UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

Individual genre:

how recommendations narrow the scene for music discovery practices

Master Degree Project in Marketing & Consumption 2021
University of Gothenburg, School of Business, Economics & Law
Graduate school

Authors: Ewelina Dereman & Ebba Varnauskas Mårtensson
Supervisor: Johan Hagberg

The individual genre: how recommendations narrow the scene for music discovery practices

Ewelina Dereman & Ebba Varnauskas Mårtensson

Abstract

There are a growing number of platform business models that offer digital infrastructures that connect various stakeholders, where data, and therefore user engagement, plays a pivotal role in sustaining and evolving the platform network. Recommendations sort out any information deemed irrelevant to the individual platform user, and thereby guide users through any information overflow. To date, few studies have investigated the interrelation between recommendations and user practices. In addition, there seems to be an underlying assumption in previous research that the intense rate of recommendations, i.e. how sensitive recommendations are and how fast they are updated, is exclusively positive. To address these gaps, this paper focuses on how recommendations shape music streaming discovery practices by placing user practices as the central unit of analysis, with a new lens on the agency of recommendations. Drawing on 15 semi-structured interviews and app walk-alongs with Spotify users, the paper shows how recommendations, in interplay with four different practice elements, narrow music streaming discovery to music that is adapted and restricted to what the user is predicted to like based on previous interactions, giving rise to the phenomenon that we term individual genre. The paper nuances our understanding of how recommendations influence user practices by shifting focus from user perceptions to a focus on practice, by taking into account a long-term perspective on user experience, and by problematizing previous assumptions regarding recommendation-based consumption. This ultimately offers an alternative view of how to create additional user value.

Keywords: User studies, Practice theory, Recommendations, Music streaming, Consumption

Introduction

In a time of rapid technological innovation and entrenching digitalization, proliferated through mobile devices and Internet of Things, enthusiasts purport that algorithmic personalization unravels the individual's every need and desire (Prey, 2018). Data is generated from user interactions that leave digital traces (Cluley & Brown, 2015) and, as a result, driving user engagement is crucial for success. This data is further leveraged by businesses to inform future recommendations, which in turn guide the algorithmic consumer culture (Hartmann *et al.*, 2020) that continuously expands as part of contemporary consumption. This means that digital platforms are able to tailor their interface to the individual, in real-time. Consequently, there are a growing number of platform business models that offer digital infrastructures that connect various stakeholders, including users, and where data plays a pivotal role in sustaining and evolving the platform network (Webster, 2019). Thus, these business models are not only of value for businesses but also for users. Recommendations sort out any information deemed irrelevant to the individual user, assuming that the algorithms accurately predict needs and desires, and thereby provide shortcuts that guide users through any information overflow. In other words, recommender systems track what users consume and formulate offers and recommendations for future consumption, ultimately shaping consumption.

Among the plethora of recommender systems, music streaming services are particularly prominent examples since they contain an abundance of music that necessitates an intricate system of algorithms and recommendations (Prey, 2018). Moreover, the digital platforms of music streaming services have led to further entanglement between music and everyday life. Together with mobile devices, these technological developments have enabled consumers to listen to music everywhere and have thereby contributed to shaping how, when, and where users listen to music. In this way, the amount of data and the variety of data, in terms of the number of users as well as all the different contexts throughout the day in which music streaming is used, provide insights into our everyday practices and makes music a fruitful area to study recommendations and personalization phenomena (Prey, 2018). Despite this, the user perspective of digital platforms in general, and of recommendations in particular, have received insufficient attention in previous research. To date, few studies have investigated the interrelation between recommendations and user practices (e.g. Garcia-Gathright *et al.*, 2018; Prey, 2018; Hracs & Webster, 2020). Those who do take the user perspective, place the individual as the unit of analysis (e.g. in terms of needs, preferences, goals, and emotions). In this study, we rather center the analysis on the practice and thereby seek to explore how recommendations shape consumption as one constituent part of the practice. This is done by focusing on users of the music streaming service Spotify.

Spotify is now the largest streaming subscription service in the world and its users have access to around 70 million tracks and another 2.2 million podcast titles (Spotify, n.d). On average, each user listens to Spotify for about 25 hours per month and 44 percent of users listen to Spotify daily (Iqbal, 2021). In contrast to the 70 million tracks available on Spotify, the combined number of movies and shows on Netflix is merely 10,000 (Hracs & Webster, 2020). This illustrates the vastness of the Spotify music library and together with the number of different users and their personal likings, it gives an idea of how intricate the algorithmic system is and how crucial the resulting recommendations are to Spotify's success.

As a platform, Spotify is responsible for balancing the interests of their different stakeholders: music listeners, music creators, and advertisers. This requires doing justice to the rich library of music they possess by encouraging music discovery, i.e. "the experience of finding and listening to content that is previously unknown to the user" (Garcia-Gathright *et al.*, 2018, p. 55). To attune this, algorithmic personalization aims to guide the listener through the abundance of music and personalization has therefore grown to become an important and competitive advantage today (Webster, 2019; Hracs & Webster, 2020). On the other hand, the real-time updated user interface and playlists, that follow rapid developments in context-aware recommender systems, lead to an intense rate at which music is recommended. This may, in turn, have the opposite effect of enhancing, rather than reducing, the perceived abundance of choice. Reasonably, there is a tipping point in recommending too much content at any one time and it is questionable whether users can consume it all at a level that does justice to the content. There seems to be an underlying assumption in much of previous research that the intense rate, i.e. how sensitive recommendations are and how fast they are updated, is exclusively positive. Therefore, it is of great theoretical as well as practical interest to study how recommendations influence consumption practices with a new lens. This leads us to the pertaining question of how algorithmic recommendations influence music streaming discovery practices. On the one hand, our findings show how recommendations guide the practice by facilitating the discovery

of music similar to what users like, thereby creating a positive flow in the user experience. On the other hand, the user accounts also illustrate how recommendations trap listeners through the predictions of individual taste, a phenomenon that we term *individual genre*. Moreover, our discussion revolves around whether the recommendations fulfill the purpose of stimulating music discovery.

The remaining part of the paper proceeds as follows: beginning by introducing a literature review of recent research within music streaming consumption and our theoretical framework, which originates from practice theory. The framework is used to conceptionally unpack and analyze how recommendations shape music streaming discovery practices. This is followed by a presentation of the methodology. After that, the paper addresses and analyzes the empirical findings derived from interviews and app walk-alongs, which illustrate how users become trapped in the individual genre by recommendations in interplay with four main elements: (1) patterns of routine, (2) misconceiving feedback, (3) the dynamic interface, and, finally, (4) understandings and conventions. Lastly, conclusions and contributions as well as suggestions for future research will be presented.

The music streaming consumption field - an emphasis on music recommendations

Airoldi, Beraldo & Gandini (2016) inductively reconstructed the associations that arise from user practices and inform the recommender system on YouTube. These associations were categorized by the authors into 50 clusters that they viewed as crowd-generated music categories, which are seen to expand the sociological interpretation of music classification. In this way, the authors refer to the nature of classifications as contextual and fluid, which is further accelerated by recommendations (Beer, 2013).

Another user-orientated research, drawing from the music information retrieval (MIR) field, was carried out by Lee and Price (2016). They examined how users evaluate the music service experience through applying a number of heuristics and criteria, including navigation, efficiency, consistency, recommendation accuracy, the explanation of why the user gets a recommendation, and whether the user can tell what songs they like or not. The study concludes that many users found the services to be good enough, but also used other ways of finding new music (Lee & Price, 2016). Lee *et al.* (2017) similarly drew from MIR studies to examine user behavior on both cloud music services and music streaming services. They identified a sequence of behaviors within these services that they call a cloud activity lifecycle, which includes discovery, navigation, and organization practices. This lifecycle starts with the discovery and acquisition of music, where algorithmic suggestions were found to be useful, according to some. However, others stated issues with mistakes leading to unwanted change in the algorithm. This was only mentioned briefly by the authors; however, it raises concerns as it could imply a recommender system that is too sensitive to user practices (Lee *et al.*, 2017).

A shift from accuracy to how the user is understood as an individual

Much attention within the algorithmic stream of research has been given to the level of accuracy of personalization (e.g. Gogna & Majumdar 2015; Saia, Boratto & Carta, 2016; Lee & Price, 2016; Ludewig *et al.*, 2018). According to Webster (2019), the underlying assumption in these

studies is that algorithmic accuracy implies recommendation effectiveness. However, he argues that from a commercial point of view, accuracy is only valued to the extent to which it drives user engagement and should thus be measured in those terms. In essence, whether they lead to continued subscriptions or not (Webster, 2019). He further explains that due to its size, Spotify can empirically test recommendations for this purpose. In other words, past user practices guide future ones and result in continuously customized curation (Webster, 2019), where curation is defined as "the strategic selection, presentation and arrangement of information, goods, services and people" (Hracs & Webster 2020, p. 241).

