, are Classic Italian Pop Rock artists, like Lucio Battisti and, particularly, Fabrizio De André. Notably, this latter artist is mentioned positively by Italian Hip Hop listeners as well (see the central visualization in Fig. 2.3), indicating that Italian "cantautori" (singersongwriters) are universally used in this field as "discursive benchmark according to which one might define the cultural value of a song", due to an institutional consecration process already documented by the sociological literature (Santoro, 2002: 112). Another evidence of the presence of cross-genre agreements on cultural legitimacy lies in the fact that 11 out of the 15 most heavily stigmatized artists are negatively mentioned by the audiences of multiple genres (e.g. Gigi D'Alessio and Justin Bieber).

In sum, YouTube users' music analogies do not bring to light a single, general taste hierarchy: rather, a constellation of genre-

specific understandings of (il)legitimacy emerges – especially in the case of Italian Hip Hop. However, references to these semantically localized "cultural symbols" (Lizardo, 2016) are intersected by a small number of genres and artists that act instead as a transversal, general symbolic currency in online cultural evaluations. The structural configuration resulting from this combination of "specific" and "general" ideas of legitimacy and illegitimacy is therefore nested: a set of hierarchies relationally embedded in a broader hierarchical structure.

## 5.3. Homogeneous perceptions of legitimacy

As a last analytical step, I inductively explore to what extent perceptions of legitimacy are homogeneous across audiences with different socio-demographic profiles, and how they are structurally organized (RQ3). Given the impossibility to unobtrusively collect digital data about YouTube users' social background, analyses in this section are based on *survey data on legitimacy perceptions*, collected through open-ended questions (see Section 4). A key theoretical starting point here is that taste hierarchies are not always universally recognized (DiMaggio, 1987), and that generational and socio-structural factors can – at least partly – explain differences in legitimacy perceptions (Rawlings & Childress, 2021; van den Haak, 2020).

On the one hand, if we look at the artists respondents mention the most, we see evidence of a certain homogeneity. For instance, Mozart, Fabrizio De André and Bach are all indicated more than 40 times in the guise of "good music". This finding confirms the recognized legitimacy of classical music in the field, as well as the consecrated status of *cantautore* Fabrizio De André (Santoro, 2002). Furthermore, in responses to open-ended question related to "bad music", two artists in particular stand out for their high number of mentions (N > 60): pop singer Gigi D'Alessio and rapper Fedez – both characterized by a very low symbolic value also in the music analogies network above (Fig. 2.2).

On the other hand, most responses are quite heterogeneous: on average, artists included in Fig. 3 account for only 38.9 % of total answers in the case of "good music" and for 28,6 % of total answers in the case of "bad music" (see Table 2). Still, a qualitative exploration of such a long tail of infrequent responses shows that "good" and "bad" music are two symbolic universes that rarely intersect. Classical composers, Italian singer-songwriters, established international rock bands and jazz players account for the large majority of the names spontaneously associated to "good music". Conversely, Italian Contemporary Pop and Italian Hip Hop are the genres characterizing "bad" artists the most. These differences are particularly evident when looking at the genre-based distribution of responses presented in Table 2 below.

A closer examination of the strongest relative associations between socio-demographic profiles and artists allows to inquire further into nuanced differential perceptions of (il)legitimacy across audiences, and to map their underlying meaning structure (Mohr, 1998).

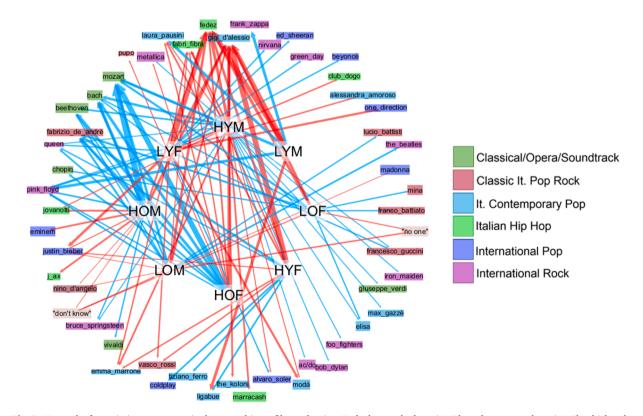


Fig. 3. Network of associations among socio-demographic profiles and artists. Red edges = "bad music"; Blue edges = "good music". The thicker the edge, the higher the relative strength of the relation. Dual circle layout.

