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The Effects of Music on Helping Behaviour: A Field Study

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Abstract

Several studies indicate that mood can influence the likelihood of an individual demonstrating instances of helping behaviour, and one previous laboratory study has indicated that music can be used to bring about manipulations of mood to such an end. To investigate this in a naturalistic setting, 646 users of a university gym were played either uplifting or annoying music while they worked out. Upon completion of their work out they were asked to either sign a petition in support of a fictitious sporting charity (i.e. a low cost task) or to distribute leaflets on their behalf (i.e. a high cost task). Responses to the petition signing measure indicated a ceiling effect with almost all participants offering to help. However, consistent with previous research on mood and helping behaviour, uplifting music led to participants offering to help more on the high cost, leaflet distributing task than did annoying music.

The Effects of Music on Helping Behaviour: A Field Study

Several studies have investigated the effect of mood on various forms of helping behaviour (see reviews by Berkowitz, 2000; Manucia, Baumann, and Cialdini, 1984; Salovey, Mayer, and Rosenhan, 1991). One finding of this research is that helping behaviours are more likely to be demonstrated when participants are in positive moods (see e.g. Baron, 1997; Berkowitz, 1987; Carlson and Miller, 1987; Dovidio, 1984; George, 1991; Gueguen, 2001; Gueguen and Legoherel, 2000). The effect of negative moods on altruism is less clear, but such emotional states seem to give rise to a reduction in helping behaviour when they result from the person in question not being responsible for their negative mood (e.g. Rogers, Miller, Mayer and Duvall, 1982) or when the negative feelings are not focussed on the person needing aid (e.g. Carlson and Miller, 1987; Thompson and Hoffman, 1980; Thompson, Cowan, and Rosenhan, 1980; see Berkowitz, 2000). Similarly, Weyant (1978) demonstrated that negative moods only give rise to helping behaviour when the costs of helping are low and the benefits are high.

Research on the effect of mood on helping has employed a variety of mood induction techniques, although the role of music has received little attention. This is surprising on two grounds. First, the potential of music to influence emotions is obvious. Second, several studies have indicated that music can mediate several behaviours related tangentially to altruism, such as displays of aggression (Konečni, Crozier, and Doob, 1976), cafeteria customers' willingness to spend money (North and Hargreaves, 1998), or school pupils' willingness to maintain low levels of classroom noise (Wilson and Hopkins, 1973). Indeed, only one previous study has investigated

the relationship between music and altruism directly: In a laboratory study, Fried and Berkowitz (1979) found that soothing music promoted greater levels of altruism than did either aversive music or no music. Such a finding is consistent with research on helping behaviours which indicates that uncontrollable exposure to an aversive stimulus (such as aversive music) should decrease the exhibition of altruism, since the participant is not responsible for their negative mood (e.g. Rogers et al., 1982). The present study aimed to determine whether similar effects obtain under more naturalistic conditions, and whether the cost of helping mediates the relationship between music and altruism.

Two types of music were played to users of a university gym. The first music was selected to elicit a positive, uplifted emotional state whereas the second type of music was selected to elicit an annoyed emotional state. Since users of the gym were not responsible for their exposure to the music and its subsequent effect on their mood, the findings of e.g. Rogers et al (1982) lead us to expect that the 'annoying' music should be less likely to elicit helping behaviour than the 'uplifting' music. To test this, on leaving the gym, users were asked to complete one of two tasks (similar to those employed by Weyant, 1978) in which they had the opportunity to help others. In the low cost task, users were asked to sign a petition in support of a sporting charity The findings of Weyant (1978) might lead us to expect that there should be little difference between the two music conditions on this task: The cost of helping is low and so the 'annoying' music condition may not lead to a reduction in helping. In the high cost task, users were asked to distribute leaflets on behalf of the same charity: The time involved in so doing represented a higher cost of altruism to the participant relative to merely signing a petition. The findings of Weyant (1978) lead us to expect

that the probability of helping in this high cost task should be reduced by musically-induced negative mood: Accordingly, although uplifting music should lead to greater levels of helping on both tasks, this effect should be accentuated among participants who are asked to complete the high cost task.

Method

Participants The study employed 646 users of two gyms at a University in the East Midlands region of the United Kingdom. The sample comprised 366 males and 280 females (mean age = 24.63, SD = 9.11). All users had already completed an induction session run by the gyms.

Field setting Two modern gyms were used as part of the research. The first was situated on a university campus, and the second was situated in a complex of student residences: The gyms were otherwise very similar, sharing the same name, equipment and staff, and the same university ran both. Since it was not possible to obtain music videos for one of the music conditions, throughout the study the television monitors in the gyms showed visual-only Disney animated feature films played from a conventional VHS video recorder.