Many argue that technology enables individual differentiation through this process of customization. However, Prey (2018) suggests otherwise and urges, in accordance with Webster (2019), for a shift of focus from determining the accuracy of personalization to determining how the individual is understood by streaming platforms and enacted accordingly. It is argued that the idea of how the individual is understood on online platforms, often in terms of defined consumer categories, will influence users to become or conform to these categories (Cheney-Lippold, 2011; Prey, 2018). This perspective acknowledges the influence commercial imperatives have on consumption (Webster, 2019). In the case of Spotify, there are several dimensions of how the individual is understood. The individual is placed in relation to behavioral peers, to their own prior behavior, and to Spotify's mapping of music (Prey, 2018).

In essence, Prey argues that the resulting recommendations are ultimately based on preconceptions of what makes an individual, which frames future listening. In other words, the user is not seen as a static individual but rather as one who is continuously shaped through the process of individuation. In this way, the individual is neither given nor final (Prey, 2018). In a similar manner, the notion of the algorithmic consumer culture suggests that algorithms are pervasive to the extent that the music you consume is the result of algorithms rather than individual taste (Hartmann *et al.*, 2020). This means that statistical models aim to define taste, through a process of filtering out whatever is irrelevant according to their template, thus determining what users engage with (Wajcman, 2015; Prey, 2018; Hartmann *et al*., 2020).

Music discovery and user experience

Garcia-Gathright *et al.* (2018) call for a new and specific focus on music discovery, as users of streaming platforms now have access to a library of extensive audio content of which a majority is undiscovered. The authors reference previous research to support the importance of music discovery, including survey findings highlighting the significant role of discovery in improving user retention (Brown & Krause, 2016) and continued subscription (Mäntymäki & Islam, 2015). Still, Garcia-Gathright *et al.* (2018) argue that there is a lack of knowledge about user expectations and behavior in relation to discovery. By combining user research with machine learning, the authors verbalized and validated hypotheses around user expectations, behaviors and satisfaction in connection with music discovery. They distinguish between different user goals in relation to music streaming and how the particular goal shapes behavior, which in turn is indicative of recommendation satisfaction. In addition, user satisfaction is argued by the authors to be judged on the basis of users' historic experiences.

Later studies have continued to investigate how consumers find music. Hosey *et al.* (2019) have examined how and why consumers use the search feature and how they value their

search experiences on a music streaming platform. They found that users evaluate the search experience based on two main factors: success and effort. How users perceived the effort and success depended on whether they had a focused, open or exploratory mindset (Hosey *et al.*, 2019). Hracs and Webster (2020) further illustrated the ways in which music experiences are created in the virtual space by highlighting a competitive shift where music streaming platforms more and more focus on curation beyond solving choice overload. Rather, platforms seek to cater to a diversity of needs and emotions of different users at the same time in an act of "mass personalization" (Hracs & Webster, 2020), essentially offering different experiences that are adapted to different users and presented as contextual and personal recommendations. The authors point out that this is solved by offering both so-called "lean forward" and "lean back" experiences on the same platform. "Lean forward" experiences are designed for users whose particular aim is to discover new music. One example of this is how Spotify curation is used to "increase the rate and scale at which" (p. 246) users find new music, through for example editorial playlists, like "State of Jazz", that are continually updated for the user to encounter new music (Hracs & Webster, 2020). In addition, there are also playlists like "Discover Weekly" with the sole purpose of encouraging new music discovery and the feature to browse catalogs where the user finds, for example, "related artist" recommendations (Hracs & Webster, 2020). On the other hand, "lean back" experiences are explained as a matter of convenience, where the user wishes to more passively lean on algorithms to make the choice. To achieve this, Spotify provides moods and moments playlists for contextual listening (Hracs & Webster, 2020).

Moreover, Hracs and Webster (2020) discuss how curation is used to manipulate time and space. They place digital platforms in relation to physical stores in which curation implies strategic placement of products to overcome spatial restrictions that limit what can be displayed at any one time. They then turn to the virtual space of digital platforms, where the spatial frames become, relatively and absolutely, extremely confined. Imagine fitting the 70 million tracks mentioned earlier on the screen of a smartphone while also doing it in a presentable and engaging way that guides and encourages the user to discover new music. This, according to Hracs and Webster (2020), is achieved by dynamically adapting the user interface and curating the space, as exemplified by Spotify's dynamic and personalized "homepage" that continuously adapts its content. Examples include "wake-up" playlists in the morning, "party" playlists on Fridays, and also personalization in the form of recommendations based on recently played music. This is argued to stimulate user serendipity and relevance of user content (Hracs & Webster, 2020).

A practice approach to music streaming consumption

As briefly mentioned earlier, practice theory is used to approach the analysis of music streaming consumption. Practice theory is found under the umbrella of cultural theories, however, it departs from both "culturalism" and "idealism" and instead centers the analysis around "the interconnectedness of bodily routines of behaviour, mental routines of understanding and knowing and the use of objects" (Reckwitz 2002, p. 258). These elements are viewed as the constituent parts of social phenomena or practices, and the aim is to conceptualize the

composition of practice and how its parts are interconnected (Fuentes, Hagberg & Kjellberg, 2019).

According to Schatzki (1996), there are two central notions of practice. First, practice is seen as a coordinated entity that he describes as a "temporally unfolding and spatially dispersed nexus of doings and sayings" (p. 89). Second, practice as performance refers to carrying out the sayings and doings (Warde, 2005) that "actualizes and sustains practices in the sense of nexuses" (Schatzki 1996, p. 90). As Warde concludes from this, practices are "coordinated entities but also require performance for their existence" (2005, p. 134), or, in other words, patterns that can be filled out by various, unique actions that reproduce the practice (Reckwitz, 2002). This results in "pluralistic and flexible pictures" (Schatzki 1996, p. 12) that aim to capture the complexities of how consumption is organized and reorganized, accounting for both persistence and change as the practice is carried out in different ways (Warde, 2005). Practice theory is thus useful since it unfolds the meanings, materials, and teleoaffective structures of an activity, where the teleoaffective structures are explained as to why and what is aspired in a practice (Reckwikz, 2002). This implies observation of both the role of routine as well as emotion, embodiment, and desire, which further means that analysis involves both practical activity and its representations (Warde, 2005). However, practices are often reproduced according to established understandings and procedures, without further reflection, and processes such as routine, tacit knowledge, and practical consciousness are therefore highlighted (Warde, 2005).

Several previous studies have taken a practice theory approach to contemporary music consumption (Magaudda, 2011; Hagberg & Kjellberg, 2017; Fuentes *et al.*, 2019). Magaudda (2011) did this to build the argument that digitalization of music implies a reconfiguration of the interplay between materiality and culture, giving an even more important role to material objects than before in shaping consumer practices. The author argues that viewing technological change as having a direct effect on practices misses the influence from the social embeddedness of technology. In Magaudda's words, practices are rather a result of the performative linkages between meanings, objects, and embodied competencies, in which materiality contributes with creating, changing, and stabilizing activities.

Another focus is on the multiple contexts in which music is accessed and consumed, which can be seen to have accelerated with digitalization (Airoldi *et al.*, 2016; Hagberg & Kjellberg, 2017; Fuentes *et al.*, 2019; Sinclair, Tinson & Dolan, 2019). The accessibility implies a shift in music listening practice, from an activity practiced on its own to gradually being integrated into other activities, to various degrees and in different ways (Hagberg & Kjellberg, 2017). Furthermore, following the reasoning by Warde (2005), who means that objects and their use are determined by the scripts of practices instead of individual choice, Fuentes *et al.* (2019) focus on music consumption as a dispersed practice, scripted by a range of other practices. From this perspective, music rather supports a main activity and this gives rise to the notion of "soundtracking", which becomes a fluid practice as it is applied across different practices (Fuentes *et al.*, 2019). According to the authors, music consumption as a dispersed practice necessitates an adaptability in relation to the variety of integrative practices that music takes part in, as well as to changes in these same practices. The implication of this for our theoretical framework is to recognize the importance of the other practice(s) connected to music listening, i.e. the various contexts in which music is consumed.

As pointed out by Webster (2019), one major limitation in previous research on music streaming is reducing music consumption to be the result of algorithms. A practice theory approach acknowledges the agency of algorithms while avoiding their previously suggested deterministic role by placing them as one of many elements in a larger socio-technical structure. This further means that they take part in shaping practices but are also shaped by practices and its other constituent parts, including for example users, user interfaces, technological devices, and engineers. In that way, user wants and interactions too are derived from the practice and the interplay between its other constituent elements rather than seen as the result of individual desire and choice. Therefore, the object or subject under study should always be seen in relation to, and interplay with, this system and the practice is therefore never given or final (Prey, 2018). In agreement with this view, a practice theory approach can be used to understand and conceptualize what composes these socio-technical structures and how the different components are interrelated (Fuentes *et al.,* 2019) and how they reproduce each other.

