

Rapid review of the literature on using humour to reduce negative emotional reactions to unappealing topics

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Recommendations

The research findings on the effectiveness of humour appeals in health promotion are contradictory, especially for the use of humour in combination with negative emotions such as shame, embarrassment, and disgust. Based on the evidence, we make the following observations and recommendations in the context of humour and stool donation.

- 1. Men may be more effectively engaged by humour than women.**
- 2. Humour can be effectively used as a hook** to draw attention, but must be accompanied by factual information about stool donation.
- 3. Humour is not effective at minimising disgust reactions, or negative reactions such as shame.** However, **'toilet based' humour may be an effective way to engage those not easily disgusted** (e.g., younger, aware of FMT).
- 4. Sarcasm and sick humour (based on death, disease or deformity) should be avoided** as it may evoke negative emotional reactions.
- 5. Humour appeals should be tailored to the target demographic.**

Background

A stable supply of stool (i.e., faecal) donors are needed in order to provide access to and realise the therapeutic benefits of faecal microbiota transplantation (FMT) for patients. However, the recruitment and retention of stool donors is hindered by barriers such as societal stigma about the substance or the act of donating, and negative emotional reactions to donating including shame, embarrassment, and disgust.^{1,2} Both shame and embarrassment are self-conscious emotions triggered by public violations of a social norm. While shame as the more severe emotion is elicited by serious transgressions which challenge self-identity (i.e., I am offensive), embarrassment is caused by lesser transgressions and the threat that others' negative evaluations will jeopardise an individual's social-identity (i.e., others will think I am offensive).^{3,4} Self-conscious emotions encourage social withdrawal and the avoidance of behaviours which originally caused shame or embarrassment.^{3,4} Therefore, shame and embarrassment may discourage potential donors from donating stool. Disgust, as a moral emotion, is triggered by violations of social norms specifically related to the body,³ and results in avoidance of the initial trigger of a disgust reaction.⁵ Disgust is thus a major barrier for health behaviours such as uptake of faecal occult blood test screening for colorectal cancer.⁶ As such, it has been identified as a potential barrier to recruiting stool donors.

Within health communication and promotion, there is growing interest in the role of humour for increasing acceptance to aversive or threatening information,⁷ such as that eliciting disgust,⁵ shame^{8,9} or embarrassment.^{10,11} Humour has been described as an arousing emotional experience, like fear or shame, in that it is a tool for directing attention.^{12,13} In Eisend's¹⁴ dual cognitive and affective model of humour, humour in advertisements primarily creates a positive mood state whilst, as a supplementary

benefit, distracts consumers from negative thoughts related to the advertisement. Subsequently, a consumer's positive mood state will deter excessive processing, in favour of retaining familiar information which is easily obtained from the humorous components of the advertisement. In summary, humour both distracts consumers from any negative emotions which may be associated with a brand or product and attracts attention to the humorous components of the advertisement.¹⁴⁻¹⁶ However, the effectiveness of humour within advertising may be dependent on several factors such as consumer demographics (i.e., gender, age, education),¹⁷ an individual's sense of humour¹⁸ and brand or product experience.¹⁹

As one of the most frequently used strategies in advertising, humour may encourage more discussion, as well as discussion that is lengthier and more positive, about the advertisement and the product.²⁰ Increasing dialogue on stool donation is particularly impactful, as this may be a potential means to encourage social acceptance²¹ of stool donation. Although researchers have encouraged caution in using humour for serious public health issues^{22,23} such as testicular cancer,¹⁰ within health promotion campaigns, humour has been shown to increase participants' attention, ratings of the degree to which they find advertisements to be convincing, recognition of advertisement content, and positive attitudes towards the advertisement.^{15,20,24} Therefore, humour may be a potential means of reducing negative emotional reactions and increasing discussion about, and thus social acceptance of, stool donation. Ultimately, both avenues may lead to improved donor recruitment.

Aims

1. Conduct a rapid review of the literature on humour appeals and their effectiveness on negative emotional responses (i.e., shame, embarrassment, disgust).
2. Analyse and draw parallels with stool donation and suggest potential avenues for the use of humour appeals to help potential donors overcome negative emotions towards stool donation and encourage donation behaviour.

Method

We conducted targeted searches in Web of Science, APA PsycNet, Science Direct, Ovid, PubMed and Google Scholar for peer reviewed literature to identify studies which described the use of humour to overcome negative emotional responses; specifically, shame, embarrassment and disgust.

Results

A total of 25 items, 21 empirical studies and 4 reviews and editorials, were of relevance and underwent full-text review. No studies were identified which evaluated the use of humour in campaigns intended to overcome potentially embarrassing health behaviours. Only a small number of studies have evaluated humour campaigns which are directly transferable to stool donation. In an observational study, viewers of a humorous telenovela, which promoted colorectal cancer awareness, responded in post-movie evaluations that the film had increased intentions to engage in conversations about colorectal cancer as well as colorectal cancer screening behaviour.²⁵

Disgust. Six studies investigated the effectiveness of humour at overcoming or masking disgust. These studies often used overtly disgusting videos (i.e., an unclean toilet) as experiment stimuli in order to study the effectiveness of humour. The results of two studies supported a relationship between the levels of amusement and disgust elicited by content intended to be both amusing and disgusting (the category which encapsulates 'toilet humour'). Ansfield²⁶ observed that participants equally expressed both smiles and disgust responses when viewing disgusting videos (i.e., a human autopsy). Similarly, Krumhuber and Manstead's²⁷ participants perceived the subject of a video as happier when the subject

was smiling whilst making a disgusting verbal statement (i.e., someone had sneezed on their face), as opposed to making the same statement with a neutral facial expression.

