

The Influence of Film Music on Moral Judgment Based on Induced Emotion

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ABSTRACT

Music can be used in film to influence a person's reaction, emotional response and judgement. This study investigates how music in film affects moral judgement, by observing how participants respond to a moral dilemma in a film when different background music is used. 19 participants took part in an online survey, in which they were shown a short film about a moral dilemma, and asked questions about their response to it. There were 3 versions of the film, one with no music as a control, one with 'hopeful' music, and one with 'tense' music. It was hypothesised that when participants were shown the film with 'hopeful' music they would have a higher perceived rightness of the action than when they were shown the film with 'tense' music. Results showed that the music stimuli did have some influence on participants' emotional response in the intended way, and their moral judgement of the dilemma in the film, with the average perceived rightness of action higher for the 'hopeful' music subgroup than for the 'tense' music subgroup. Further observations were made into other factors that may affect their responses, including age and income, and possibilities for further studies are discussed.

1. INTRODUCTION

Music has been used in film since cinema was invented, and can be in many forms: instrumental, electronic, live, and more. But whichever form it takes, it is "characterised by its power to define meaning and to express emotion" (Kalinak 2010: xiii). In fact, music is often used to induce a certain emotion in the audience, such as to get them to feel how the characters feel, or even to express an emotion not apparent on the screen, and there have been many studies into the ways music can affect emotion. This ability to induce emotion can also be used to influence viewers in other ways, such as affecting their moral judgement when presented with a dilemma, and influencing them to agree or disagree with actions taken by the characters on screen. In a review of literature, Prinz finds that "recent work in cognitive science provides overwhelming evidence for a link between emotion and moral judgment" (2006), and this study aims to make use of this relationship in order to examine if induced emotion can affect participants' moral judgement.

Definitions. The concept of morality has long been discussed and contemplated, and is generally defined as the distinction between right and wrong behaviour. Moral judgement is "used to evaluate situations, courses of action, persons, behaviour, etc." (Seven Pillars Institute 2017), and there is some dispute as to whether it is based on intuition or reasoning. Intuitionists argue that moral reasoning comes after the initial judgment, which is "based on a first impression or intuition", while others disagree, saying "moral judgments are understood as a

result of conscious moral reasoning" (Seven Pillars Institute 2017).

To attempt to measure moral judgment in some form, this study uses Steffens' idea of "perceived rightness of action" (2020), which is measured by participants response to whether the action was 'wrong' or 'right' on a Likert scale from 1 to 7. In addition, this study also refers to "perceived goodness" of both the woman and the man who appear in the short film, which is also measured on a Likert scale from 'very bad' (1) to 'very good' (7).

Previous studies. This study is mainly based on a recent study by Steffens, where the influence of film music on moral judgement was observed in movie scenes (2020). Two scenes from movies were used, in which the characters encountered a moral dilemma and acted in a controversial way, and different musical stimuli were used to influence the viewers' emotions. The participants were divided into 3 groups with these different experimental conditions (no music, positive or negative) and were asked about their moral judgment of the film clips. In one of the four cases, the music did influence participants' emotions and their moral judgment, however in the other three the intended emotion of the music was not successfully induced.

There have been other studies that have looked at how music in general affects moral judgement, such as that of Ansani et al. (2017), in which participants listened to musical pieces that induced a certain emotion, and were then asked to read about some moral dilemmas and give moral judgments on them. It was found that when the negative emotions were induced (Sadness and Annoyance) the overall harshness of participants' moral judgment was worsened, while when the positive emotions were induced (Joy and Relax) they were weakened.

In a study by Prinz and Seidel (2013), it was also found that judgement was influenced by music induced emotion, with anger, but not happiness, increasing the tendency to judge actions as wrong; and happiness, but not anger, increasing the tendency to praise actions as good. Participants were played either angry music, happy music or no music, and then asked to read about moral dilemmas and asked about their reaction to them, as well as their emotional response.