The current landscape of recommendations and the case of Spotify

Even though some shifts of focus can be observed in the previous research presented above, a common pattern, or trend even, can be seen in the state of flux found in several dimensions of music consumption. The ubiquitous nature of contemporary consumption further implies a manifold of nuances in practices. In accordance with this accessibility and variability, a multiplicity and fluidity of music identities have been observed in music streaming (Airoldi *et al.,* 2016; Prey, 2018; Webster, 2019; Hracs & Webster, 2020). In addition, this is accelerated by technological development that makes live tracking of user behavior possible (Prey, 2018). Consequently, the data subject can be seen as "a process *in* development, not a state *of* development" (p. 1088), which illustrates the fluid algorithmic identity driven by users' own behavior as well as by others' (Prey, 2018). This enables a more accurate system of recommendations in the sense that diverse actions are captured in real-time, which enables quick adoption to refine recommendations and provide the user with relevant content. Moreover, using panel data sets of individual listening histories, music streaming adoption has been shown to increase both the quantity and diversity of music consumed (Datta, Knox & Bronnenberg, 2018). The same study found that the rate of music discovery also increases post-adoption since search frictions are reduced. This is well in line with streaming services' main imperative and source of success: to drive user engagement by accelerating the rate at which music is mediated (Webster, 2019). In other words, this implies a higher rate of recommendations. Indeed, Webster (2019) mentions that automated algorithmic processes enable data to be addressed at an unprecedented rate. This illustrates the current landscape of recommendation-based consumption that is rapidly taking place.

In the case of Spotify, personalized recommendations take various shapes and forms. Webster (2019) identifies three main features that result from curation at Spotify: editorial playlists, personalized recommendations and playlists and, lastly, the adaptive user interface. The editorial playlists, such as "Chilled Pop Hits" and "Dinner with friends", are thought to engage users based on mood or activity while at the same time enable rights holders to reach engaged audiences (Schedl *et al.*, 2015; Webster, 2019). Furthermore, users are provided with recommendations based on their past listening behavior and this is presented as personalized,

thematic playlists such as "Discover Weekly" (Stål, 2018; Webster, 2019). Finally, the content on the user interface is presented in different ways depending on context, such as time of the day, day of the week, or location (Schedl *et al*., 2015; Stål, 2018; Webster, 2019).

A user perspective gap in recommendation-based consumption

There seems to be an underlying assumption in much of previous research that the intense rate of recommendations, i.e. how sensitive recommendations are and how fast they are updated, is exclusively positive. Datta *et al.* (2018) highlight one challenge that comes with this, from a music creator point of view, which is to maintain the user's attention. While a high rate of recommendations encourages music discovery, it must, at the same time, be balanced with giving users time to create meaningful moments with the music already discovered. Moreover, the "paradox of choice", the notion of how an abundance of alternatives may paralyze rather than liberate the user (Schwartz, 2004), has been associated with streaming services (Webster, 2019). While Spotify curation aims at facilitating choice and thereby avoiding this paradox, the intense rate at which music is presented to the user could have the opposite effect of highlighting the abundance of music and overwhelming the user. To illustrate this rate, Prey paints the extreme scenario where recommendations are based on the understanding that "one *equals* one's context" (p. 1092), meaning that you have more in common with others in the same current context than with your past self (Prey, 2018). Another example is when minor mistakes in user practices are instantly captured and therefore lead to undesired changes in the algorithms (Lee *et al*., 2017). These examples suggest that algorithms may be considered too responsive as they are automatically updated in real-time. Thus, the underlying assumption in previous research can be questioned and warrants further research.

The user perspective of digital platforms in general (Datta *et al.*, 2018), and of recommendations in particular, have received insufficient attention so far (Garcia-Gathright *et al.*, 2018; Hracs & Webster, 2020). Garcia-Gathright *et al.* framed user behavior in terms of user goals (2018); Hracs and Webster (2020) also addressed the user perspective gap, however, with platform competition strategies as the point of reference. This was done with an emphasis on how curation is performed by digital platforms as a way to engage users. Both these and other studies (e.g. Lee & Price, 2016; Hosey *et al.*, 2019) approach the user experience by placing the individual as the focus of analysis. In this study, we rather place the level of analysis on the practice and seek to explore how recommendations, as one constituent part of the practice, shape behavior. From this perspective, both recommendations and behavior are two of the elements that in interplay reproduce music consumption. This further means that the agency of recommendations is given a greater role, yet not deterministic, than in previous research with a user perspective on recommendation-based consumption. In this manner, our approach aligns with Prey's (2018) call to place the subject in relation to larger socio-technical systems. In a comparative study between two music streaming platforms, Prey (2018) explored the idea that ways of seeing the individual enacts the individual. He approached this from the point of view of how the streaming services understand the practice and thereby how they build their algorithms. In contrast to this, our study seeks to empirically explore how recommendations shape consumption with a broader approach to the practice and from a user perspective.

Understanding what users prefer and presenting recommendations accordingly is crucial for digital platforms in today's saturated and competitive markets (Hracs & Webster, 2020). Therefore, it is of great theoretical as well as practical interest to study how recommendations influence consumption practices. As mentioned, this will be done through a practice theoretical approach, viewing music streaming consumption as a set of interconnected activities and elements (Fuentes *et al.,* 2019). The relevance of this approach is derived from the ubiquitous nature and contextual turn that can be seen in contemporary music consumption, which imply habitual patterns of consumption that are thought to be best captured by a practice perspective. The aim of this study is therefore to bridge the knowledge gap on how recommendations shape consumption practices. This will be done by answering the following question:

> How are recommendations by streaming platforms shaping music streaming discovery practices?

A few additional delimitations are made in order to clarify the aims of this question. First, our definition of music streaming discovery aligns with the one provided earlier by Garcia-Gathright *et al.,* i.e. music discovery involves "the experience of finding and listening to content that is previously unknown to the user" (2018, p. 55). Second, a practice theoretical approach will frame the scope of this study. This is thought to account for the multiplicity and flux of recommendations, in order to ultimately understand their agency. In this way, the focus of this study will not concern what algorithms are, rather what they result in terms of user practices. Lastly, it should be clarified that Spotify has additional key stakeholders, including music rights holders and advertising brands (Webster, 2019). However, while these are recognized to have important and influential roles in the case of Spotify and how music is distributed, a deeper understanding of what those roles imply are outside the scope of this particular study that is limited to the user perspective, where the user is defined as the music listener.

Methodology

This study was guided by an exploratory qualitative approach with the aim of unfolding how recommendations shape music streaming consumption practices. Qualitative research is appropriate when designing exploratory studies that aim to be receptive toward the intricacies surrounding the subject matter in order to reach a deeper understanding of a phenomenon (Flick, 2014; Eriksson & Kovalainen, 2008). To grasp the role of recommendations in music consumption, a deeper understanding of the underlying structures of the practice as a whole is required and, therefore, this approach is appropriate.

Data collection

The empirical data of this study were based on a mix of interviews and app walk-alongs that were thought to complement and build on each other in order to deepen the understanding of music consumption practice. Hitchings (2012) deals with the scholarly debate around the appropriateness of interviews when studying everyday practices. One of the counterarguments emphasized is that the habitual nature of practice makes it blurry to practitioners and therefore challenging to talk about (Hitchings, 2012). However, Hitchings refers to Bourdieu (1999) when arguing that practitioners do not always automatically devote themselves to the script of

practice, there is some room for improvisations that are to some extent conscious and thereby indicating potential for reflexivity. In accordance with this, interviews are argued to add another dimension to understanding the practice in terms of providing insights to elements that cannot be identified through observation. In addition, given the ubiquitous nature of music streaming, several aspects of the practice can only be accessed through interviews. Especially aspects that are contextually related in the sense that they are too candid or simply too large in numbers to capture through observations.

Furthermore, the app walk-alongs were used alongside the interviews and were seen as a projective technique to stimulate conversation further (Moisander & Valtonen, 2006), which is argued to be fruitful when studying routine behaviors that users may not be aware of. Additional concerns in the debate on interviews relate to important aspects that are not found in the "narrowly discursive" (Bissell 2010, p. 271) and are therefore difficult to identify in verbal exchange (Macpherson, 2010). App walk-alongs enabled us to observe how respondents interact with the platform and this facilitated a more detailed analysis of the app's intended objects, embedded meanings, and how it shapes user experiences (Light, Burgess & Duguay, 2018). Thus, the purpose of this technique was ultimately to elucidate new perspectives for us as researchers as well as to encourage the respondent to interpret the space in their own way and guide us through the practice rather than the other way around, in accordance with our exploratory approach. Finally, this mix of methods is supported by the notion that practices consist of both doings and sayings (Schatzki, 1996), thus, in agreement with Warde (2005), empirical analysis should include both the practical and representational.