**Table 2**Genres and sociodemographic profiles. The percentage of respondents indicating artists of different genres as examples of "bad" or "good" music, per sociodemographic profile and on the total sample. Only artists mentioned by more than 3 % of respondents within each socio-demographic group are counted, as in Fig. 3.

	profile	classic italian pop rock	classical/ opera/ soundtrack	international pop	international rock	italian contemporary pop	italian folk/ regional music	italian hip hop
"BAD	HOF	2,72 %			2,72 %	11,96 %		9,24 %
	HOM			3,03 %		6,82 %	2,27 %	15,15 %
	HYF	3,97 %		3,31 %		23,84 %		11,26 %
	HYM			3,23 %		24,19 %		20,97 %
	LOF					6,60 %		7,61 %
	LOM			3,73 %		4,97 %	1,86 %	9,32 %
	LYF	3,70 %		12,96 %		18,52 %		20,37 %
	LYM					19,23 %		11,54 %
	TOT	1,34 %	0,00 %	2,48 %	0,52 %	12,20 %	0,62 %	11,48 %
"GOOD	HOF	6,52 %	35,87 %		9,24 %			
MUSIC"	HOM	4,55 %	33,33 %		9,09 %			
	HYF	7,28 %		4,64 %	3,97 %	9,27 %		
	HYM	3,23 %	17,74 %		25,81 %	6,45 %		
	LOF	13,71 %	14,21 %			4,06 %		
	LOM	9,94 %	16,15 %		9,94 %			
	LYF	3,70 %	3,70 %	11,11 %	16,67 %			
	LYM		7,69 %		15,38 %	7,69 %		
	TOT	7,86 %	18,51 %	1,34 %	8,27 %	2,90 %	0,00 %	0,00 %

To this purpose, I built a bipartite network (see Fig. 3) linking artists associated to notions of "good" and "bad" music and the sociodemographic profiles mentioning them, that is: low educational level, born after 1980, female (LYF); low educational level, born after 1980, male (LYM); low educational level, born before 1980, female (LOF); low educational level, born before 1980, male (LOM); high educational level, born after 1980, female (HYF); high educational level, born after 1980, male (HYM); high educational level, born before 1980, male (HOF); high educational level, born before 1980, male (HOM). Only artists mentioned by more than 3 percent of respondents within each socio-demographic profile are included in Fig. 3 (N = 50), to control for their uneven size. For the same reason, edges linking artists and profiles are weighted based on relative frequencies within each socio-demographic group.

As blue edges in Fig. 3 indicate, Mozart, Bach and Beethoven are mentioned as examples of "good music" by all socio-demographic profiles but lower educated males and females under 37 years old. The same differential response pattern can be detected in the case of Fabrizio De André. Relative associations of classical composers to "good music" are particularly strong in the case of older and highly educated respondents – that is, those residing in fractions of the social space where the recognition of conventional highbrow culture is traditionally strong (Peterson, 2005; Bourdieu, 1984). Interestingly, Italian and international pop artists associated to "good music" – e.g. Ligabue, Tiziano Ferro, Coldplay, Elisa, Ed Sheeran, Beyoncé, Alvaro Soler, Laura Pausini – are mentioned mainly by young female respondents (HYF and LYF in Fig. 3). Though similarly fragmented, their male peers' responses mostly point to International Rock bands (e.g. Metallica, Foo Fighters).

