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## HEALTH PSYCHOLOGY | RESEARCH ARTICLE

# Selecting music for exercise: The music preferences of UK exercisers

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**Abstract:** There is currently little information regarding the music preferences of exercisers. This absence might have important implications given suggestions that an aversion to a music style and/or piece might constrain the proposed extra-musical benefits. This study aimed to address this. Utilising an online survey, one thousand, one hundred and forty-five UK exercisers were questioned as to their listening preferences whilst exercising. Overall, the results highlighted a predilection for genres such as Pop, Dance/House and Rock. However, Chi-squared analysis revealed some gender differences; for example, the tendency for males to prefer “heavier” music styles. There was also a move towards less mainstream/contemporary music with age for both males and females. The outcomes of this study offer guidance to those tasked with selecting musical accompaniment for exercise within both the practical and research domains.

**Subjects:** Sport and Exercise Science; Sport and Leisure Studies; Health & Society

**Keywords:** music; preference; exercise; gender; age

Physical activity can provide physical, mental and social benefits (World Health Organisation, 2018). In the UK, approximately a quarter of adults are inactive. The data also shows that the proportion of the adult population who are physically active decreases with age. In addition, physical activity rates in females is lower than males (e.g., McLean & Dean, 2019; Sport England, 2019). One means of increasing activity levels in all populations is via structured exercise. Efforts to promote activity through this route are laudable, however, encouraging individuals to take up exercise is not an end in itself as a high proportion will drop-out within the first few months (Linke et al., 2011; Matsumoto & Takenaka, 2004). Exercise adherence is a multi-faceted process (Garcia & King, 1991; Williams, 2008), but one factor that is thought to play a crucial role in encouraging repeated involvement is affective response (Jekauc, 2015; Williams, 2008); the claim being that positive experiences engender positive

### ABOUT THE AUTHOR

Dr Dave Elliott is a Senior Lecturer in Sport and Exercise Science at the University of Cumbria. Currently, he lectures across a range of subjects including sport and exercise psychology, sport and exercise physiology and research methods. His research covers several areas however, his primary focus is examining the application of music within the sport and exercise environments.

### PUBLIC INTEREST STATEMENT

Taking part in regular exercise provides many health benefits. However, many of those undertaking exercise programmes will drop-out within the first few months of starting. It is well known that music can create a more productive and pleasurable exercise experience and as such, music might be used to improve exercise adherence. To date, there is little information regarding the music preferences of exercisers. This has important implications given that a dislike of a particular style of music will likely diminish its effects. The aim of this study is to provide those working within the exercise environment with recommendations to aid music selection.

feelings and a greater likelihood that behaviour is repeated (Ekkekakis et al., 2011; Jekauc, 2015; Williams, 2008). Music listening is often advanced as a simple means of creating a more pleasurable exercise experience (Karageorghis & Priest, 2012a, 2012b; Karageorghis et al., 2012) and so in theory, should promote adherence. Listening to music whilst exercising has been shown to influence many precursors to exercise adherence; namely, enhanced affect, reduced effort sense, increased enjoyment and associated ergogenic benefits (Karageorghis & Priest, 2012a, 2012b). Whilst few have examined the direct impact of music listening on exercise adherence, the studies that have been conducted have demonstrated beneficial effects (i.e. Alter et al., 2015; Clark et al., 2016).

Despite the widespread support for music as an exercise aid there are issues surrounding application. To date, music-exercise research has tended to utilise a limited number of music styles (e.g., Pop, Dance and Rock), focused primarily on Western student populations and has generally failed account for demographic variables such as age and gender. Such omissions could potentially impact the strength of extra-musical effects given that it has been suggested that a dislike of a particular music genre and/or piece might constrain the associated psycho-physical benefits (Davis & Thaut, 1989; Gfeller, 1988; Karageorghis et al., 1999; LeBlanc, 1982; Ritossa & Rickard, 2004; Walworth, 2003; Wolfe et al., 2002). Consequently, if positive extra-musical effects are to fully manifest, the listening preferences of the exerciser require consideration (Karageorghis & Priest, 2012a, 2012b). This notion has received empirical support. For example, Drylund and Wininger (2008) and Wininger and Pargman (2003) have shown that listening to “preferred” music during exercise leads to greater enjoyment than “non-preferred”. Young (2007) found that “preferred” music not only enhanced enjoyment, it also played a pivotal role in club member loyalty. In addition, Nakamura et al. (2010) present data implicating music preference in ergogenic and positive perceptual reactions.

