CHAPTER 5

Celebrity? Doctor? Celebrity Doctor? Which Spokesperson is Most Effective for Cancer Prevention?

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The use of celebrity spokespersons in advertising is well established in commercial marketing.[1] Celebrities who are considered attractive and familiar to target audiences have been shown to lead to positive attitudes toward the brand, advertisement and increased purchase intentions.[2] Subsequently, celebrities are increasingly being utilised in the not-for-profit (NFP) sector, specifically as part of social marketing campaigns.[3] NFP organisations often utilise well-known and recognised celebrities based on their ability to influence fundraising efforts, draw attention to social causes and potentially influence those with political power.[4]

The selection of an appropriate spokesperson enhances message tangibility, and is considered an important part of strategic message development.[5] The character and credibility of a spokesperson can significantly impact the persuasiveness of an advertisement's message.[6] The credibility of the spokesperson (referred to in the marketing literature as source credibility) is traditionally operationalised via three dimensions: expertise, trustworthiness and attractiveness.[7] Whilst the influence of source credibility (and its separate dimensions) has been explored for different spokesperson types within a commercial marketing context, there is much less research in the overall NFP social marketing context.[8] Health behaviour change theory recommends that an emphasis should be placed on the expertise of the spokesperson.[9] Furthermore, it is suggested that health-related decision-making may differ from that of general consumer decisions, with public health advertising designed to promote voluntary changes in health behaviours and the cessation of unhealthy behaviours rather than attempting to influence purchasing behaviours.[10]

This chapter investigates the effects that spokesperson type (celebrity, medical doctor, celebrity doctor) and source characteristics (expertise versus familiarity) have on an individual's intention to act on health-based social marketing messages.

Literature Review

Public Service Announcements (PSAs) are a valuable tool used in developing public health mass media campaigns that target health behaviour change.[11] Cancer-related PSAs are commonly utilised by government, charitable and non-profit cancer organisations to raise awareness, educate about signs and symptoms of different cancers, promote available screening methods and address risk behaviours.[12] To deliver these messages, a spokesperson is often engaged as part of public health

mass media campaigns. For example, Public Health England (PHE), in partnership with the Department of Health, NHS England and Cancer Research UK, has involved a variety of spokesperson types for the 'Be Clear on Cancer' campaigns which target lung cancer prevention; from public support and involvement from well-known figures, such as comedian Ricky Gervais (2012), to real medical doctors (2016), promoting the health message 'tell your doctor' if experiencing signs and symptoms.[13]

Within health-based messages, such as the PHE example above, a medical doctor is employed as an *expert spokesperson*;[14] academically qualified and with a large emphasis placed on their profession. A professional expert spokesperson is defined as 'a recognized authority on the product class endorsed whose expertise, the result of special knowledge or training, is superior to that acquired by ordinary people.'[15] Medical doctors are commonly cast within advertisements as qualification-based professional experts, for example, featuring as health authorities in pharmaceutical commercials.[16] Medical doctors have a trusted and respected image within the community.[17] For example, a 2016 research survey (United Kingdom) showed 'Doctors' to be the most trusted profession, with '89% of the public trusting them to tell the truth.'[18]

It is expected that a spokesperson recognised by audiences as being a professional medical expert will enhance the effectiveness of a PSA health message. Previous research has identified expertise as being a key factor for a spokesperson to inhabit to effectively persuade audience attitudes, opinions and create behaviour change, and has been suggested as being the most important dimension of source credibility.[19] Expert endorsements have the ability to enhance message strength, believability and compliance, primarily owing to credibility.[20] Spokespersons perceived as having high expertise, experience and status also encourage greater levels of judgement and imitative behaviours.[21] Several studies have shown a positive association between the expertise of a spokesperson, attitude and behavioural change.[22] There are few studies, however, which investigate the effectiveness of medical doctors as health spokespersons. Hu and Sundar (2009) compared the online environment influence of doctors versus laypersons on perceived credibility and behavioural intention, results confirming that participants generally favoured 'the expertise of medical professionals over laypersons except in the case of blog and Internet as a whole.'[23] Braunsberger and Munch (1998) showed that

doctors are more persuasive than unknown spokespersons, who were perceived to be low in expertise.[24]