Two music conditions were employed. The positive mood music featured uptempo British top 20 selling singles from recent years and the negative mood condition featured avant-garde computer music. Participants' responses to a questionnaire (see below) allowed confirmation that the music in question was perceived as uplifting or annoying respectively. Approximately two hours of music was recorded onto CD for

each condition, ensuring that participants would not hear any given piece twice (see Appendix 1 for details). The CDs were played over the gyms' high quality music system at a volume audible in all areas of the gym, consistent with that at which music was usually played in the gyms.

Throughout the experiment notices were displayed at the reception desk where users were required to sign in and sign out. The notices concerned a fictitious charity, namely the British Disabled Athletes Association. They were printed on white A4 paper and stated in 36 point that "The British Disabled Athletes Association (BDAA) aims to improve access to sports for the disabled and is campaigning for greater funding from the government. Please show your support."

Two questionnaires were employed with gym users as they left the gym. In the 'low cost' condition participants were first asked to sign the petition by an experimenter seated at the reception desk posing as a member of staff. The petition was headed "The British Disabled Athletes Association" and asked people to sign it "in order to show your support for greater government funding of disabled peoples' access to sporting opportunities". In each case the petition was blank save for the signature of a B. Lancaster and his / her gym user number. Irrespective of whether participants signed the petition, they were then asked to state their age and sex, gym user number, and how long they had spent in the gym. Participants were then asked to rate the music played in the gym that day on a scale from 0 = "really annoying" to 10 = "really uplifting", consistent with the hypothesis of the research. Finally, participants rated their mood on a scale from 0 = "really annoyed" to 10 = "really happy". Once the participant had left the gym the experimenter marked the questionnaire to indicate

whether that person had signed the petition. In the 'high cost' condition, the same experimenter gave users a printed sheet stating that "The British Disabled Athletes Association (BDAA) aims to improve access to sport for the disabled and is campaigning for greater funding from the government. A team of Leicester University students are participating in a sponsored cycle from Leicester to London [a distance of approximately 100 miles] to deliver a petition to the government in support of the BDAA. Would you be willing to help distribute leaflets to raise awareness in Leicester during any of the following periods? Transport will be provided." A list of 10 dates for leaflet distribution was then provided, representing various times of the day and week. Participants were then provided with boxes in which to state 'Yes' or 'No', and if yes then to state how many leaflets they would distribute, selecting from options of 50, 100, 150, 200, and 250. Participants who stated that they were willing to distribute leaflets were also asked to leave a contact telephone number (to maintain the credibility of the request made of them). Irrespective of whether participants were prepared to distribute any leaflets, they were then asked to state their age and sex, gym user number, and how long they had spent in the gym. They were then asked to rate the music and their mood, using the same scales as in the low cost condition.

Design A 2 (type of music) x 2 (type of task) independent subjects design was employed. Testing was carried out over two consecutive weekdays during term time (see Table 1 for details), such that the same music was played in both gyms on any single day: This was to aid the credibility of the cover story prepared should any users question the choice of music played (namely that a cleaner had accidentally spilled liquid over the CD collection and that the gym was currently waiting for replacement

copies). Gym user numbers were used to check that no single participant appeared in more than one condition.

- Table 1 about here -

Procedure Participants entered the gym and worked out in a manner of their own choosing. On leaving the gym, participants signed out at the reception desk and were then directed by the experimenter there (posing as staff member) to one of the two questionnaires, dependent on the condition running that day. During the course of the study, three users questioned the choice of music playing. They were told the cover story by the experimenter and their data were excluded from analyses. Informal discussions with management at the gym prior to the study indicated that most users visited the gym every other day. Accordingly, on the second day of data collection, users were asked whether they had heard of the BDAA from a visit to the gym the previous day. Any that answered yes (N = 73) were excluded from the analysis. De-briefing sheets were posted on the walls of the gyms one week after data collection had been completed. These included a full explanation of the aims of the study, invited participants to withdraw their data, and provided contact details of a genuine sports charity.

Results and Discussion

Manipulation checks Two independent-subjects t-tests were carried out to check the proposed manipulation of music and mood. The first compared participants' ratings of the two types of music. The results of this were significant (t (643) = 30.17, p < .001),

with means of annoying music = 1.46 (SD = 2.00) and uplifting music = 6.06 (SD = 1.84). The second t-test compared participants' mood ratings subsequent to exposure to the two types of music. The results of this were significant (t (643) = 10.64, p < .001), with means of annoying music = 4.18 (SD = 2.55) and uplifting music = 6.98 (SD = 1.54). These tests confirm that the putatively annoying and uplifting music were perceived as such, and that participant mood differed accordingly between these two music conditions. Finally, an independent subjects t-test was calculated to check for any possible differences between the two types of music in the amount of time participants spent in the gym (i.e. the difference between when they signed in and signed out), since this might potentially confound participants' subsequent willingness to help. The results of this were non-significant (t (643) = 0.19), indicating that there was no difference between the two types of music in the amount of time participants spent in the gym. Mean time spent in the gym was 63.17 minutes (SD = 25.25) in the 'annoying' music condition and 62.82 minutes (SD = 22.12) in the 'uplifting' music condition.