In total, 15 Swedish consumers aged between 23-30 were interviewed, each interview lasting between 42 and 72 minutes. The main inclusion criteria was for the respondent to be of the generation assumed to have grown up with music streaming to a great extent. The reason for this was to enable reflection and accounts on the practice that can be derived from extensive experience during the most formative years of life. It turned out that all interviewees had used Spotify for about 10 years. The respondents' names were replaced by fictional ones to make them anonymous. The interviews were conducted in Swedish and took place through video calls on Google Meet due to the ongoing Covid-19 pandemic. During the interviews, the respondents were encouraged to think out loud and also to look at Spotify to remind themselves of how the interface is designed and how they navigate it.

The interviews were semi-structured in the sense that questions were prepared beforehand, informed in part by the cloud activity lifecycle (Eriksson & Kovalainen, 2008; Lee *et al.*, 2017) and in part by the practice framework. The interviews started with broad questions concerning the user's relationship to music before moving on to more practical questions regarding how they listen to music. The practical questions were structured as follows: beginning with general questions concerning how and when the respondent listens to music, to how they navigate, organize, listen, curate, and discover music. However, additional questions were generated as the conversation unfolded and the order of the interview guide was not strictly followed (Eriksson & Kovalainen, 2008). Finally, depending on what had already been covered during the conversation, we asked more directly about the phenomenon of recommendations, what they knew about them and how they used them.

Data analysis

All interviews were recorded and then transcribed continuously in order to identify potential themes of interest that could be further investigated in the interviews that followed. Once the interviews were completed, the transcriptions were analyzed phrase by phrase and thematically coded according to practice-related themes, following the technique of open coding that resulted in numerous codes and labels (Eriksson & Kovalainen, 2008). This enabled a holistic overview of the practice and its constituent parts, which improved the interpretation of the material. Following this, the data were sorted according to categories that reflected previous research to some extent, as well as emerging and persistent themes of the practice, such as music discovery, practice understandings, and habitual navigation. Based on this, a pattern was identified in the data and the concept of the "individual genre" emerged from the observation that music discovery has two dimensions: within versus outside the individual genre. Finally, the concept of the individual genre guided further break down of the data into four elements that in interplay with recommendations create and sustain the individual genre: (1) patterns of routine, followed by (2) misconceiving feedback, (3) the dynamic interface, and, finally, (4) understandings and conventions. This will be explained in more detail in the analysis below.

How recommendations create and sustain the individual genre

As highlighted in the literature review, there is an increasing role of, and interest in, recommendations as an element of contemporary consumption. Correspondingly, the question that guides this paper is how recommendations by streaming platforms shape music streaming discovery practices. Our study shows that music discovery practices are strongly influenced by the recommendations that Spotify provides. As previous research has shown, recommendations help guide users through the abundance of music found in the audio library of Spotify (e.g. Datta *et al.*, 2018). In particular, recommendations help users find music that they like through for example the "Spotify Radio", music that serves the moods of special contexts, and music that is easily accessed to fit the routines of everyday practices.

On the other hand, the user accounts in our study further illustrate how recommendations trap listeners in their own genre, a phenomenon that we term *individual genre*:

> It's this Catch 22 thing that I come back to all the time, that there are obviously a lot of things that enable me to find new music but it still keeps me within the same 'pool'. So within that 'pool', I find plenty of new music but I don't discover new pools. Because I've been put in a pigeonhole. (Anna)

The word trap is used to illustrate the process of how algorithms adapt to an extent that they frame music consumption in a continuously narrowing way, leading up to the individual genre. In Anna's words above, the individual genre can be explained as one single pool adapted and restricted to what the user is predicted to like based on previous interactions, from which it is difficult to leave. The process is characterized as narrowing because new users are able to discover more diverse music than experienced users since the algorithms do not have enough data in the early stages to pinpoint what they define as individual preferences. The more

behavioral feedback the system receives with time, the better the algorithms get in recommending music similar to what the user already listens to and the narrower the scene for music discovery becomes.

The rest of the analysis begins with a closer look at the individual genre and the two dimensions of music discovery that the individual genre essentially distinguishes between: inside and outside the individual genre. Following this, we illustrate how recommendations, in interplay with four different practice elements, create and sustain the individual genre. Starting with the element of (1) patterns of routine, followed by (2) misconceiving feedback, (3) the dynamic interface, and, finally, (4) understandings and conventions.

A consciousness of the individual genre and the two dimensions of music discovery

The individual genre emerged from an observation that users show a consciousness of being limited in their music consumption in the sense that there is little variation in the recommendations they receive. This consciousness is expressed in different actions that users take to reach beyond the restrictions of the recommendations that create their individual genre. This is highlighted by Anna:

> Now, when I go to 'song radio', it always ends up the same, kind of. So I'm having trouble getting out of there and discovering more beyond that. Breaking free. I've ended up in a category on Spotify, I notice. (Anna)

All respondents have used Spotify for around 10 years and, consequently, their algorithms have aggregated extensive amounts of data over the years. As seen in Anna's quote above, this implies that, with time, recommendations are less effective in enabling a broader music discovery. Various tactics of reaching beyond the individual genre are found and a common denominator seems to be an awareness of one's behavior from which the user seeks to drastically deviate. One tactic is to use the recommendation "Spotify Radio", which is viewed by users as taking the music discovery into your own hands since it allows the user to cherry-pick a track, album, playlist, or an artist that they take a liking to and continue from there to discover similar tracks or artists. However, as highlighted by Anna, even that tactic seems to eventually become less effective as recommendations are rapidly adaptive. In this way, individual action is seen as derived from the organization of the practice rather than being voluntaristic (Warde, 2005), which further supports the involvement of the individual genre that recommendations proliferate. Another interesting finding that highlights the idea that recommendations might be over-accurate, in the sense that each interaction is considered indicative of music preference and feeds the algorithm accordingly, is exemplified by Jenny's thoughts on sharing account with her brother:

> It's kind of fun actually because then I get some new influences/.../ the fact that we're two on the Spotify account makes us both discover some new music. (Jenny)

As seen in previous research, much concern circulates around the accuracy of recommendations (e.g. Gogna & Majumdar, 2015; Saia *et al.*, 2016; Lee & Price, 2016; Ludewig *et al.*, 2018). This suggests that users would not want to share their accounts with others because that implies

misconceiving feedback to the algorithms as the other account holder's activities are incorporated as well. However, as illustrated by Jenny's reasoning above, there is a value in this as distinct influences are weaved into the algorithm and in that way enable a broader scene for music discovery. In addition, Jenny explained that she can see what songs her brother listens to and that this encourages her to check them out as well. This can be seen as one way to reach outside the individual genre. Similarly, a popular way of reaching beyond the individual genre is to physically reach beyond the Spotify platform. Jenny explained her experience of this:

> ...Spotify's way/.../in one way it's good because you often get music that you're more likely to like. But it can be difficult to discover, what should you call it, radically new music. And sometimes you might want to discover radically new music/.../then I think Shazam and stuff, that's an additional way of really getting completely new music. (Jenny)

In this way, there are seemingly two dimensions of new music. First, recommendations that are adaptive provide the user with new music that is similar to what they are already listening to, music that you are likely to like in Jenny's expression. This is to a great extent what users, at least in this study, find through Spotify's recommendations. The second dimension is the "radically" new music, which is the music outside the individual genre on Spotify. The external sources of music discovery seem to be popular to achieve this latter dimension and include social contexts like parties, public places like restaurants, series, movies, radio, social media, and advertisements. This is further facilitated through the application Shazam that recognizes audio playing in your surroundings and identifies the song for you. This application can be seen as an enabling tool in finding "completely new music" (Jenny), breaking the boundaries of the individual genre. This highlights the continued importance of external sources in music streaming consumption (e.g. Jansson & Hracs, 2018; Jansson, 2019). Music streaming platforms aim at gathering as much of music consumption, and data, as possible by catering to individual practices (Hracs & Webster, 2020). However, based on our empirical findings, these efforts seem to be insufficient as music discovery continues to take place outside the platform, outside the individual genre.

Another interesting finding, related to the consciousness of an individual genre and reaching beyond it, is that users request better guidance for this within the platform. This is highlighted in Anna's answer below when asked about whether she finds enough new music:

> Maybe that's what you want, wild card playlists. More of forcing me outside my comfort zone but also that they're labeling that clearly /.../ because I probably won't like the songs at first, I think. But if I know like 'oh wild card, try this', then I'll have another lense sort of. (Anna)

Several respondents expressed similar concerns for clearer categories. Most users are not aware of the fact that Spotify does throw in some wild cards to encourage a broader music discovery, however, these are within the "Discover Weekly" playlist mixed with the music you are accustomed to (Stål, 2018). Based on Anna's reasoning above, this seems to not have the desired effect because it is not separated and labeled from the individual genre. Anna further talked about different lenses. If the user expects a song compatible with their individual genre because they are listening to a personalized playlist, a wild card within this playlist might

instead be experienced as an inaccurate recommendation and a disturbance rather. Several accounts in this study indicate that this is the case as they question, what they consider, random songs that do not fit into curated playlists. In addition, this example indicates that the user needs to be pushed outside the individual genre, illustrating the reliance on, and agency of, recommendations. This, in turn, implies that the user experiences being trapped within their individual genre, essentially trained to limit their music taste to its boundaries. Consequently, another lens is required outside the comfort zone in order to not dismiss that music too soon, which is further a potential reason for why there is a desire of labeling where the boundaries are.