A *celebrity*, on the other hand, is often engaged as an attractive, familiar source; well known and recognisable by audiences for their achievements in an area unrelated to the advertisement, with a perceived personal interest in the campaign.[25] A celebrity spokesperson is defined as 'an individual who is known by the public (actor, sports figure, entertainer, etc.) for his or her achievements in areas other than that of the product class endorsed.'[26] In a commercial marketing context, celebrities are commonly selected as product spokespersons for their abilities to generate media coverage, achieve high recall, capacity to increase brand visibility and familiarity with target audiences, as well as being able to persuade behavioural changes.[27] An extensive body of literature supports celebrity-based advertising,[28] presenting celebrity spokespersons as effective in the dimensions of trustworthiness, believability, persuasiveness and likeability,[29] as well as acting as a peripheral heuristic cue for consumers less involved with an advertisement message.[30]

It is expected that a celebrity who is familiar to target audiences will influence the effectiveness of a PSA health message. Familiarity is an important characteristic for marketing doctors to consider when selecting a celebrity spokesperson.[31] Research indicates that familiar spokespersons are perceived as being more attractive, knowledgeable and identifiable,[32] as well as enhancing endorser effectiveness.[33] Many health-related PSAs featuring celebrities have been linked with effectively encouraging intention and behaviour change in both adults and youth.[34]

A third potential spokesperson type is the celebrity doctor (for example, Dr. Mehmet Oz, *The Dr. Oz Show*). Celebrity doctors have been reported as having significant influence over television ratings and audience persuasion.[35]

In summary, further investigation is required for research that directly compares the effectiveness of medical doctors and celebrities as spokespersons for health-related PSAs. Based on the above evidence, and the health-based nature of the PSA, we expect that a medical doctor will be perceived as having a higher level of source expertise than a celebrity health spokesperson, and anticipate that the association, at least in part, between health spokesperson and participant behavioural intentions may be mediated through expertise. We expect a celebrity spokesperson to be rated as more familiar to participants than a medical doctor, and that behavioural intention will be influenced as an indirect result of public

knowledge and familiarity of the spokesperson. Both medical doctors and celebrity doctors have relevant expertise, but we anticipate that the perceived expertise of a celebrity doctor will be heightened through public familiarity. Skin cancer prevention in Australia is used as the public health PSA scenario for this study.

Finally, it is important to consider audience preferences. Health practitioners are increasingly being encouraged to support the wants and needs of the patient, considering among other things patient preferences in treatment decision-making, and to recognise the differences that exist between the judgement of health professionals and patients' knowledge of their own health.[36] Health information tailored to meet audience needs can assist with increasing health literacy and in 'reinforcing professionals' explanations of health problems.'[37] We argue that it is important to consider the preference of the PSA audience into health campaign advertising decisions. Based on the evidence above, we expect participants to report a higher preference for a medical doctor over a celebrity.

Method

Aim

Part one of this study aims to compare a celebrity and medical doctor as health spokespersons on behavioural intention for skin cancer prevention print advertising. More specifically, we examine whether the association between health spokesperson (medical doctor versus celebrity) and participant behavioural intentions is mediated through the perceived source expertise and familiarity of the spokesperson. Part two compares a medical doctor (expert) and a celebrity doctor (familiar expert) on behavioural intention for skin cancer prevention, and to assess the mediating role of familiarity and expertise.

Participants

Eligibility for both studies was restricted to participants aged 14–80 years, who were fluent in English and who had internet access. Participants were recruited using quota sampling from a nationwide registered research panel.[38] Sample size calculations to attain a statistical power of 0.80, with an effect size $f = 0.25$ and a priori $\alpha = 0.05$ were achieved, with a sample of 224 for study one and 225 for study two.[39]

Design

Two separate randomised between-subjects studies were performed, allocating participants to one of two experimental conditions, followed by an online survey. Participants were presented with a mock print Cancer Council NSW advertisement, displaying the image of either a celebrity or generic medical doctor (Part one), or a generic medical doctor or celebrity doctor (Part two); the only notable difference between advertisements being the health spokesperson image used. After collection of demographics, participants were asked to rate the expertise and familiarity of the spokesperson, their intention to act on the messages provided, and who they would prefer to receive health advice from.