As the latter two studies use music pieces rather than film soundtracks, and Steffens' study uses scenes from feature length films, to gain a new perspective this study instead looks at a short film, and whether this makes a difference on how emotion is induced, and moral judgment is influenced. This allows the moral dilemma to be covered as a whole, and also

decreases the likelihood that participants will have seen the film before, meaning they will not have pre-existing opinions on the morality of the action taken.

Hypothesis and research question. This study aims to assess whether film music influences moral judgement by inducing emotions in the viewer, by testing whether ‘hopeful’ music or ‘tense’ music affects participants’ perceived rightness of action in a moral dilemma. The main hypothesis is that participants who watch the film with ‘hopeful’ music will have a higher perceived rightness of the action than the participants who watch the film with ‘tense’ music. Further hypotheses are that participants who watch the film with ‘hopeful’ music will have a higher perceived goodness of the woman and the man than the participants who watch the film with ‘tense’ music, and also that participants who watch the film with no music will take less time to complete the survey than those who watch either the film with ‘hopeful’ or ‘tense’ music.

2. METHODS

Design. The experiment took the form of an online survey, where participants were invited to take part through social media. At the beginning of the survey, participants were told how the experiment would work, given contact information for any questions, and informed consent was obtained. They were then taken into the actual experiment, which they were told took around 10-15 minutes to complete.

Participants. In total there were viable results from 19 participants, who were between 18 and 77 years old ($M = 35.84$, $SD = 20.15$), and of this 8 were males and 11 were females. They were divided equally into the three experimental conditions, with 7 people watching the film with no music, and 6 watching each of the films with ‘hopeful’ and ‘tense’ music. Gross Annual Household Income of the participants ranged from the brackets of £13,000 to less than £19,000 GBP, to £96,000 GBP or more.

Materials and stimuli. Unlike previous studies, the visual stimuli for this experiment was a short film found on YouTube, rather than a scene from a feature length movie. This method was used to ensure that participants did not watch the film before. The short film chosen is called “Clean”, by Stephen Dypiangco, in which “a Central Park maintenance woman struggles with a moral dilemma after discovering a wallet full of money” (Dypiangco, 2010). Ultimately, she decides to post the wallet back to the owner’s address but keeps the cash from inside it. This film was chosen as it is under four minutes, which was preferable as participants were less likely to lose focus, and it also covers the full story of the moral dilemma in this time, rather than being a scene from a film. This is also a universally understood moral dilemma, and not complicated, but also not with a clear answer. The film also had no music, which meant the original could be used as a control.

Two other versions of the film were made with differing soundtracks. The music was taken from Epidemic Sound, and

chosen to “ensure the highest possible congruency between the emotions induced by the music and the ones induced by the action of the film” (Steffens, 2020). The first piece is ‘hopeful’ that the woman had been lucky to find money, while the second is ‘tense’ that the woman is stealing and committing a crime.

Procedure. The experiment began by asking participants their age, gender and annual gross household income. They were then shown 1 out of the 3 short films (no music, ‘tense’ music or ‘hopeful’ music). After this they were asked some questions about their response to the short film, including their perceived rightness of the action, their perceived goodness of both the woman and the man shown in the film, and their emotional response to the film. The emotions they were asked about were based on the nine categories of the Geneva Emotional Music Scales (GEMS) (Zentner et al., 2008). The question of their perceived rightness of the action was asked both at the beginning and the end of the questionnaire, to give some insight into whether the moral judgement was based more on intuition or reasoning.

3. RESULTS

For the main question of the study, addressing perceived rightness of action, participants were asked to rate their answer on a Likert scale from 1 to 7, with 1 being “I consider it as wrong” and 7 being “I consider it as right”, and this question was asked at both the beginning and end of the survey. However, all participants answered the same for both questions, except one who changed his/her answer from 3 (somewhat wrong) to 4 (undecided). This suggests that moral judgement is more intuitional, as participants were not influenced by the longer thinking time.

Overall the median response was 3 (somewhat wrong), with this also being the median response within each of the 3 subgroups. However, there was some differentiation in results, and the average result was taken for each subgroup and compared.