Patterns of routine: habitual behavior and convenience of recommendations

Our findings show that recommendations in interplay with habitual behavior are inherent to the practice of music streaming consumption and is identified to be one of the elements that create and sustain the individual genre.

To begin with, users rather rely on habitual routes than the more exploratory routes offered by the "homepage". For example, several of the respondents express that they usually choose a playlist or function that is presented at the top of the homepage. Previous studies have discussed how music streaming platforms design recommendations that aim to drive habit formation or future discoveries, depending on type of recommendation (Harcs & Webster, 2020). In other words, the platform aims to balance these two types of behavior. First, deeper engagement with music is generated by essentially slowing down discovery through habit formation, such as repeated listening. At the same time, the platform offers "lean forward" experiences: recommendations with the purpose to encourage and accelerate discovery. Our findings show that recommendations and the interface design indeed drive habit formation. However, this in turn rather seems to trap users in a pattern of routine that inhibits broader music discovery. The recommendations designed to drive habit formation are literally closer at hand and disproportional weight is therefore put on driving such behavior. As Robin expressed it:

> Most often, I'm on the 'homepage', it's like the start screen. /.../ So these first 6 that are at the top are the most important as well. I go there in 8 cases out of 10. /.../you have 'Recently played' under there and I go there as well, but not as often as at the very top. (Robin)

When the most commonly played playlists are presented at the top in this way, the interface can be seen as ranking the features based on listening frequency. Consequently, the user is prone to continually return to the most commonly played music, partly because they currently like it but also out of sheer routine. In other words, this example shows how the user interface steers the user, which in turn traps the user in their individual genre as the interface stimulates a behavioral loop. This loop, and therefore the individual genre, is likely to be additionally enforced by the fact that routine excludes alternative paths and, with time, other playlists and ways of exploring the platform are abandoned. While some view the homepage as the start screen, others go straight to their music library:

> When I go on Spotify, I always press 'my library' or 'your library'. I'm never on the home thing /…/ I always go straight to 'my library', it's kind of in the movement of the hand. (Johan)

There are two aspects that are particularly interesting with this account. First, Johan's actions indicate a clear distinction between the homepage and the library, where the homepage is not even an option he considers. Secondly, "in the movement of the hand" illustrates how the bodily movements become scripted by the practice. Both aspects illustrate a habitual behavior inherent to the practice and encouraged by the interface, which once again traps the user in their individual genre.

Another element of routine is time restriction, which several of the respondents mention as a critical part of their music consumption. As Rakel put it:

> If you're in a hurry to work or if you're going to take the tram, then it's not like you stand in the middle of the street and start looking around here [homepage], then you go down to the right, 'Your library' - perfect, here I have my stuff /.../ Everything has to do with time, so how much time you have. (Rakel)

All of the affordances offered by the platform are not known to users, partly because of routine usage but also because of low commitment to the practice due to a lack of time, which keeps them from finding music beyond the individual genre. Moreover, even when users take the time to find new music, the practice is a routine efficient search and users often return to the same functions and playlists for finding new music. Several of the respondents dedicate time for discovery when they have an hour of nothing to do or while commuting for example. At those times, they only listen to a song for an approximated 10 seconds before deciding whether they like it or not. In this way, the level of engagement among users appears to not be very high even when there is time, which increases the likelihood of falling into patterns of routine.

The finding that music consumption is habitual is strengthened by an observed desire that picking music should be quick and easy, which is reasonably a symptom of its accessibility today and the contextual shift where music often acts as a soundtrack for another, integrative practice (Fuentes *et al.*, 2019). Several respondents stated that the most convenient way is to follow the interface design. As Josefin said:

> If they're not at the top, I don't use them. It could be that I sit in the car and have to find a playlist quickly, then I take the top one /... / I don't sit at work and scroll and check what playlist I want - I just take something. (Josefin)

In addition to such convenience, this quote further highlights that in the context of another practice, at least one that requires a certain level of attention, the choice of music is not reflected upon to any greater extent. For this reason, it is more likely that the user picks whatever is closest at hand.

Given the desire for convenience in music consumption, recommendations that encourage easy navigation are of course positive in the sense that they help the user to make a decision. However, the problem with the habitual behavior is that it gets detected by the algorithms, which consequently affects what is recommended to the user onward, and in turn, leads them back to their habitual routine, ultimately keeping them within the individual genre. This means that the user ends up in a feedback loop and it is thereby difficult to get out of the

individual genre. In this way, the variation in music is limited and the recommendations that follow will be based on the songs the user listened to last.

Misconceiving feedback: There is more to interactions than meets the algorithm's eye

Our findings further show that recommendations are informed by interactions that do not necessarily reflect taste. In addition, interactions seem to be interpreted uniformly across individuals and contexts. Misconceiving feedback is identified to be another element that sustains the individual genre by creating mistrust in recommendations, which in turn inhibits exploratory behavior.

As mentioned briefly in the literature review, the sensitivity of the recommender system accounts for each small navigation movement (e.g. saves, skips, repeat plays), however, this is not necessarily in accordance with individual taste (e.g. Lee *et al.*, 2017). It can be the result of a mistake such as pressing the wrong song or accidentally pressing on the heart shape, which means that the current track, playlist, or album is saved in the library. This was something that many users discovered during the interviews when they looked in their list of "hearted" tracks/lists/albums and concluded that they did not recognize the content there.

Misleading feedback can also be due to "laziness", in the respondents' own words. Several users expressed that they do not always have the energy to change songs or discover new songs, even though they dislike the music or consider it to be no more than decent. Robin reflected on this:

> Usually, it's ['Discover Weekly'] decent - totally okay - but there are rarely any amazing tunes. But it's perfect when you want to listen to something that is okay, then you go to 'Discover Weekly'. (Robin)

The account above shows that listening to a song or playlist without changing does not necessarily reflect user preference, which is consistent with previous research that shows that user interactions signal different things in different contexts (Garcia-Gathright *et al.*, 2018). This passive behavior is similar to so-called "lean back" experiences (Harcs & Webster, 2020), which are rather a matter of convenience than individual taste. According to Harcs and Webster (2020), it is the combination of interpolation between "lean forward" and "lean back" experiences that creates and provides the recommendation for the user. However, based on the findings mentioned, it is the interpolation that seems to be too sensitive, or fast, because it also captures the deviant behavior that does not reflect taste. Making a mistake or passively listening to music can therefore punish the user in his or her future music listening.

In addition, integrative practices (Fuentes *et al.*, 2019) may also feed recommendations with behavior that does not reflect personal taste, as Johanna highlighted:

> Some of the recommendations are not very accurate, which depends on what you've been doing when listening to music. Some of the recommendations I get are based on an exercise list with music that I don't really think is that good (Johanna)

Johanna explained how she in most situations listens to one type of music that she considers to be in line with her taste. However, an exception is made when she exercises, then she listens to one of the "moments" playlists that are created for the integrative practices that music

accompanies. Misconceptions can also be due to a social context where others have been involved in one's listening:

> We had a list on my account that was shared with all my coworkers, where everyone could add their music. My recommendations have become too influenced by it. Maybe that's also why some of 'Discover Weekly' hasn't suited me because it's just not my music. (Emma)

The examples above indicate that the personal recommendations that Spotify generates cannot fully capture the complex and varied contexts in which music is used. These findings further support the idea of Prey (2018) that you have more in common with others in the same current context than with your past self. This means that one's music consumption informs the individual genre, however, all that is consumed is not necessarily in accordance with one's taste. In other words, the individual genre cannot always be equated to individual taste.

Misinformed recommendations are problematic since the trust in them decreases and, eventually, also the reliance on them:

> If you play a recommendation by Spotify and you're disappointed with the content, you stop using it and you play your safe cards anyway. (Sebastian)

The paradox is that users initially try to get away from their individual genre but, in the end, still end up within it as the recommendations did not meet the expectations. In addition, this distrust is not only found in generic playlists but also in personalized recommendations. For example, Samuel means that he has not used the personalized playlists for years since he did not think that they were good the last time. Reasonably the personalized content should get better with time and, in that sense, this shows how disappointment at an early stage might inhibit discovery later on, and thus trap the user. Instead of using recommendations for discovery, Samuel relies on his memory and searches for the tracks or artists that he likes.

The dynamic interface: keeping pace with the motion of virtual content, or not

Our findings show that the fluidity of how recommendations are presented contributes to shaping the music streaming discovery practice. Users tend to refrain from keeping pace with the dynamic content, avoiding any exploratory affordances and sticking to their routines instead, which creates and sustains the individual genre.