In contrast, two studies provided strong evidence that amusement had no influence on the degree of disgust experienced by participants when viewing both disgusting and amusing material. Hemenover and Schimmack²⁸ observed that participants' feelings of disgust and amusement varied independently when watching a movie segment of a woman ingesting animal faeces intended to be both disgusting and humorous. Deckman and Skolnick⁵ assessed participant's willingness to engage with potentially disgusting subjects (i.e., toilets and bugs) after presenting videos on the relevant topics that were either amusing, disgusting, a combination of amusing and disgusting, or meant to elicit no emotional reaction. Although participant's willingness to engage with bugs was not affected by the type of video they watched, participants shown an amusing toilet video were significantly more willing to interact with toilets compared to participants who had watched an amusing and disgusting video. However, when participant's own ratings of disgust were accounted for, it was found that regardless of the video watched, participants who were highly disgusted by toilets and bugs were less willing to interact with these subjects. Deckman and Skolnick⁵ thus concluded that participant's willingness to engage with a disgusting situation was negatively influenced by disgust, even when the disgusting situation was presented in an amusing way.

In summary, while humour and disgust can exist simultaneously there is limited empirical support for humour easing the negative effects of disgust.

Humour and Negative Emotions. Deckman and Skolnick's finding that humour and disgust exist independently is supported by the wider consumer behaviour literature on humour and negative emotions. For example, Warren and colleagues²⁹ assessed the relationship between humour, negative emotional reaction, and brand attitude in a series of studies. When participants viewed humorous media, taken from real television and print advertisements, they experienced humour and negative emotional reactions independently. However, participant's negative emotional reactions to an advertisement more strongly predicted brand attitudes than perceived humour.²⁹ This finding corroborates the theoretical stance that humour is a tool for directing consumer attention,^{12,13} and not a means to overcome negative emotional reactions which may be associated with stool donation.¹

We recommend that humour is used primarily as an aid for drawing attention to stool donation and is supported with supplementary marketing strategies, and information about stool donors and donation.

Shame. Stool donors may potentially experience shame.¹ However, when humour has been used as a tool to compensate for shame within health communication, an individual's fear of negative evaluation (i.e., susceptibility to social anxiety and shame) and health concerns have influenced the effectiveness of humour.^{8,9} In a series of studies, Yoon⁹ investigated how fear of negative evaluation impacted the effectiveness of advertisements intended to promote health behaviours which would decrease the chances of catching a sexually transmitted infection (e.g., seeking preventative treatment and consulting a doctor). Participants were presented with an advertisement which was either humorous or non-humorous and intended to elicit either high levels of shame (through exaggerating the sexual

nature of the infection) or low levels of shame (through using language that was neutral in regard to the sexual nature of the infection). For participants low in fear of negative evaluation, humour was only effective at increasing intentions to perform health behaviours with the high-shame advertisement. In contrast, for participants high in fear of negative evaluation, humour was only effective with the low-shame advertisement. In a follow-up study, humour was found to be effective at increasing behavioural intentions (e.g., seeking preventative treatment) when participant's shame and worries about their health were high.⁸ Therefore, the effectiveness of humour for promoting potentially shame-inducing health behaviours is influenced by individual differences such as fear of being negatively evaluated and health worry.

Humour and Individual Differences. Eleven of the 21 empirical studies identified differences in how humour was perceived based on a person's characteristics. Within health promotion, there is some evidence to suggest that there may be gender differences such that humour may more effectively increase intentions to perform a desired health behaviour in men.^{22,30} Likewise, within road safety, males have been shown to be more persuaded by positive emotional appeals (which include humour) compared to females.³¹ Therefore, humour may be most effective as a method to recruit male stool donors.

A person's preferred style of humour may also depend on their personal characteristics. One study suggested that individual thresholds for disgusting material (i.e., sensitivity to disgust) may influence how material that is both disgusting and amusing is received.³² In relation to stool donation, a recent unpublished survey of Australian residents³³ showed that 16% (52 of 325 respondents) had low ratings on feelings of disgust about stool donation (scored 2 or below on the 7-point scale). Those who found stool donation less disgusting were typically aged less than 40 years and already had some awareness of FMT.

Sarcasm and 'sick humour' (i.e., humour based on death, disease or deformity) has generally been rated as less amusing and induces negative emotions in participants.³⁴⁻³⁶ Although Saroglou and Ancaux³⁵ observed that men reported enjoying sick jokes more than women, Ansfield²⁶ did not observe any difference in the degree to which males and females rated disgusting content as amusing or disgusting. However, Hendricks and Janssen⁷ proposed that gender may influence the effect of humour when combined with other negative emotions such as disgust, shame, and threat. Specifically, while men were more persuaded by advertisements which combined high threat messages and humour, women responded better to advertisements that combined a low threat message and humour.

In summary, the effectiveness of specific humour styles varies by demographic characteristics. The style and messaging of humour used to engage and recruit potential stool donors should be specifically tailored to the intended demographic.

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