There are many elements involved in shaping music predilection; these include the intrinsic music characteristics (e.g., performance quality and complexity) and personal variables such as level of musical training, personality, socio-economic status, gender and age (Kliuchko et al., 2015; LeBlanc, 1982). Given the breadth of factors that guide music preference it would be unfeasible to address all in a single study. Therefore, the current study will focus only on gender and age. In terms of general listening preferences, Russell (1997), Christenson and Peterson (1988), and Colley (2008) have all shown that males tend to prefer “heavier” music types, characterised as being guitar and/or drum-based, loud and fast and expressing emotions such as aggression and rebellion (Colley, 2008; Schwartz & Fouts, 2003), such as Punk and Heavy Metal. Females are more inclined to prefer “lighter” mainstream styles that incorporate less intense instrumentation, are dance-orientated and lyrically focused on love and relationships; examples include Ballads, Pop and Dance/House music (Colley, 2008; Schwartz & Fouts, 2003). Whilst such preferences are not immutable, such evidence suggests that males and females, to some degree at least, gravitate towards different music styles. Regarding age, Bonneville-Roussy et al. (2013) reported the preferences of over 250,000 people between the ages of 12 and 65 yrs. They found liking for “Mellow” (e.g., World, New Age), “Contemporary” (e.g., Rap, Funk) and Intense (Rock, Punk, Alternative) music tended to decline across the age span. In contrast, for “Unpretentious” (e.g., Pop, Country) and “Sophisticated” (e.g., Jazz, Classical) music the opposite was true. Harrison and Ryan (2010) also found a positive relationship between liking for non-contemporary/non-mainstream genres such as Classical, Blues, Big-Band, Gospel and Easy Listening music and age. Departing somewhat from earlier findings, Krumhansl (2017) reported that older individuals were more likely to listen to styles such as Folk, Country, Rhythm and Blues and Classical than younger respondents. Rock and Pop remained popular throughout the lifespan, however it was apparent that respondents favoured artists that were popular during their own late adolescence and early adulthood periods.

Whilst the information presented highlights the importance of personal characteristics in shaping music predilection, general preference data might not necessarily transfer to the exercise environment. According to North and Hargreaves (2000) and Bonneville-Roussy et al. (2017), listening context plays a key role in shaping music predilection. For example, North and Hargreaves (2000) contend that individuals prefer “arousing” music when exercising and “low arousing” when relaxing. A study that offers support to the assertions of North and Hargreaves (2000) is that of Lee et al.

(2017) who found Korean exercise participants held a preference for “stimulative” (e.g., Dance, Hip-Hop and Rock) whilst exercising. However, this study was limited in scope as it focused solely on young adults. In addition, the music used in the investigation was restricted to a total of twenty compositions and these were selected by the experimental team. An investigation by Gfeller (1988) revealed the most often cited “work-out” genres for the sample overall to be Rock, Pop and New Wave. When examined as a function of gender, preferences in the female cohort directly mirrored these however, for males there was some divergence with Jazz and Blues also being popular. Whilst offering some useful insights, the findings of Gfeller (1988) are dated. Furthermore, the study focused on a small sample ( $n = 70$ ) of US college-based participants between the ages of eighteen and thirty. Consequently, the results might not necessarily generalise to other groups. Another study is that of Hallett and Lamont (2017). Responses from two hundred and eighty-two exercisers revealed that “heavier” styles such as Rock, Indie and Heavy Metal were popular irrespective of gender. Some gender differences were evident as liking for Rock, Indie and Heavy Metal was stronger in males. Females had a greater variety of preferences with styles such as Pop, Electronic, Dance and Country, Rock, Indie and Heavy Metal being equally popular. Again, these responses do not fully adhere to the “general” music preferences for gender. Currently, there appears to be no data concerning how age might influence music preference within the exercise environment. Some information can be acquired from the Ziv and Lidor (2011) review of music-exercise interventions for elderly populations. Many of the studies incorporated genres such as Classical, Big-Band, Country, Broadway, Folk and Jazz. Such music types did elicit positive outcomes and so, in theory, offer support for the use of age-appropriate music in the exercise setting. It does however appear that much of the music was selected based upon a subjective notion of what the researchers considered as suitable and as such, it is conceivable that music choices based upon an objective, research-based criteria might have been even more productive.