There seems to be a tendency to avoid the homepage, to more or less extent. Some respondents avoid it altogether and navigate directly to their library, while others use it solely for the "Recently Played" feature at the top of the homepage to continue where they finished off last time. Johan shared how he experiences the homepage:

> It says 'good morning' at the top and then there are several small, several small suggestions sort of, with small squares that make it very messy… It's just a lot of information. Then that's followed very closely by the other stuff. It feels very… just a lot at the same time that I don't really have the energy to bother about. (Johan)

The overwhelming experience that Johan describes can be explained by the "paradox of choice" where too many options paralyze instead of liberate (Schwartz, 2004; Webster, 2019), a

phenomenon that could be argued to not only be limited to music consumption but a symptom of the nature of contemporary consumption overall. This cognitive overload is further emphasized by the finding that most of the respondents want to keep their podcast library separated from their music library to the degree that they use different applications for it, even though Spotify offers podcasts as well. By separating the different types of audio in this way, users disperse the amount of information and thereby reduce the options available within the same space. Spotify attends to the paradox of choice by manipulating micro-spatialities through adaptive curation of the user interface (Hracs & Webster, 2020). This means that they seek to overcome the confined space of user interfaces by presenting content in a dynamic way. However, according to our findings, Spotify's solution seems to result in the same paradox of choice but driven by an intense rate of recommendations instead. In other words, the amount of recommendations displayed at the same time within the same space, as well as the rate at which these are rearranged and exchanged with new recommendations, is overwhelming for the user. This was further highlighted by Rakel:

> I can't find anything! And not...yeah now it suddenly showed up at the top, it's this, it jumps around too much, there's no order whatsoever. And you can't pin and you can't remove...as a user I would've wanted to be able to decide what to have at the top and not/.../I don't use that home button because I don't know what I find there. (Rakel)

The above quote is from a discussion about the homepage and the first time Rakel looked through it she expressed that she wished the "Made for you" feature would be at the top. Then, a couple of questions later, she revisited the homepage and it had indeed adapted and rearranged the content so that "Made for you" now was at the top. Even though this was what she wanted, it clearly proved her point of why she refrains from using the homepage, she does not know what to expect from it and that uncertainty hinders her from discovering music. In other words, the homepage disturbs the positive sense of flow (Warde, 2005) in the music streaming experience for some users, which steers them away from the potential opportunities offered by the homepage. Essentially, this can be argued to narrow their individual genre even further. In addition, it demonstrates the intense rate of recommendations and how that reduces the number of navigation directions that the user actually considers.

> You should be able to choose on your own what's shown on the home button/.../ I never see 'recently played', my eyes don't go there. I go straight to my library, I know that I'm safe over here to the right. (Rakel)

Various practices of control appear to be a way of dealing with the unpredictable and "messy" (Johan) interface. There is a desire to use the homepage more interactively, for example by being able to pin recommendations you prefer at the top and remove recommendations that you do not wish to see again, as Rakel mentioned earlier. This would reduce some of the uncertainty in the practice and could be seen as a way of facilitating routine behavior in turn, because the dynamic content prevents users from maintaining a regular course of action.

While several respondents avoid the homepage more or less, there are those who express appreciation for it and interact with it more. Jonathan told us how recommendations help guide him to niched genres and smaller, local artists that he would not have discovered otherwise.

According to Hracs and Webster (2020), recommendations and curation overall seek to stimulate serendipity and user engagement. Again, Jonathan's account illustrates how this influences the practice. Jonathan continued to explain how one interaction leads to another and how he, in a positive sense of flow, moves deeper and deeper to finally arrive at those smaller artists. While this may happen serendipitously, such actions of making use of recommendations to really explore seem to often require a certain level of commitment that is only found among a couple of the participants in our study. As we have seen before, the level of commitment is a recurrent factor in reaching the full potential of exploring music. Furthermore, these users also expressed that such explorative behavior requires attention. In that sense, true explorative behavior can be seen as an integrative practice (Fuentes *et al.,* 2019) since it is more complex and is preferably performed on its own, or at least when the other practice (e.g. commuting) requires little or no attention. The required commitment is exemplified by Oliver:

> I used to listen to them [Daily Mix] sometimes but I've stopped. I think that there are so many lists and functions...you can't keep track of them all at once. (Oliver)

As expressed by Oliver above, users seem to limit their discovery. Our findings show that when users for example get tired of their music and turn to the homepage to find new songs, they still tend to turn to the same playlists and functions. In that sense, they have a clear strategy for their discovery and they return to historic trajectories of action. This is also seen in the example given by Rakel who listens to the "Discover Weekly" playlist each Monday when it is released and how that has become a habit. In other words, an element of routinized serendipity is found in the practice of music streaming discovery. For this reason, the novelty introduced by the dynamic interface is not taken advantage of, nor desired, by all users. In addition, those who do use it, do not always attend to it since it requires a certain level of commitment.

Understandings and conventions: on or off the beaten path

Finally, recommendations are found to drive conventions of the music streaming consumption practice by providing a script for its performance, which users either adopt or refrain from. In this way, recommendations are seen as performative, which further leads to a difficulty of articulating your own individual genre and this, in turn, leads to an inability to actively discover music outside its boundaries.

In similarity with previous research, users are found to use Spotify's playlists as a safety blanket in social situations because in that way they do not need to be held accountable if anyone disapproves of the music (Hracs & Webster, 2020). This illustrates the social meanings involved still in music streaming consumption. Moreover, users show concern about creating or maintaining the appropriate mood for these social occasions. The user hurries to skip to the next track if a song disrupts the mood, in other words, if it does not align with the structure of the integrative practice it accompanies (Fuentes *et al.,* 2019). At the same time, there are also indications of some sort of embarrassment of using Spotify's playlists and conversely pride in creating your own:

> Among other people, I sometimes play music to impress with my cool music taste./.../My friend and I like quite niched rap and then you wanna show all the indie artists that no one's heard of but you. (Sara)

In the same way that you do not want to be held responsible for the "wrong" music, you want to be associated with a good music taste, as Sara expressed above. Moreover, it can be discussed what can be defined as "good" taste. It appears to at least be partly connected to music that is a bit harder to find. For instance, Rakel talks about how she enjoys playing songs that have not been played on the radio nor are recognized by average Joe or Jane, it is fun to inspire others in that way she means. Based on this, one source of meaning in music streaming consumption seems to lie in finding the gems, a seemingly challenging task that demands a certain level of investment. It is argued to be challenging, at least partly, because of the restrictive boundaries of the individual genre. If the user does succeed with this, there is no need to use the curated playlists on Spotify and, in that sense, leaning on them becomes associated with some degree of embarrassment. This leads us further to the example of resistance, distancing oneself from the dominant consumer culture (Ingram, Shove & Watson, 2007) or conventions in general (Warde, 2005). Rakel illustrated this when talking about podcast recommendations:

> What I see first is podcasts, so I guess they want to push me to listen to podcasts on Spotify because I don't. But there I say no. They don't win there. (Rakel)

There is a clear antagonistic approach to the algorithmic consumer culture in several accounts (Hartmann *et al.*, 2020). It appears that Rakel and some of the other respondents seek to distance themselves from the dominant culture because they do not want to fall into a prescribed script of music consumption practices. Rather they wish to define their genre on their own and this is done by more actively navigating around the platform, not listening to curated lists to any greater extent, and essentially avoiding the recommendations that are closest at hand, or even avoiding the homepage altogether.

Each user is further found to have their own "strategy" (Sebastian) of how they consume music. For example, Oliver describes the different phases of how he finds new music. First, he finds a new artist and listens to one or two songs to decide whether it is something for him. Then, at a later stage, when he is in the mood for new music again, he revisits the artists he found in phase one. Warde (2005) discusses how practices are internally differentiated in this way, which suggests some uncertainties regarding the practice understandings and conventions. This could help explain why playing your music to others is associated with a level of risk and why some seek their safe cards at those times. However, social occasions are also opportunities to show off your music, which was exemplified by Sara previously.

At the same time, recommendations in all its forms, including top lists, "moods and moments" playlists, and the number of streams of a track or artist, give some insights into what others are listening to. In this way, conventions and meanings become more saliently available to users and thereby offset at least some of the uncertainties surrounding the practice. For example, the moods and moments playlists exemplify what is appropriate music in a particular context, making out points of references that users can adopt or resist, and use to guide their own consumption. For example, some refer to recommendations as mainstream in general and find them to be a safe card in that sense. Meanwhile, we had the example of resistance earlier, where mainstream is still a point of reference, however, a point to stay away from. Instead, more niched playlists may guide resistant users. An example of such a playlist is the "Oyster" playlist and its description: "For the connoisseurs. Genre-bending gems and authentic expressions". Such recommendations, in themselves, generate categorizations of music, which

could be said to influence users' own ways of categorizing, and ultimately ways of consuming music. In that sense, recommendations drive and sustain conventions and can be considered performative (Magaudda, 2011). They guide users to conform to predefined consumer categories (Prey, 2018) as they provide a script for how the practice could be interpreted and performed.