Figure 1 shows the mean average by subgroup, rounded to 2 decimal places, with the perceived rightness of action as rated on the Likert scale from 1 to 7. The average perceived rightness of action is lower for the film with the ‘tense’ music ($M = 3.33$, $SD = 1.03$), and higher for the ‘hopeful’ music ($M = 3.67$, $SD = 1.51$), while the control film with ‘no music’ is in between ($M = 3.57$, $SD = 1.40$). To test statistical significance an ANOVA test was conducted, with the dependent variable being the perceived rightness of action and the independent variable being each of the 3 subgroups. The ANOVA test did not have a p-value of less than .05, with $F(2, 16) = 0.10$, $p = .91$, showing this is not statistically significant and the null hypothesis cannot be rejected.

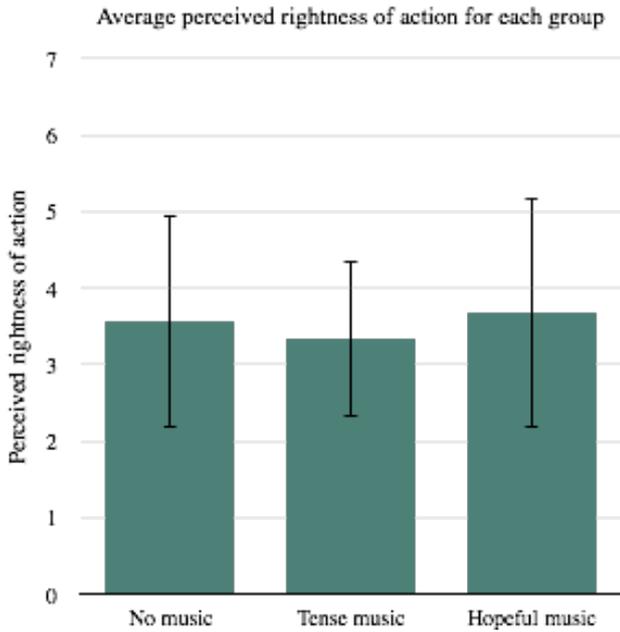


Figure 1. Mean scores and standard deviations for the average perceived rightness of action for each group

Influence in moral judgement could also be shown in response time, as participants who watched the films with music would take longer to answer as they had more to think about. On average, participants took less time on the survey for the ‘no music’ subgroup ($M = 456.57, SD = 75.03$), and more time for the ‘hopeful’ and ‘tense’ music subgroups ($M = 498.67, SD = 161.11$ and $M = 472.17, SD = 156.98$ respectively). The ANOVA test again showed $p < .05$, with $F(2,16) = 0.16, p = .85$, showing that this is also not statistically significant.

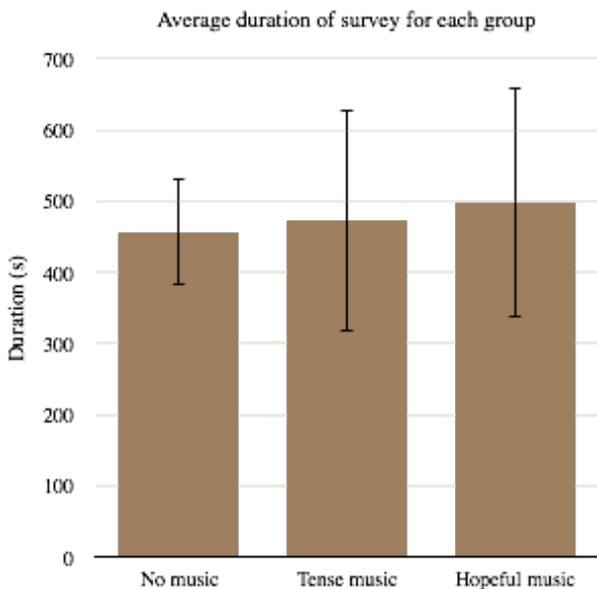


Figure 2. Mean scores and standard deviations for the duration of the survey for each group

The questions in the survey regarding the perceived goodness of both the man and the woman also show interesting results. As hypothesised, on average participants perceived the

woman as less of a good person in the ‘tense’ music subgroup ($M = 5.67, SD = 1.03$), and as a better person in the ‘hopeful’ subgroup ($M = 5.17, SD = 0.75$). However, the ‘no music’ subgroup perceived her as an even better person ($M = 5.86, SD = 0.69$). The questions regarding the man had very similar results across all subgroups, with almost all rating him at around 6 (mostly good), since he was not particularly involved in the moral dilemma, as it was the woman who took all the action ($M = 6.29, SD = 0.76$ for ‘no music’, $M = 6.17, SD = 0.98$ for ‘tense’ music, and $M = 6.00, SD = 0.63$ for ‘hopeful’ music).