In conclusion, structured exercise offers many benefits. Unfortunately, drop-out from exercise is common and as such, interventions are needed to minimise voluntary exercise withdrawal. Music is often credited as being a simple means of creating a more enjoyable exercise experience and so, its use has the potential to encourage programme adherence. Despite the widespread use of music within the exercise environment there is little information about listening preferences of exercisers. In addition, the information that is available is, for varying reasons, inadequate. Given that a dislike of a particular music form might lessen the proposed extra-musical benefits, information about the music preferences of exercisers could prove valuable.

## 1. Methods

### 1.1. Participants

In total, one thousand, three hundred and forty-five exercisers completed the survey in its entirety. Of these, one thousand, one hundred and fifty-eight were from the UK (716 females;  $M$  age = 41.01 yrs/ $sd = 15.33$  and 442 males;  $M$  age = 42.42 yrs/ $sd = 15.73$ ). Given the limited numbers from non-UK respondents, these cases were excluded from the final analysis. Also omitted were cases that did not supply all the necessary information ( $n = 13$ ). The overwhelming majority (96%) of those remaining classified themselves as White-British. Full institutional ethical approval was granted prior to data collection.

### 1.2. Design

The study utilised an on-line tool to develop and distribute the survey. To increase completion rates, the survey was purposefully succinct (Fan & Yan, 2010). The instrument consisted of three sections. The first contained an overview of the study as well as the informed consent procedures. In section two, participants were instructed to supply demographic details such as gender, age, nationality and cultural background. In the concluding section, participants were first asked to indicate which exercise activity they were considering when assigning their preference; this question was included to confirm that selections related to structured exercise (e.g., jogging, cycling, strength training) rather than physical activities such as gardening, walking to and from work and housework. The

following statement was then presented: “If you were able to choose ONE type of music to listen to whilst performing your stated activity, what would it be?” Given the potential for international reach, numerous “non-Western” music genres were included. In total, a pool of ninety-five music genres was provided from which to choose. Rather than provide the extensive list as a single entity, the genres were classified by what was considered to be the most appropriate geographical location; specifically, Western Music ( $n = 27$ ), Far-Eastern Music ( $n = 12$ ), Latin Music ( $n = 12$ ), African Music ( $n = 15$ ), Middle Eastern Music ( $n = 12$ ) and Eastern Music ( $n = 18$ ). With regards to the “Western” styles, the majority were taken selected the work of others (e.g., Bonneville-Roussy et al., 2013; North & Hargreaves, 2007; Rentfrow et al., 2011). However, this led to an over-represented of what might be considered “mainstream” styles. Therefore, several additional genres (e.g., Ska/Reggae, Trance, New Age) were also included. For the “non-Western” categories, efforts were made to select genres that resembled the “Western” choices; for example, K-Pop, Chinese Traditional, Japanese Metal, Makossa, Latin Rock, Bachata, Afro-Beat and Arabic House. It is worth explaining why Rap, an extremely popular music form, was not included as a stand-alone option. Some consider Rap to be a vocal style rather than a distinct music genre (e.g., Keyes, 2004). Indeed, whilst Rap is often associated with Hip-Hop, this vocal form is prevalent in genres such as Pop, Dance/House, Alternative/Indie and Disco; all of which were included as options.

Recognising that the geographic categories might not be exact, respondents were instructed to examine all the options before making their final decision. In addition, because it was impractical to include the myriad of possible music genres (see *Genre Classification*), the opportunity to enter a style omitted from the predetermined list was also given. Prior to on-line publication, the survey underwent a pilot procedure using a sample of thirty university students chosen from a course (Psychology) that included a relatively wide age-range amongst the cohort (17 females;  $M$  age = 29.12/ $sd$  = 7.12 and 13 males;  $M$  age = 27.42/ $sd$  = 4.23). From the subsequent analysis it was apparent that some selected a music genre from each category. In response, the requirement to select just one music genre was re-emphasised in the published version of the survey.