This leads us to another finding that shows an inability to articulate personal taste. Moreover, this takes us back to the individual genre once again, which can be argued to be enforced and sustained by the script of the practice as algorithms result in a beaten path that users are likely to return to.

> Because of their [Spotify's] functions/.../you can find a music taste through their recommended playlists and recommendations and ready-made lists that you can pick from and clear ways to find and structure everything. (Anna)

Anna's statement above illustrates how you find your music taste with the help of recommendations and how they structure the practice for you, which clearly demonstrates the performativity of them (Magaudda, 2011). This reasoning seems to be linked to users who rely on more explicitly scripted recommendations, such as mood, moments, and genre playlists, which suggest a way of organizing music. However, the scripted practice makes it difficult for users to define their taste since the recommendations have done it for them in a seamless, unperceivable way. The reliance on recommendations and the following challenge of defining your taste result in an inability to articulate preferences. The individual genre cannot be described more precisely than that the music leaves you with a good feeling. In addition, consensus seems to be that it cannot be defined by genres or even artists, it is rather a "Jenny song" (Jenny), or not, and it takes just a few seconds to decide whether that is the case, as explained by Johan:

> I feel quite quickly whether I think it's good or not. I'm not sure what that means really/.../The beat gets to me but it's pretty much instinct (Johan)

Referring to it as instinct indicates that it is an innate element of the practice and therefore difficult to distinguish from other elements.

Another perspective on the performativity of recommendations can be found when observing doings where users seek to organize and structure their music on their own as opposed to relying on recommendations for structure. The difficulty of this became evident in accounts where for example Samuel talked about playlist curation as a work of art that requires too much energy from him. Several other users agree and end up having one very long playlist because categorizing their music is a complex matter according to them. In contrast to the previous reasoning around how recommendations help organize the practice, this perspective seems to be more common among users who find most of their music through personalized playlists, such as "Discover Weekly", where there are no clear categorizations, such as a distinction between genres. As Johanna explains, she does not search based on genre because she does not believe that would be a good match, she cannot categorize her taste in that way. In addition, the boundaries between genres are increasingly blurred as access to music today is in essence unlimited and more genre-bending songs are produced (Schedl *et al.*, 2015; Stål, 2018). This blurriness is supported by findings that show how library playlists overlap, i.e. one

track can belong to several playlists according to the organization of the practice. This in turn strengthens the argument that music is difficult to define and it implies an inability to know what to search for, which consequently makes it challenging to reach beyond the individual genre.

Conclusions

The present paper has examined how recommendations by streaming platforms shape music streaming discovery practices. These practices are shown to be strongly influenced by the recommendations provided by Spotify. In accordance with previous studies (eg. Datta *et al.*, 2018), recommendations help guide users through the abundance of music. On the other hand, the user accounts in our study further illustrate how recommendations trap listeners in their own genre, the *individual genre*. Accordingly, there are two dimensions of new music: music found within and outside the individual genre. Music within the individual genre can be explained as music that is adapted and restricted to what the user is predicted to like based on previous interactions. Hence, music outside the individual genre is independent of previous interactions and can therefore be considered more radical, or distinct from current behavior.

Furthermore, we have illustrated how recommendations, in interplay with four different practice elements, create and sustain the individual genre. In the first element found, our findings show that recommendations in interplay with habitual behavior are inherent to the practice of music streaming consumption. The individual genre is created through recommendations that drive patterns of routine, which are fed back into the algorithm and consequently recommendations and interactions in interplay create a narrowing feedback loop that sustains the individual genre. The second element indicates that recommendations are further informed by interactions that do not necessarily reflect taste, such as interactions linked to other practices, mistakes, or social contexts. As such, interactions seem to be interpreted uniformly across individuals and contexts. Misconceiving feedback is thereby identified to be another element that sustains the individual genre by creating mistrust in recommendations, which in turn inhibits exploratory behavior. Furthermore, the third element shows that the fluidity of how recommendations are presented contributes to shaping the streaming practice. Users tend to refrain from keeping pace with the dynamic content, avoiding any exploratory affordances and sticking to their routines instead. Similar to the first element, this habitual behavior creates and sustains the individual genre. Lastly, the fourth element shows how recommendations drive conventions of the music streaming consumption practice by providing a script for its performance, which users either adopt or refrain from. In this way, recommendations are seen as performative, which further implies a difficulty in articulating your own individual genre and this, in turn, leads to an inability to actively discover music outside its boundaries.

These four elements are seen to be intertwined and reproduce each other rather than having a cause-effect relationship. The notion of the algorithmic consumer culture in previous research suggests that what a user consumes is a result of recommendations rather than the users' individual taste (Hartmann *et al.*, 2020). However, this is argued to be a chicken-and-egg problem, what comes first, the individual taste or the recommendation. Based on our findings, recommendations are a contributing factor in guiding behavior, not the cause of

behavior. Furthermore, recommendations are in turn informed by behavior and the other elements of the practice. In these lines, the negative connotation in the word trap is thought to reflect the debate of whether recommendations are personalized (Prey, 2018; Hracs & Webster, 2020), seeing as recommendations are informed by multiple factors that are not necessarily individual. First of all, personalized recommendations are not only based on individual behavior but also that of other users, partly those calculated to be behavioral peers but ultimately each Spotify user contributes since they all constitute the same network. Furthermore, algorithms are informed by preconceptions of what constitutes individual taste, as discussed by Prey (2018) among others. In addition, the behavioral feedback that is indeed based on individual behavior is sometimes contextually related rather than related to personal taste. In accordance with a practice theoretical approach, several elements come into play in consumption practices, reproducing each other (Warde, 2005) and the resulting recommendations can therefore be seen as related to engagement in the practice rather than to individual taste.

In similar lines, Prey means that streaming platforms do not see individuals as immutable objects rather they promise the potential of "the perpetually 'becoming-individual' " (2018, p. 1095). While our study aligns with the becoming, i.e. the view of the individual not as given but in the process of becoming, it questions the perpetual horizon. The process of becoming trapped in the individual genre is characterized as narrowing because new users are able to discover more diverse music than experienced users. In other words, as algorithms become more and more informed by historic behavior, the resulting recommendations become less diverse. Therefore, based on our findings, we argue that the process of the "becoming-individual" is rather viscous in nature and the feedback model underlying most recommender systems essentially slows down any extensive developments in the discovery practice. In other words, the accelerated rate at which music is recommended is, counterintuitively, decelerating music discovery in terms of music distinctive from current practice.

Finally, Hracs and Webster (2020) argue that as long as personalized recommendations are perceived as relevant, the user is not concerned about why and how they are created. However, Prey (2018) means that this unawareness limits a person to freely develop an identity through music consumption. Our findings are more in line with Prey as they indicate that users are concerned to a certain degree since they experience being trapped in the individual genre and, thus, unable to reach beyond it to broaden their music consumption. We conclude that users value recommendations that guide them to their individual genre. However, additional user value can be made by incorporating guidance to new music outside the individual genre.

Implications

Technological developments, increasing amounts of data and intensified competition require the need to find new ways of engaging users (Hracs & Webster, 2020). This paper has provided a deeper insight into recommendation-based consumption by nuancing the understanding of how recommendations influence user practices. This has been achieved by shifting focus from individualistic accounts in previous research that approach the issue from user perceptions and experience (e.g. Garcia-Gathright *et al.,* 2018; Hracs & Webster, 2020), to a focus on practice. In this way, actual user behavior is observed and accounted for, which is not always reflected in perceptions. One such example is the routinized serendipity: users may talk about

discovering music, however, what they actually do is navigate to the same playlists over and over and find new tracks similar to what they already listen to. Therefore, we argue that the practice approach is relevant seeing as it is the interactions and not perceptions that inform the algorithms.

In addition, our approach contributes with a long-term perspective compared to previous studies. For example, Datta *et al.* (2018) study the adoption of music streaming services and find that it leads to a long-run growth of 49% in overall music consumption and a breath of variety in particular, compared to non-adoption. At first glance, this appears to contradict our findings of becoming trapped in the individual genre. However, first of all, we do not make a comparison between adoption and non-adoption. In addition, Datta *et al.* refer to a period of 12 months, compared to our respondents who have used Spotify for about 10 years. Thereby, this does not contradict our findings that suggest that the process of becoming trapped is a years-long process.

Furthermore, by highlighting the problem with the individual genre and how users become trapped by the interface of the platform, we problematize previous research on recommendations that are seemingly based on an underlying assumption that recommendations should only reflect historic consumption (e.g. Gogna & Majumdar, 2015; Saia *et al.*, 2016; Lee & Price, 2016; Ludewig *et al.*, 2018). This opens the door for a new way of understanding and improving the user experience, which could also benefit music creators, or platform stakeholders in other markets, and ultimately digital platforms themselves. Therefore, the insights gained from this study provide a new, critical lens on how recommendations influence user practices: recommendations narrow user consumption encounters, however, their effect is mediated through the nexus of practices (Warde, 2005). This lens can be applied in future studies concerning the broader context of personalized marketing, for example when predicting what ad to serve a user, and digital platforms in general. Considering that this is an exploratory study, the observations and reasoning around them are of this character as well, which means that they need to be examined further before any conclusions can be established. In particular, future avenues could quantify and extend our findings to larger samples, other streaming services, markets and age groups.