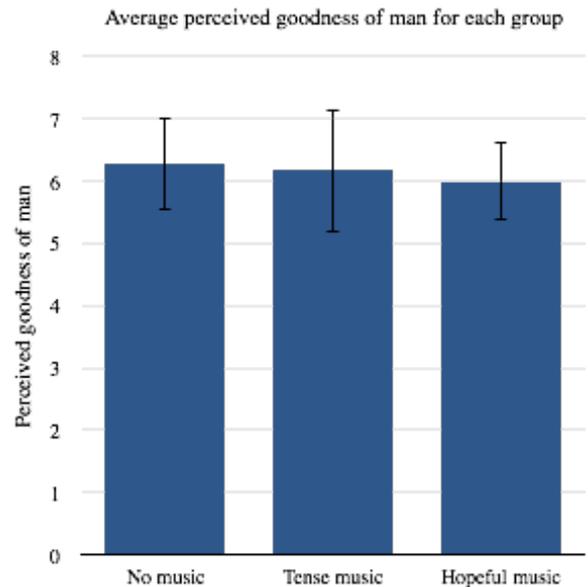


Figure 3. Mean scores and standard deviations for the average perceived goodness of the woman for each group

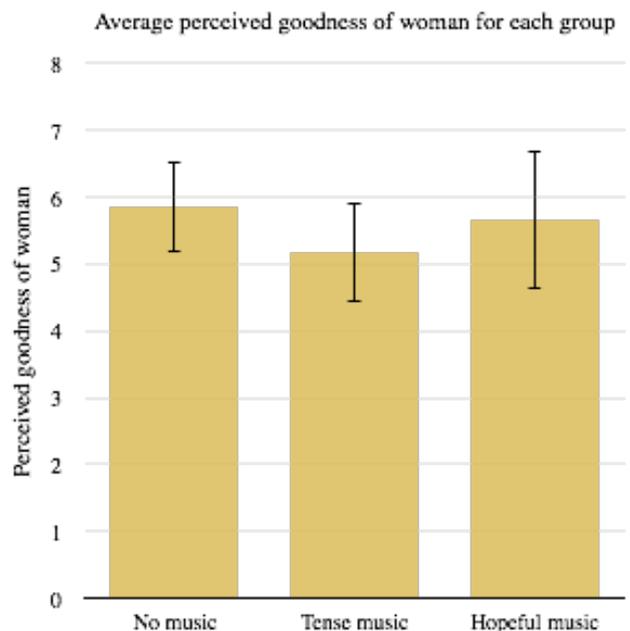


Figure 4. Mean scores and standard deviations for the average perceived goodness of the man for each group

By looking at the participants’ emotional response, it can be seen that the music did induce the intended emotion (Table 1). The participants were asked to rate how much they felt the nine emotions on a Likert scale of 1 to 7, and Table 1 shows the mean scores and standard deviations for these results, with the intended induced emotions in bold. Participants who watched the ‘tense’ film felt more tension than those who watched the ‘hopeful’ film, while participants who watched the ‘hopeful’ film felt more joyful activation than those who watched the ‘tense’ film. Participants who watched the film with no music felt less of both these two emotions than both other subgroups. This shows that the music did induce participants’ emotional response in the intended way.