### **1.3. Genre classification**

Some have expressed concerns about the use of genre classifications in music research. Rentfrow et al. (2011) point out that because there are no standardised definitions to describe the multitude of music types, there is a degree of subjectivity when ascribing such labels. Furthermore, music can span multiple genres (Greasley et al., 2013). Additionally, both Greasley et al. (2013) and Schedl (2017) have highlighted the vast array of music descriptors in use. Such issues can make it difficult for individuals to express preferences in this manner and so potentially lead to misclassification (Greasley & Lamont, 2006; Rentfrow et al., 2012). However, such concerns are not unanimous. Liu et al. (2006) claim that it possible to genre classify with a high degree of accuracy. Goulart et al. (2012) whilst recognising the issues, acknowledge the practicality of this method. They argue that because many are accustomed to genre classification, it is an effective means of categorisation. Indeed, this method of classification is utilised by on-line music outlets such as Spotify, Deezer and iTunes (Chen et al., 2009). Whilst not without issue, the method is nevertheless widespread in music research (Rentfrow et al., 2012).

### **1.4. Sampling**

This investigation utilised a self-selection, volunteer sample (Cohen et al., 2011). Whilst this non-probability technique is prone to selection-bias (e.g., Bethlehem, 2010; Eysenbach & Wyatt, 2002), it does potentially expose research to a wider and more diverse audience; this being particularly so when distributed via social media (Ramo et al., 2014). Several recruitment strategies were employed to promote the survey. For example, the research featured on several BBC radio programmes and the author’s institutional Facebook and Twitter sites; both of these have international reach.

### **1.5. Data analysis**

Frequency counts for genre were computed for the total sample, gender and age classifications; the latter applied the UK Office of National Statistics—Harmonised Standard 3 age classification. Percentage of each genre in relation to ( $N$ ) was also calculated (Table 1). Chi-squared analysis was

utilised to assess gender and age group differences. The number of tests required to evaluate all the within and between-group responses would have been considerable and so, was deemed impractical. As such, Chi-squared analysis was restricted to the six most popular genres. In addition, to further reduce the number of procedures required for the exploration of age differences, the six age-groups were re-classified into “younger” (18 yrs—34 yrs), “middle-aged” (35 yrs—54 yrs) and “older” (55 yrs—65 yrs+) categories for both the male and female cohorts. For the age  $\times$  gender, the reclassifications contained the six most popular from each of the included age groups. For example, the “younger” category combined the most popular from the 18 yrs—24 yrs with those selected by the 25 yrs—34 yrs; an approach that created some totals greater than six. Chi-squared analysis was conducted for the following: “younger” vs “middle-aged,” “middle-aged vs “older” and “younger” vs “older” for each gender independently. It is worth stating that according to McHugh (2013), there are no rules limiting the number of cells that can be contained within a Chi-squared procedure. Fishers Exact was employed for all post hoc analysis (Shan & Gerstenberger, 2017; Sharpe, 2015).

## 2. Results

### 2.1. Total sample

Table 1 presents the data for the total sample. In this instance, to provide the reader with an insight into the range of music styles selected, all the genres are presented. The six the most popular were Pop, Dance/House, Rock, Alternative/Indie, Heavy Metal and Hip-Hop.

### 2.2. Gender

For females, the most popular genres were Pop, Dance/House, Rock, Alternative/Indie, R&B and 70s/80s Disco. For males, the most frequently cited were Dance/House, Rock, Alternative/Indie, Pop, Heavy Metal and Hip-Hop (Table 2). Incorporating all of these into the analysis produced a  $2 \times 9$  contingency table; Pop, Dance/House, Rock, Alternative/Indie (these being common to both groups), R&B and 70s/80s Disco from the female group and Heavy Metal and Hip-Hop from the male. To ensure that sample size was accounted for “other” (the summation of remaining responses) was included for each group; all subsequent analyses followed this procedure. The Chi-squared showed that significant differences were present between the groups;  $\chi^2 = 103.38$  (8,  $N = 851$ );  $p = .00$ . Fisher’s Exact revealed significant gender differences ( $p < .01$ ) for all except Dance/House and 70s/80s Disco.