References

Airoldi, M., Beraldo, D. & Gandini, A. (2016). Follow the algorithm: An exploratory investigation of music on YouTube. Poetics (Amsterdam), 57, pp. 1–13. DOI: 10.1016/j.poetic.2016.05.001

Beer, D. (2013). Popular Culture and New Media. Basingstoke, UK: Palgrave Macmillan.

Bissell, D. (2010) Passenger mobilities: affective atmospheres and the sociality of public transport. Environment and Planning D 28 270– 9. DOI: 10.1068/d3909

Brown, S. C., & Krause, A. (2016). A psychological approach to understanding the varied functions that different music formats serve. In 14th Biennial International Conference on Music Perception and Cognition (pp. 849-851). [Google Scholar]

Bourdieu, P. (1999). The weight of the world: Social suffering in contemporary society. Oxford: Polity.

Cheney-Lippold, J. (2011). A New Algorithmic Identity: Soft Biopolitics and the Modulation of Control. Theory, culture & society, 28(6), pp.164–181. DOI: 10.1177/0263276411424420

Cluley, R., & Brown, S. (2015). The dividualised consumer: Sketching the new mask of the consumer. Journal of Marketing Management, 31(1-2), 107-122. DOI: 10.1080/0267257X.2014.958518

Datta, H., Knox, G., & Bronnenberg, B.J. (2018) Changing Their Tune: How Consumers' Adoption of Online Streaming Affects Music Consumption and Discovery. Marketing Science 37(1):5-21. DOI: 10.1287/mksc.2017.1051

Eriksson, P. & Kovalainen, A. (2008). Qualitative Methods in Business Research. London: SAGE Publications Ltd.

Flick, U. (2014). An introduction to qualitative research. (5. ed.) London: SAGE Publications.

Fuentes, C., Hagberg, J. & Kjellberg, H., (2019). Soundtracking: music listening practices in the digital age. European Journal of Marketing, 53(3), pp. 483–503. [Google Scholar]

Garcia-Alonso, J. M., Berrocal, J., Murillo, J., & Canal, C. (2018). Seamless Interactions on the Internet of Things. A Spotify-Based Proof of Concept. Lecture Notes in Computer Science (including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 10797, 124-136. [Google Scholar]

Garcia-Gathright, J., St. Thomas, B., Hosey, C., Nazari, Z., & Diaz, F. (2018). Understanding and evaluating user satisfaction with music discovery. In The 41st International ACM SIGIR Conference on Research & Development in Information Retrieval (pp. 55-64). [Google Scholar]

Gogna, A., & Majumdar, A. (2015). A Comprehensive Recommender System Model: Improving Accuracy for Both Warm and Cold Start Users. IEEE Access, 3, 2803-2813. DOI: 10.1109/ACCESS.2015.2510659

Hagberg, J., & Kjellberg, H., (2017). Digitalized music: Entangling consumption practices. In Cochoy, F., Sörum, N., Hagberg, J., & Petersson McIntyre, M (eds.). Digitalizing consumption: How devices shape consumer culture. Routledge interpretive marketing research, pp. 167-189.

Hracs, B., & Webster, J. (2020) From selling songs to engineering experiences: exploring the competitive strategies of music streaming platforms, Journal of Cultural Economy. DOI: 10.1080/17530350.2020.1819374Hartmann, B., Solér, C., Östberg, J., & Parment, A. (2020). Unboxing marketing: Creating value for consumers, firms, and society (First ed.).

Hitchings, R. (2012). People can talk about their practices, Area, Vol. 44 No. 1, pp. 61-67. DOI: 10.1111/j.1475-4762.2011.01060.x

Hosey, C., Vujović, L., Thomas, B., Garcia-Gathright, J., & Thom, J., (2019). Just Give Me What I Want: How People Use and Evaluate Music Search. CHI '19: Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems. 1-12. DOI: 10.1145/3290605.3300529

Ingram J., Shove E., & Watson M. (2007) Products and Practices: Selected Concepts from Science and Technology Studies and from Social Theories of Consumption and Practice. Design Issues, 23(2), 3-16. DOI: 10.1162/desi.2007.23.2.3

Iqbal, M. (2021). Spotify Revenue and Usage Statistics (2021). April 2. Business of apps. Retrieved from: https://www.businessofapps.com/data/spotify-statistics/ [2021-04-09]

Jansson, J., & Hracs, B. (2018). Conceptualizing curation in the age of abundance: The case of recorded music. Environment and Planning. A, 50(8), 1602-1625. DOI: 10.1177/0308518X18777497

Jansson, J. (2019). The online forum as a digital space of curation. Geoforum; Journal of Physical, Human, and Regional Geosciences, 106, 115–124. DOI: 10.1016/j.geoforum.2019.08.008
Lee, J. H., & Price, R. (2016). User experience with commercial music services: An empirical exploration. Journal of the Association for Information Science and Technology, 67(4), 800-811. DOI: 10.1002/asi.23433
Lee, J.H., Wishkoski, R., Aase, L., Meas, P., & Hubbles, C. (2017). Understanding users of cloud music services: Selection factors, management and access behavior, and perceptions. Journal of the Association for Information Science and Technology, 68(5), pp. 1186–1200. DOI: 10.1002/asi.23754
Light, B., Burgess, J., & Duguay, S. (2018). The walkthrough method: An approach to the study of apps. New Media & Society, 20(3), 881-900. DOI: 10.1177/1461444816675438
Ludewig, M., Kamehkhosh, I., Landia, N., & Jannach, D. (2018). Effective nearest-neighbor music recommendations. In Proceedings of the ACM Recommender Systems Challenge 2018 (pp. 1-6). DOI: 10.1145/3267471.3267474
Macpherson, H. (2010). Non-Representational Approaches to Body–Landscape Relations. Geography Compass, 4(1), 1-13. DOI: 10.1111/j.1749-8198.2009.00276.x
Magaudda, P. (2011). When materiality 'bites back': Digital music consumption practices in the age of dematerialization. Journal of consumer culture, 11(1), pp. 15–36. DOI: 10.1177/1469540510390499
Moisander, J., & Valtonen, A. (2006). Qualitative marketing research: a cultural approach. London: SAGE Publications.
Mäntymäki, M., & Islam, A. K. M. (2015). Gratifications from using freemium music streaming services: Differences between basic and premium users. [Google Scholar]
Prey, R. (2018). Nothing Personal: Algorithmic Individuation on Music Streaming Platforms. Media, Culture & Society 40.7 (2018): 1086-100, DOI: 10.1177/0163443717745147
Reckwitz, A. (2002). Toward a Theory of Social Practices: A Development in Culturalist Theorizing. European Journal of Social Theory, 5(2), 243–263. DOI: 10.1177/13684310222225432
Saia, R., Boratto, L., & Carta, S. (2016). A semantic approach to remove incoherent items from a user profile and improve the accuracy of a recommender system. Journal of Intelligent Information Systems,47(1), 111-134. [Google Scholar]
Schatzki, T. (1996). Social practices: A Wittglaensteinian approach to human activity and the social. Cambridge: Cambridge University Press.
Schedl, M., Knees, P., McFee, B., Bogdanov, D., & Kaminskas, M. (2015). Music recommender systems. In Recommender systems handbook (pp. 453-492). Springer, Boston, MA. [Google Scholar]
Schwartz, B. (2004). The Paradox of Choice: Why More Is Less. New York, USA: Harper-Collins.
Sinclair, G., Tinson, J., & Dolan, P. (2019). Music in the time-spectrum: Routines, spaces and emotional experience. Leisure Studies, 38(4), 509-522. DOI: 10.1080/02614367.2019.1597147
Spotify (n.d.). Company info. Retrieved from: https://newsroom.spotify.com/company-info/ [2021-04-09]
Statista (2021). Number of paying Spotify subscribers. Mars 25. Retrieved from: https://www.statista.com/statistics/244995/number-of-paying-spotify-subscribers/ [2021-04-09]
Stål, O. (2018). Music recommendation at Spotify - Oscar Stål, Spotify. Retrieved from: https://www.youtube.com/watch?v=2VvM98flwq0 [2021-04-09]

Wajcman, J. (2015). Pressed for time: The acceleration of life in digital capitalism. Chicago: The University of Chicago Press.
Warde, A. (2005). Consumption and Theories of Practice. Journal of Consumer Culture, 5(2), 131-153. DOI: 10.1177/1469540505053090
Webster, J. (2019). Taste in the platform age: Music streaming services and new forms of class distinction. Information, Communication & Society, 23(13), 1-16. DOI: 10.1080/1369118X.2019.1622763