Table 1. Table of mean scores and standard variations for all question answers, including emotional response

Condition / variables	No music		‘Tense’ music		‘Hopeful’ music	
	M	(SD)	M	(SD)	M	(SD)
Rightness of action	3.57	(1.40)	3.33	(1.03)	3.67	(1.51)
Goodness of woman	5.86	(0.69)	5.17	(0.75)	5.67	(1.03)
Goodness of man	6.29	(0.76)	6.17	(0.98)	6.00	(0.63)
Emotions						
Wonder	3.43	(2.51)	4.33	(1.51)	2.83	(1.94)
Transcendence	2.71	(1.98)	3.50	(1.64)	1.83	(0.75)
Tenderness	4.57	(1.27)	5.33	(1.03)	3.33	(1.21)
Nostalgia	2.50	(1.52)	3.83	(1.83)	1.67	(1.03)
Peacefulness	3.14	(1.57)	2.83	(1.47)	2.50	(1.22)
Energy	2.86	(1.57)	4.67	(1.75)	3.00	(1.67)
Joyful activation	2.43	(1.81)	2.67	(1.21)	3.00	(2.10)
Tension	3.86	(1.95)	5.50	(1.38)	4.17	(1.72)
Sadness	4.14	(1.86)	5.17	(2.14)	4.00	(2.28)

Other factors, age and income, were tested to see whether these had any effect on the results. They were measured against the perceived rightness of action, and a tendency line was created. Annual Gross Household Income was converted into a numeric result, with higher results referring to a higher salary bracket. However, these results do not show any correlation. This could further support that the music does influence emotional response and moral judgement, as there are no other major factors at play, however further research is needed in order to make any substantiated claims.

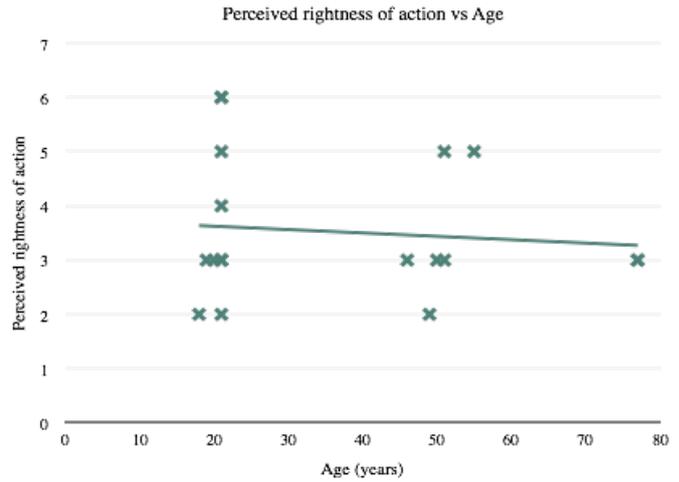


Figure 5. Scatter graph of perceived rightness of action vs age

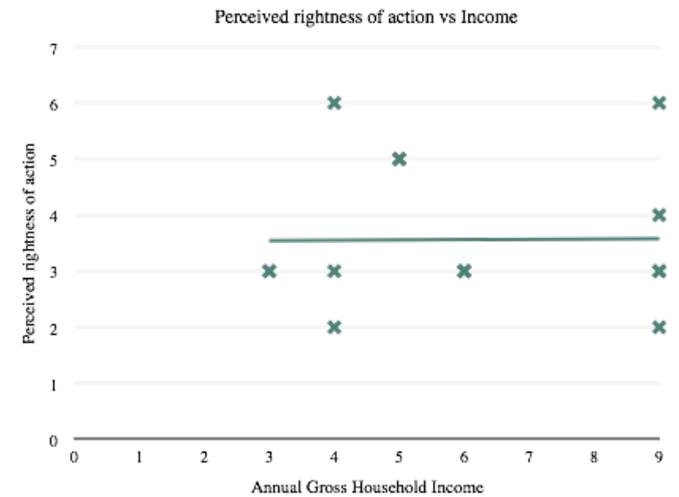


Figure 6. Scatter graph of perceived rightness of action vs income

4. DISCUSSION

This study dealt with the question of whether music in film could influence moral judgment through induced emotion. The fact that most participants rated the woman’s action in the film to be somewhat wrong (3), perhaps shows that this dilemma was not as controversial as hoped, as most people had the same response. However, there was some difference in the results, and on average the participants who watched the film with ‘hopeful’ music had a higher perceived rightness of action than those who watched the film with ‘tense’ music, as it was hypothesised. This is consistent with previous literature; however, it was not proven to be statistically significant, so further research needs to be conducted to examine if this is actually the case.