### 2.3. Age and gender

Utilising the re-classified age groupings, in the female sample, the most popular genres across the combined “younger” respondents were Pop, Dance/House, Rock, R&B, Alternative/Indie, Hip-Hop and Classical. For the “middle-aged” cohort, the genres were Pop, Dance/House, Rock, Alternative/Indie, 70/80s Disco, Heavy Metal and 80s Electronic and in the “older” group, Pop, Dance/House, Rock, Rock n Roll, Classical, 70s/80s Disco, Country and Western, 60s Pop and Soul. The analysis between the “younger” and “middle-aged” ( $2 \times 11$  contingency table) showed significant differences  $\chi^2 = 24.27$  (10,  $N = 509$ );  $p < .01$ . Post-hoc analysis revealed significant decreases ( $p < .01$ ) in preference for R&B and Hip Hop along with a significant increase ( $p < .01$ ) for 70s/80s Disco. For the “middle-aged” and “older” ( $2 \times 13$  contingency table) there was a significant difference  $\chi^2 = 94.82$  (12, 451);  $p < .01$ , with post-hoc tests showing a significant ( $p < .01$ ) decrease in preference for Pop and Dance/House and an increase ( $p < .01$ ) for R&B, Classical, Country and Western, 60s Pop and Soul. Lastly, for “younger” and “older” ( $2 \times 13$  contingency table), again, significant between-group differences were evident;  $\chi^2 = 86.00$  (12, 399);  $p < .01$ . There was a significant decrease ( $p < .01$ ) in the popularity of Pop, Dance/House, R&B and Hip-Hop, and a significant increase ( $p < .01$ ) in liking for Rock n Roll, Classical, 70s/80s Disco, 60s Pop and Soul.

For males, the “younger” age category showed a preference for Dance/House, Rock, Pop, Hip Hop, Alternative/Indie and Heavy Metal. In the “middle-aged” group the most popular were Dance/House, Rock, Alternative/Indie, Pop, Heavy Metal, 70s/80s Disco, 80s Electronic and Hip-Hop. For the “older” males, the most frequently cited were Rock, Dance/House, Pop, Alternative/Indie, Heavy Metal, 60s