Main analyses A χ^2 test was carried out on data collected in the low cost, petition signing condition to investigate any association between the type of music played and whether participants signed the petition. The result of this was non-significant (χ^2 (2) = 1.90), and frequencies are presented in Table 2. These indicate that this measure was subject to a ceiling effect whereby the great majority of participants signed the petition, irrespective of the music they had been exposed to in the gym.

- Table 2 about here -

A second χ^2 test was carried out on data collected in the high cost, leaflet distributing condition to investigate any association between the type of music played and the number of leaflets that participants were prepared to distribute. The result of this was significant (χ^2 (5) = 21.34, p = .001), and frequencies are presented in Table 3. These indicate that there was an association between the music played and the number of leaflets that participants were prepared to distribute. Specifically, participants were prepared to distribute more leaflets in the uplifting music condition.

- Table 3 about here -

Conclusions Table 2 indicates that virtually all the participants were willing to sign the petition since this required little immediate effort and had no longer term consequences for them (i.e. low relative cost). In contrast, the data concerning leaflet distributing (see Table 3) indicates that when the help requested required a greater amount of time from the participants and had longer term consequences (i.e. high relative cost) then the music did influence the incidence of helping behaviour. In particular, Table 3 indicates that the direction of this effect supported the hypothesis, namely that music which induces an uplifted rather than annoyed emotional state should produce the most positive effect. This finding is consistent with research concerning mood and altruism, and indicates that music can influence helping behaviour in naturalistic music listening situations.

In addition to the obvious need to replicate the present findings, the present study suggests several other opportunities for future research. First, future research could investigate helping behaviour in everyday contexts in which music is less frequently

experienced: Would music still influence helping behaviour even if it is not a regular feature of the environment? The management of the gyms used in the present study were not willing to allow a no music condition to be run because they felt that music should always be played. Consequently, the present findings tell us nothing about the impact of different types of music on helping behaviour relative to that of no music, and so this represents another obvious opportunity for future research. Finally, future research could also consider existing theories of emotional responses to music (e.g. North and Hargreaves, 1997): These allow predictions to made about participants' reactions to music on the basis of structural properties of that music and might allow for the present findings to be applied to a range of other participant groups. In the meantime, the present research has provided an initial indication that music can influence helping behaviour in an everyday environment.

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Appendix 1 - Music

Uplifting music

Rockafellar skank – Fatboy Slim; Dreams – The Corrs; Believe – Cher; Music sounds better with you – Stardust; Men in black – Will Smith; Livin la vida loca – Ricky Martin; One more time – Daft Punk; Music – Madonna; Mambo No. 5 – Lou Bega; Hey boy hey girl – Chemical Brothers; Rock DJ – Robbie Williams; Waiting for tonight – Jennifer Lopez; King of my castle – Wamdue Project; It feels so good – Sonique; Sex bomb – Tom Jones; Sandstorm – Darude; All the small things – Blink 182; Around the world – Daft Punk; S club party – S Club 7; Ray of light – Madonna; Praise you – Fat Boy Slim; Rise – Gabrielle; The time is now – Moloko; The thong song – Sisqo; Spice up your life – Spice Girls; Gettin' Jiggy wit it – Will Smith; Zombie nation – Kernkraft 400; Reach – S Club 7; Toca's miracle – Fragma; Sky – Sonique

Annoying music

Clarinet threads - Denis Smalley; Idle chatter - Paul Lansky; Masque - Jon Hassell; Nscor - Curtis Roads; Ravinia/Vancouver - Jon Hassell; Relationships for melody instruments - Clarence Barlow; Sequence symbols - James Dashow; The hands movement 1 - Michael Waisvisz; The hands movement 2 - Michael Waisvisz; Transition nr. 2 - Stephen Kaske

	Day 1	Day 2
Gym 1	Low cost task – Uplifting music	High cost task – Annoying music
Gym 2	Low cost task – Annoying music	High cost task – Uplifting music

Table 1 – Ordering of the conditions

	Uplifting music	Annoying music
Did not sign	0	3
Signed	121	192

Table 2 – Frequency with which participants signed the petition x type of music

	Uplifting music	Annoying music
0 leaflets	73	105
50 leaflets	31	17
100 leaflets	19	5
150 leaflets	2	1
200 leaflets	2	0
250 leaflets	1	0

Table 3 – Number of leaflets participants were willing to distribute x type of music