Notably, for associations to the notion of "bad music", relational patterns are significantly more homogeneous across sociodemographic profiles (see red edges in Fig. 3) – as the aforementioned case of Gigi D'Alessio and Fedez illustrates. Italian Hip Hop artists are mainly stigmatized by older respondents, who are also the authors of "No one" and "Don't know" answers, that indicate a sense of detachment from the cultural field (Bourdieu, 1984). The genre distribution of responses across socio-demographic profiles as of Table 2 shows how such differential patterns can be detected also at the aggregate level of music categories, especially when comparing highly educated segments with lower educated ones.

Overall, the relational analysis of survey data shows the existence of a fairly homogeneous and intersubjective agreement on cultural legitimacy in the Italian musical field, which nonetheless cohabits with a long tail of heterogeneous views. Traditionally highbrow or recently consecrated genres tend to be transversally associated to "good music", while the realm of "bad music" is portrayed by respondents from all socio-demographic profiles as largely composed by mainstream pop artists. Young listeners' responses are those deviating the most from these shared perceptions of value – a result interpretable as a sign of ongoing, emerging shifts in cultural classification. Hence, the structure of perceived legitimacy resulting from this exploration presents a hierarchical core homogeneously recognized by all audiences – exemplified by the names were most of the arrows in Fig. 3 converge – as well as a large periphery of dispersed, heterogeneous perceptions of taste hierarchization.

## 6. Discussion

Once inscribed in traceable digital discourses and computationally translated into networks, the collective "play of cultured allusions and analogies endlessly pointing to other analogies" that Bourdieu (1984: 53) saw as characteristic of aesthetic evaluations reveals the structural configuration of music audiences' "classificatory imagination" (Beer, 2013). The hierarchical cultural system reproduced within the Italian musical field looks less like a unidimensional ladder, and more like a mountain chain – with its many

summits, ridges, and plateaus. Its multi-layered structure reveals a "nested relationality" – meaning, a set of genre-specific taste hierarchies relationally embedded in a broader, general hierarchical structure, where relatively homogeneous object-level and category-level evaluations and understandings of legitimacy intersect in largely universally perceived ways.

These results have important theoretical and methodological implications. Theoretically speaking, they contradict the idea that cultural hierarchies have substantially disappeared from the "heads and habits" of lay consumers (DiMaggio, 1987; Janssen et al., 2011; Verboord, 2014; Alexander et al., 2018). This general belief is ultimately rooted in the methodological limitations characterizing canonical approaches in research on cultural legitimacy and classification, which are now widely criticized for their inability to grasp individuals' nuanced, everyday boundary works on a large scale and in "ground-up" ways (Sonnett, 2016; Vlegels & Lievens, 2017; Jarness & Friedman, 2017; Atkinson et al. 2011; Beer, 2013). While existing research mostly treat cultural categories as monolithic wholes, and yet theoretically elaborates on their complexity and multifacetedness, the empirical analyses presented in this paper illustrate the potential of computational investigations of digital traces in the study of large cultural systems (Mohr, 1998). They illuminate for the first time the "nested relationality" of perceived legitimacy, and show how this structural configuration relates to multiple systemic factors, that is: the vertical relations between two different entities, objects and their categories, whose legitimacy can be more or less aligned; the horizontal relations among entities, where genre-specific and general understandings of legitimacy intersect; and the external relations linking symbolically classified entities to their "classifiers" (Bourdieu, 1984) - that is, different audiences with distinct – but, at least in our case, clearly convergent – perceptions. The empirical description of this peculiar meaning structure can stimulate new theoretical reflections in the sociology of culture. For instance, at a closer inspection, Italian consumers' genre-specific understandings of legitimacy tend to correspond to boundary works about the "authenticity" of artistic objects with respect to a given cultural category – so that, for example, "legitimate rap" and "authentic rap" are discursively presented as the same thing. This finding suggests that more work on the conceptualization of legitimacy, authenticity and the relations between the two is needed in order to better make sense of folk classification practices.