The length of time participants took to complete the survey was also observed, which has not been taken into account in other literature, and it was hypothesised that participants who watched the films with emotion inducing music would take longer to complete the survey, as they would have more to

think about. On average, participants did take less time on the survey for the ‘no music’ subgroup and more time for the ‘hopeful’ and ‘tense’ music subgroups, although this was not statistically significant. Furthermore, it could also be argued that participants should take less time when watching the film with music, as the music is influencing them to think a certain way, so they need less thinking time. This is an interesting area of research and could be studied further, by observing participants’ response time in another study, and also asking them questions regarding their thoughts on the moral dilemma, as this may shed some light into why some participants took longer than others.

The results of the perceived goodness of action of the woman in the film proved to be interesting. Across all subgroups the average perceived goodness of the woman was rated between 5 (fairly good) and 6 (mostly good), which is interesting as the median response for perceived rightness action was 3 (somewhat wrong). This could suggest that although participants perceived the woman keeping the money but returning the purse to be somewhat wrong, they found she was still a good person because she debated for a while about what to do, rather than immediately jumping into action, highlighting that she does have some moral integrity. This could be further studied in further questions about the woman’s character, such as asking participants what they thought of the woman, what they thought her background might be, and why they thought she did what she did.

The results of the perceived goodness of action of the man, on the other hand, were similar across the board, with a median response of 6 (mostly good). This could be because the man was not as heavily involved in the moral dilemma, and perhaps did not realise that the wallet did not actually belong to the woman. Again, this would be interesting to study further by asking participants’ questions about what they thought of the man, and why he did what he did. The high perceived goodness of the man would suggest participants thought him to be innocent, not knowing that the wallet did not actually belong to the woman, rather than him enabling her to keep it, and this could be observed in a further study.

One of the main limitations of this study was that it took the form of an online survey, which is effective for accessing more people to take the survey, but also has its drawbacks. The online survey meant that there was a wider range of ages and backgrounds across the participants, as not all were university students. However, it also meant that the circumstances participants took the survey could not be properly supervised; for example, there could have been a number of distractions such as background noises or interruptions, which could affect how participants saw the film or answered the questions. As this study is heavily based around watching a film, it would maybe be better in a lab setting, where any outside factors could be more easily controlled. This could also result in a bigger impact on the intended induced emotion; as Steffens says, “the emotional effect of a film in a “cinema atmosphere” with professional video and audio technology and a high degree of attention from viewers is presumably higher than in a comparable home

TV situation” (2020), which could be a further reason why conducting this experiment in a lab setting would be beneficial. Another limitation was the sample size, as although there were people from a range of ages and backgrounds this is still a relatively small sample size, and having more people take part would help to make the results more statistically significant.

There is lots of room for further research on this topic to be done. One immediate way to further study the effect of film music on moral judgement would be to perform similar studies using different short films, as this would mean the reaction to different moral dilemmas could be observed, as these could be very different. This could involve moral dilemmas that are much more controversial; though this experiment deals with the universal dilemma of what to do with a found wallet that is discovered to be full of cash, participants may have widely different reactions to dilemmas that directly involve harm to people, such as euthanasia, for example.

Another further study could involve trying to induce different emotions based on the action taken in the film—for example, in this film ‘sadness’ that someone has lost their wallet—and see if this would illicit a different response. It could also be interesting to see whether emotions incongruent with the action on screen have any effect on moral judgement, perhaps by confusing the viewer to think in a different way, or not really understanding what is going on.

In conclusion, the findings of this study shed some light on how music in film affects moral judgement by inducing an emotional response. The results show that the intended emotions were induced, and these did have some effect on influencing moral judgement, with perceived rightness of action being higher for people who watched the film with ‘hopeful’ music than people who watched the film with ‘tense’ music. However, as these results are not statistically significant further research needs to be conducted to gain better understanding and insight into this phenomenon. Possibilities for further studies have been stated, including using different short films, and inducing different emotions.

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