**Table 1. Shows all of the selected genres as frequencies and percentage of N (in parentheses)**

	<b>Total</b>	<b>18–24 yrs</b>	<b>25–34 yrs</b>	<b>35–44 yrs</b>	<b>45–54 yrs</b>	<b>55–64 yrs</b>	<b>65+ yrs</b>
<b>Genre</b>	<b>N = 1145</b>	<b>N = 228</b>	<b>N = 181</b>	<b>N = 235</b>	<b>N = 251</b>	<b>N = 151</b>	<b>N = 99</b>
60s Pop	19 (1.7)	-	-	-	-	4 (2.6)	15 (15.2)
70s Glam Rock	4 (0.3)	-	-	-	-	2 (1.3)	2 (2.0)
70s/80s Disco	41 (3.6)	4 (1.8)	-	9 (3.8)	13 (5.2)	12 (7.9)	3 (3.0)
80s Electronic	22 (1.9)	3 (1.3)	2 (1.1)	5 (2.1)	11 (4.4)	-	1 (1.0)
Adult Orientated Rock	3 (0.3)	1 (0.4)	-	-	2 (0.8)	-	-
Alternative/ Indie	76 (6.6)	15 (6.6)	18 (9.9)	15 (6.4)	18 (7.2)	7 (4.6)	3 (3.0)
Ambient	16 (1.4)	2 (0.9)	3 (1.7)	3 (1.3)	4 (1.6)	1 (0.7)	3 (3.0)
Blues	6 (0.5)	-	-	1 (0.4)	1 (0.4)	1 (0.7)	3 (3.0)
Classical	27 (2.4)	2 (0.9)	4 (2.2)	2 (0.9)	3 (1.2)	4 (2.6)	12 (12.1)
Country and Western	15 (1.3)	4 (1.8)	3 (1.7)	1 (0.4)	-	4 (2.6)	3 (3.0)
Dance/ House	221 (19.3)	41 (18.0)	39 (21.5)	76 (32.3)	47 (18.7)	15 (9.9)	3 (3.0)
Drum and Bass	21 (1.8)	8 (3.5)	3 (1.7)	5 (2.1)	4 (1.6)	-	1 (1.0)
Folk	11 (1.0)	-	3 (1.7)	2 (0.9)	3 (1.2)	1 (0.7)	2 (2.0)
Folk Rock	2 (0.2)	-	-	1 (0.4)	-	1 (0.7)	-
Funk	13 (1.1)	-	1 (0.6)	2 (0.9)	5 (2.0)	5 (3.3)	-
Heavy Metal	45 (3.9)	9 (3.9)	10 (5.5)	11 (4.7)	6 (2.4)	6 (4.0)	3 (3.0)
Hip Hop	44 (3.8)	19 (8.3)	16 (8.8)	8 (3.4)	-	-	1 (1.0)
Jazz	8 (0.7)	-	-	2 (0.9)	2 (0.8)	2 (1.3)	2 (2.0)
Latin	7 (0.6)	-	-	-	4 (1.6)	2 (1.3)	1 (1.0)
Musicals	1 (0.1)	-	-	-	-	1 (0.7)	-
New Age	3 (0.3)	-	-	2 (0.9)	-	1 (0.7)	-
Pop	241 (21.0)	68 (29.8)	26 (14.4)	54 (23.0)	62 (24.7)	20 (13.2)	11 (11.1)
Psychedelic	3 (0.3)	-	2 (1.1)	-	-	-	1 (1.0)
Punk	18 (1.6)	-	8 (4.4)	2 (0.9)	3 (1.2)	2 (1.3)	3 (3.0)
R & B	32 (2.8)	19 (8.3)	3 (1.7)	3 (1.3)	7 (2.8)	-	-
Rap	3 (0.3)	-	1 (0.6)	1 (0.4)	1 (0.4)	-	-
Reggae	7 (0.6)	1 (0.4)	-	1 (0.4)	2 (0.8)	1 (0.7)	2 (2.0)
Religious	3 (0.3)	-	-	-	-	1 (0.7)	2 (2.0)
Rock	171 (14.9)	23 (10.1)	33 (18.2)	25 (10.6)	41 (16.3)	37 (24.5)	12 (12.1)
Rock n Roll	31 (2.7)	7 (3.1)	2 (1.1)	3 (1.3)	6 (2.4)	8 (5.3)	5 (5.1)
Salsa	4 (0.3)	-	-	-	-	4 (2.6)	-
Ska/Two-Tone	6 (0.5)	1 (0.4)	2 (1.1)	-	2 (0.8)	-	1 (1.0)
Soul	13 (1.1)	-	2 (1.1)	-	3 (1.2)	5 (3.3)	3 (3.0)
Swing	3 (0.3)	-	-	-	1 (0.4)	1 (0.7)	1 (1.0)
Traditional	3 (0.3)	-	-	-	-	3 (2.0)	-
Trance	2 (0.3)	1 (0.4)	-	1 (0.4)	-	-	-

**Table 2. Shows frequency counts and percentage of N for the six most popular genres for total sample, age classifications and gender**