The present account of the underexplored structural aspects of legitimacy and taste is relevant not only to the study of artistic classification and cultural consumption (van den Haak, 2020; Bachmayer et al., 2014), or for enhancing the measurement of categorization processes and cultural phenomena (Mohr et al., 2020). More broadly, it can contribute to a better understanding of the boundary works at play within fields, markets, communities, and large institutional systems (Bowker & Star, 1999; Johnston & Baumann, 2007; Geertz, 1973; Cattani et al., 2014).

The main methodological contribution of this work consists in highlighting and substantializing the unprecedented opportunities brought by the availability of enormous amounts of public platform data to the study of cultural classification. While detailed methodological considerations on the subject have been made elsewhere (e.g., Wagner-Pacifici et al., 2015; Bail, 2014; Salganik, 2018), this paper mainly focuses on the epistemological implications of the granularity, relationality and unobtrusiveness characteristic of this type of data. The empirical study presented above shows that these properties of digital traces can allow – borrowing Bourdieu's words (1984:19) – to "break both with the blind use of indicators and with spurious, essentialist analyses [...] in order to make completely explicit the multiple, contradictory meanings which these works take on at a given moment for the totality of social agents". This epistemological shift goes in the direction of a more inductive, systemic and "symphonic" (Halford & Savage, 2017) cultural analysis: less interested in formal models and predictions, and more capable to mobilize examples and descriptions from diverse data sources, also thanks to network visualizations (Venturini et al., 2021).

The present study also bears several limitations. In particular, the analyzed YouTube corpus presents possible selection biases due to the data collection process (see Section 4). Users actively posting comments are likely to be a minority on the platform, and are certainly not representative of Italian music consumers as a whole. Furthermore, the non-representative sampling of survey data makes the cross-profile comparison as of Fig. 3 and Table 2 exploratory in kind. Nonetheless, the fact that survey results are considerably aligned with those derived from the analysis of YouTube comment data (see Section 5) represents another demonstration of the fact that digital mappings of cultural classifications and symbolic relations do not merely reflect platform-specific cultures, but allow to capture broader societal patterns in novel, granular ways.

## CRediT authorship contribution statement

**Massimo Airoldi:** Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Writing – original draft, Writing – review & editing.

## Declaration of competing interest

I confirm that no funding was received for the research work featured in the present paper and I have no competing interests.

## References

Airoldi, M. (2021). The techno-social reproduction of taste boundaries on digital platforms: The case of music on YouTube. *Poetics, 89*, Article 101563. Airoldi, M., Beraldo, D., & Gandini, A. (2016). Follow the algorithm: An exploratory investigation of music on YouTube. *Poetics, 57*, 1–13. Alexander, VD., Blank, G., & Hale, SA. (2018). Digital traces of distinction? Popular orientation and user-engagement with status hierarchies in TripAdvisor reviews of cultural organizations. *New Media & Society, 20*(11), 4218–4236.

Atkinson, W. (2011). The context and genesis of musical tastes: Omnivorousness debunked, Bourdieu buttressed. *Poetics*, *39*(3), 169–186. Bachmayer, T., Wilterdink, N., & Venrooij, A. V. (2014). Taste differentiation and hierarchization within popular culture: The case of salsa music. *Poetics*, *47*, 60–82. Bail, C. A. (2014). The cultural environment: Measuring culture with big data. *Theory and Society*, *43*(3–4), 465–482.

Baym, N. K., & Boyd, D. (2012). Socially mediated publicness: An introduction. Journal of Broadcasting & Electronic Media, 56(3), 320-329.

Beer, D. (2013). Genre, boundary drawing and the classificatory imagination. Cultural Sociology, 7(2), 145-160.

Bourdieu, P. (1984). Distinction: A social critique of the judgment of taste. Cambridge, MA: Harvard University Press.

by Bourdieu, P., Calhoun, C., Gerteis, J., Moody, J., Pfaff, S., & Virtk, I. (2002). Social space and symbolic space. *Contemporary sociological theory* (pp. 267–275).

Oxford: Blackwell Publishers, by

Bowker, GC., & Star, S. L. (1999). Sorting things out. Cambridge, MA: MIT Press.