	Total	"Younger"		"Middle-aged"		"Older"	
		18–24 yrs	25–34 yrs	35–44 yrs	45–54 yrs	55–64 yrs	65+ yrs
<b>MALE</b>	<b>N = 435</b>	<b>N = 78</b>	<b>N = 72</b>	<b>N = 86</b>	<b>N = 89</b>	<b>N = 70</b>	<b>N = 40</b>
Dance/ House	91 (20.1)	11 (14.1)	19 (26.4)	34 (39.5)	19 (21.3)	7 (10.0)	-
Rock	85 (18.8)	11 (14.1)	14 (19.4)	11 (12.8)	21 (23.6)	23 (32.9)	5 (12.5)
Alternative/ Indie	39 (8.6)	7 (9.0)	8 (11.1)	8 (9.3)	9 (10.1)	5 (7.1)	-
Pop	38 (8.4)	15 (19.2)	8 (11.1)	2 (2.3)	6 (6.7)	4 (5.7)	4 (10.0)
Heavy Metal	29 (6.4)	7 (9.0)	7 (9.7)	6 (7.0)	-	5 (7.1)	-
Hip Hop	25 (5.5)	13 (16.7)	8 (11.1)	4 (4.7)	-	-	-
80s Electronic	-	-	-	-	5 (5.6)	-	-
70s/80s Disco	-	-	-	-	5 (5.6)	-	-
Soul	-	-	-	-	-	4 (5.7)	-
60s Pop	-	-	-	-	-	-	5 (12.5)
Classical	-	-	-	-	-	-	5 (12.5)
Rock n Roll	-	-	-	-	-	-	3 (7.5)
Country and Western	-	-	-	-	-	-	2 (5.0)
<b>FEMALE</b>	<b>N = 710</b>	<b>N = 150</b>	<b>N = 109</b>	<b>N = 149</b>	<b>N = 162.</b>	<b>N = 81</b>	<b>N = 59</b>
Pop	203 (28.6)	53 (35.3)	24 (22.0)	46 (30.9)	55 (34.0)	16 (19.8)	8 (13.6)
Dance/ House	128 (18.0)	29 (19.3)	19 (17.4)	41 (27.5)	28 (17.3)	8 (9.9)	-
Rock	86 (12.1)	12 (8.0)	19 (17/4)	14 (9.4)	20 (12.3)	14 (17.3)	7 (11.9)
Alternative/ Indie	36 (5.1)	8 (5.3)	8 (7.3)	7 (4.7)	9 (5.6)	-	-
70s/80s Disco	31 (4.3)	-	-	7 (4.7)	8 (4.9)	9 (11.1)	-
R&B	26 (3.7)	17 (11.3)	-	-	-	-	-
Rock n Roll	-	-	-	-	-	7 (8.6)	3 (5.1)
Hip Hop	-	6 (4.0)	8 (7.3)	-	-	-	-
Classical	-	-	4 (3.7)	-	-	-	7 (11.9)
Heavy Metal	-	-	-	5 (3.4)	-	-	-
80s Electronic	-	-	-	-	6 (3.7)	-	-
Country and Western	-	-	-	-	-	4 (4.9)	-
60s Pop	-	-	-	-	-	-	9 (15.3)
Soul	-	-	-	-	-	-	4 (6.8)

Note: hyphen (-) indicates that a genre was not included within six the most popular for each grouping column.

Pop, Classical, Soul, Rock n Roll and Country and Western. Comparisons between the "younger" and middle-aged' (2 × 9 contingency table) groups showed significant differences;  $\chi^2 = 37.11$  (8, 325);  $p < .01$ . Fisher's Exact showed a decrease in preference ( $p < .01$ ) for Pop, Hip-Hop, and Heavy Metal

and an increase ( $p < .01$ ) for Dance/House. Differences between the “middle-aged” and “older” groups ( $2 \times 14$  contingency table) were also evident;  $\chi^2 = 44.92$  (13, 285)  $p < .01$ , with a significant move towards ( $p < .01$ ) Classical and 60s Pop and away from Dance/House. Lastly, the Chi-squared analysis revealed significant differences between the “younger” and “older” age categories;  $\chi^2 = 65.65$  (11, 260);  $p < .01$ . Post-hoc procedures revealed a decrease in liking for Pop, Hip-Hop and Dance/House and an increase for 60s Pop and Classical at  $p < .01$ .

### 3. Discussion

This study has provided information about the music preferences of exercisers. For sample overall, the responses showed a predilection for Pop, Dance/House, Rock, Alternative/Indie, Heavy Metal and Hip Hop. When examined as a function of gender, frequency data showed Pop, Dance/House, Rock and Alternative/Indie to be popular amongst both males and females. The Chi-squared analysis revealed that males were significantly more likely to cite “heavier” styles such as Rock and Heavy Metal. Hip Hop and Alternative/Indie were also significantly more popular amongst males. Females were more likely than males to report Pop and R&B as being most preferred. Gender had no impact upon the popularity of Dance/House and, despite not being present in the most popular male selections, there was no significant difference in preference for 70s/80s Disco music.