Cattani, G., Ferriani, S., & Allison, P. D. (2014). Insiders, outsiders, and the struggle for consecration in cultural fields: A core-periphery perspective. *American Sociological Review*, 79(2), 258–281.

Childress, C., Baumann, S., Rawlings, C. M., & Nault, J. F. (2021). Genres, objects, and the contemporary expression of higher-status tastes. *Sociological Science*, 8, 230–264

Collins, R. (2000). Situational stratification: A micro-macro theory of inequality. Sociological Theory, 18(1), 17-43.

DiMaggio, P. (1987). Classification in art. American Sociological Review, 52(4), 440-455.

Fabbri, F., & Plastino, G. (Eds.). (2014). Made in Italy. Routledge.

Goldberg, A., Hannan, M. T., & Kovács, B. (2016). What does it mean to span cultural boundaries? Variety and atypicality in cultural consumption. *American Sociological Review*, 81(2), 215–241.

Geertz, C. (1973). The interpretation of cultures. Basic books.

Halford, S., & Savage, M. (2017). Speaking sociologically with big data: Symphonic social science and the future for big data research. *Sociology*, *51*(6), 1132–1148. Hanquinet, L., O'Brien, D., & Taylor, M. (2019). The coming crisis of cultural engagement? Measurement, methods, and the nuances of niche activities. *Cultural Trends*, *28*(2–3), 198–219.

Hofstra, B., Corten, R., van Tubergen, F., & Nicole Ellison, B. (2017). Sources of segregation in social networks: A novel approach using Facebook. *American Sociological Review*, 82(3), 625–656.

IFPI. (2016). Music consumer insight report 2016. London, UK: International Federation of the Phonographic Industry. Retrieved May 1, 2022 http://www.ifpi.org/downloads/Music-Consumer-Insight-Report-2016.pdf.

Janssen, S., Verboord, M., & Kuipers, G. (2011). Comparing cultural classification. High and popular arts in European and U.S. elite newspapers, 1955-2005. Kölner Zeitschrift für Soziologie und Sozialpsychologie, 63(51), 139–168.

Jarness, V., & Friedman, S. (2017). 'I'm not a snob, but...': Class boundaries and the downplaying of difference. Poetics, 61, 14-25.

Johnson, C., Dowd, T. J., & Ridgeway, C. L. (2006). Legitimacy as a social process. Annual Review of Sociology, 53-78.

Johnston, J., & Baumann, S. (2007). Democracy versus distinction: A study of omnivorousness in gourmet food writing. *American Journal of Sociology, 113*(1), 165–204.

Kirchner, C., & Mohr, J. W. (2010). Meanings and relations: An introduction to the study of language, discourse and networks. *Poetics*, 38(6), 555–566. Lamont, M. (1992). *Money, morals, and manners*. Chicago, The University of Chicago Press.

Latour, B., Jensen, P., Venturini, T., Grauwin, S., & Boullier, D. (2012). 'The whole is always smaller than its parts'—a digital test of Gabriel Tardes' monads. *The British journal of sociology*, 63(4), 590–615.

Lewis, K. (2015). Three fallacies of digital footprints. Big Data & Society, 2(2), 2053951715602496.

Light, R., & Odden, C. (2017). Managing the boundaries of taste: Culture, valuation, and computational social science. Social Forces, 96(2), 877-908.

Lizardo, O. (2008). The question of culture consumption and stratification revisited. Sociologica, 2(2), 1-32.

Lizardo, O. (2016). Cultural symbols and cultural power. Qualitative Sociology, 39(2), 199-204.

Lizardo, O. (2018). The mutual specification of genres and audiences: Reflective two-mode centralities in person-to-culture data. Poetics, 68, 52-71.

Lizé, W. (2016). Cultural consecration and legitimation-Modes, agents and processes. Poetics, 59, 1-4.

McCoy, C. A., & Scarborough, R. C. (2014). Watching "bad" television: Ironic consumption, camp, and guilty pleasures. Poetics, 47, 41-59.

Mohr, JW. (1998). Measuring meaning structures. Annual Review of Sociology, 24(1), 345-370.

Mohr, J. W., Bail, C. A., Frye, M., Lena, J. C., Lizardo, O., McDonnell, T. E., et al. (2020). Measuring culture. New York: Columbia University Press.

Mohr, J. W., Wagner-Pacifici, R., & Breiger, R. L. (2015). Toward a computational hermeneutics, 2 pp. 1–8). Big Data & Society.

Pachucki, M. A., & Breiger, R. L. (2010). Cultural holes: Beyond relationality in social networks and culture. Annual Review of Sociology, 36, 205-224.

Peterson, R. A. (2005). Problems in comparative research: The example of omnivorousness. Poetics, 33(5-6), 257-282.

Rawlings, C. M., & Childress, C. (2021). Schemas, Interactions, and objects in meaning-making. Sociological Forum, 36, 1446-1477.

Rimmer, M. (2012). Beyond omnivores and univores: The Promise of a concept of musical habitus. Cultural Sociology, 6(3), 299–318.

Russo, I., Frontini, F., & Quochi, V. (2016). OpeNER sentiment lexicon. Pisa, Italy: Institute for Computational Linguistics "A. Zampolli", National Research Council. Retrieved November 25, 2019 http://hdl.handle.net/20.500.11752/ILC-73.

Salganik, M. J. (2018). Bit by bit: Social research in the digital age. Princeton.

Santoro, M. (2002). What is a 'cantautore?' Distinction and authorship in Italian (popular) music. *Poetics*, 30, 111–132.

Schmutz, V. (2016). Commercialization and consecration: Media attention to popular music in the US and the Netherlands, 1975-2005. Poetics, 59, 82-95.

Sonnett, J. (2016). Ambivalence, indifference, distinction: A comparative netfield analysis of implicit musical boundaries. Poetics, 54, 38-53.

Stoltz, D. S., & Taylor, M. A. (2021). Cultural cartography with word embeddings. Poetics, 88, Article 101567.

Thompson C., Parry J., Phipps D., and Wolff T. (2019). spotifyr: R Wrapper for the 'Spotify' Web API. R package version 2.1.0. Retrieved from https://cran.r-project.org/package=spotifyr.

Thornton, S. (1995). Music, Media and Subcultural Capital. Club Cultures. Polity.

van den Haak, M. (2020). Putting radiohead next to bach.' perceptions of cultural hierarchy unravelled with a ranking task. Journal of Cultural Analysis and Social Change, 5(1), 02.

van Venrooij, A., & Schmutz, V. (2010). The Evaluation of popular music in the United States, Germany and the Netherlands: A comparison of the use of high art and popular aesthetic criteria. Cultural Sociology, 4(3), 395–421.

Venturini, T., Jacomy, M., & Jensen, P. (2021). What do we see when we look at networks: Visual network analysis, relational ambiguity, and force-directed layouts. Big Data & Society, 8(1), Article 20539517211018488.

Verboord, M. (2014). The impact of peer-produced criticism on cultural evaluation: A multilevel analysis of discourse employment in online and offline film reviews. New Media and Society, 16(6), 921–940.

Vlegels, J., & Lievens, J. (2017). Music classification, genres, and taste patterns: A ground-up network analysis on the clustering of artist preferences. *Poetics*, 60, 76–89.

Wagner-Pacifici, R., Mohr, J. W., & Breiger, R. L. (2015). Ontologies, methodologies, and new uses of Big Data in the social and cultural sciences. Big Data & Society, 2,

YouTube. (2022). YouTube for press. san bruno, CA, youtube. LLC. Retrieved May 4, 2022 https://www.youtube.com/about/press/.

Massimo Airoldi is Assistant Professor of Sociology of Culture and Communication at the Department of Social and Political Sciences of the University of Milan. Hisresearch interests include critical algorithm studies, computational methods, consumer culture and cultural taste. He is the author of Machine Habitus: Toward a Sociology of Algorithms (Polity, 2021).