The analysis of age and gender interactions also revealed some noteworthy trends. In both cohorts there was a move towards non-contemporary/non-mainstream styles with age. For females, the popularity of R&B and Hip-Hop decreased between the “younger” and “middle-aged” classifications. There was a corresponding increase in liking for 70/80s Disco. A significant decline in preference for Pop and Dance/House was observed between the “middle-aged” and “older” categories, whereas Rock and Roll, Classical, Country and Western, 60s Pop and Soul increased in popularity. This shift to non-contemporary /non-mainstream genres was confirmed by the “younger” and “older” comparisons. For males, the popularity of Pop, Hip-Hop and Heavy Metal decreased between the “younger” and “middle-aged” groups; interestingly, preference for Dance/House increased. Between the “middle-aged” and “older” groups there was an increased liking for Classical and 60s Pop and a reduction for Dance/House. Again, the comparison between the “younger” and “older” classifications verified these trends.

Comparing the current findings to earlier endeavours, there was some support for the “general” preferences provided by Colley (2008), Christenson and Peterson (1988), and Russell (1997). For example, there was evidence of a male preference for “heavier” music types and females, “lighter” mainstream styles. Whilst “heavier” genres were more frequently cited by males, Dance/House, Pop and Hip Hop ranked highly. In fact, Dance/House was the most preferred genre for males overall and its popularity did not differ significantly to the female group. In the same vein, examples of “heavier” genres such as Rock and Heavy Metal were evident in the female top six. Regarding age, some evidence suggests an increased affinity for non-mainstream/non-contemporary music (e.g., Classical, Jazz, Blues and Easy-Listening, Rock and Punk) throughout the lifespan (Bonneville-Roussy et al., 2013; Harrison & Ryan, 2010). Others suggest a conservation of tastes formed during adolescence and early adulthood (Bonneville-Roussy et al., 2013; Krumhansl, 2017). There was some support for both assertions. However, it was also apparent that many mainstream genres remained popular amongst the “middle-aged” and “older” groups. As such, these outcomes offer only partial support for the “general” age-preference trends noted by others. They also suggest that earlier research endeavours (see Ziv & Lidor, 2011) might have undervalued the potential influence of music preference when selecting musical accompaniment for elderly exercise participants. Specifically, the genres identified in the current investigation do not fully correspond with those used in exercise interventions for senior populations. What is unclear from the current results is whether reference to Pop and Dance/House for example, refers to current or erstwhile forms of these styles. Given the suggestions of Bonneville-Roussy et al. (2013) and Krumhansl (2017), the latter might be more likely. As to the exercise specific preferences highlighted by Gfeller (1988) and Hallett and Lamont (2017), again, there were similarities. For example, Pop, Rock and Heavy Metal were popular throughout the current sample. However, Gfeller’s (1988) observation that males prefer to exercise to Blues and Jazz was not replicated in the current investigation.



Addressing potential limitations, the impracticality of analysing all conceivable interactions with Chi-squared means that it is possible that some trends were undetected. Although the aim of study was to provide information for use within the practical setting, the use of a non-probability sample does affect the ability to generalise the results with certainty. The issues surrounding the use of genre classifications are acknowledged (Greasley et al., 2013; Rentfrow et al., 2011) as is use of a limited and predetermined list of music styles; this could in theory, have forced respondents classify within this pool. However, it must be reiterated that an option was provided to allow additional genres to be registered and that this was utilised by some. Lastly, during the development phase of the investigation a diverse representation of exercisers was anticipated; particularly with regards nationality and cultural background. Unfortunately, this did not transpire and the survey was terminated with a majority White UK sample. As such, any application should perhaps be restricted to this demographic.

To summarise, music is often credited as a means of creating a more enjoyable exercise experience. This, in theory, should encourage programme adherence. However, as has been argued, for music to have the desired effect it must be perceived positively. In response, this investigation has presented the preferred music genres of a sample of UK exercisers. Exercise leaders can therefore apply these results to direct music selection within this environment. The current findings might also have implications for music-exercise researchers. To date, most research has utilised genres such as Pop, Dance and Rock with little thought to personal characteristics such as age and gender. Whilst in many instances such selections do reflect the current findings, utilising genres more congruent with specific participant characteristics might illicit even stronger extra-musical effects in those undergoing experimental trials. It must be recognised that the results are not an end in themselves. For maximal benefit, music selectors should also consider inherent music characteristics such as tempo, rhythm and melody (e.g., Karageorghis et al., 1999; Karageorghis et al., 2006). In addition, further research is required to uncover the music preferences of exercisers from a variety of nationalities and cultural backgrounds.

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