Measures

Expertise was measured using five questions and a seven-point semantic differential scale: *Not an expert/an expert, inexperienced/experienced, unknowledgeable/knowledgeable, unqualified/qualified* and *unskilled/skilled*.[40] Familiarity of the spokesperson was assessed using two seven-point semantic differential scales: *not very familiar/very familiar,* and *don't know very well/know very well*.[41] Participant behavioural intention was measured,[42] using three seven-point semantic differential scales: *unlikely/likely, definitely not/definitely* and *improbably/probably.* Cronbach's alpha was used to test internal consistancy for the expertise, familiarity and intention questions; mean scores were then computed by averaging the questions. Finally, participants were asked to report who they would prefer to receive health advice from, across three options: *Celebrity, Medical Doctor* or *Celebrity Doctor.*

Mock Print PSA Stimuli Development

Pre-testing followed procedures employed by Ohanian (1990) with a sample ($n = 36$) of university students recalling celebrity names, a second group ($n = 36$) rating the celebrities on *familiarity* and *attitude*.[43] Taylor Swift was selected as the celebrity used in study one ($M_{\text{familiarity}} = 5.9 \quad SD = 1.4, \quad p < 0.001; \quad M_{\text{Attitudes}} = 4.8, \quad SD = 1.8, \; p = 0.013$; name recall = 94.4%). The medical doctor counterpart for Taylor Swift was chosen from *iStock by Getty Images* (istockphoto.com) to reflect the age and appearance of the celebrity,[44] and a final group

Fig. 5.1 Example mock print PSA stimuli—medical doctor (study one) (*Mock print PSA stimuli for this study were created by adapting an original resource developed by the Cancer Council South Australia, and use of the Program name 'SunSmart' developed by the Cancer Council Victoria. Spokesperson images sourced from iStock by Getty Images.*)

of university students ($n = 40$) assessed the degree of physical similarity between the celebrity and chosen medical doctor stimuli.[45] Dr. Oz was selected as the celebrity doctor stimulus, receiving the highest named frequency from a list of celebrity doctors identified during pretest ($n = 27$). The generic male medical doctor was also selected from istockphoto.com. The mock print PSAs for this study were created by adapting an original resource developed by the Cancer Council South Australia, and use of the program name '*SunSmart*' developed by the Cancer Council Victoria[46] (Figs. 5.1 and 5.2).

Analysis

Crude (unadjusted) expertise (and its five comprising components), familiarity, and intention scores are presented as mean (standard

Fig. 5.2 Example mock print PSA stimuli—medical doctor (study two) (*Mock print PSA stimuli for this study were created by adapting an original resource developed by the Cancer Council South Australia, and use of the Program name 'SunSmart' developed by the Cancer Council Victoria. Spokesperson images sourced from iStock by Getty Images.*)

deviation; SD), and were compared between the two spokesperson types using independent samples t-test. Participant preferred choice of health spokesperson is presented as count (%) and compared between spokesperson types using Pearson Chi-squared test. To further examine the hypothesised relationships, mediation analysis was performed according to the methods of Preacher & Hayes (2004) using structural equation modelling. Mediation through both expertise and familiarity was examined within one model (dual mediation); estimates (β) presented include the mean difference in intention between the two spokesperson types (i.e. the total effect), estimates of the effects attributable to being mediated through expertise or familiarity (indirect effects), and an estimate of the effect that is not through these mediators (direct effect). These estimates are presented with 95% confidence intervals (CI) and p-values obtained from bootstrapping ($n = 1000$ bootstrapped samples).

Additionally, *p*-values are presented for the test of equality of the indirect pathways for the two mediators.

Results

Study One: Celebrity Versus Medical Doctor

In total, 224 participants (male = 123, $M_{age} = 45$, $SD = 20.6$) participated in study one. Internal consistency was measured and found to be high for expertise ($\alpha = 0.948$), familiarity ($\alpha = 0.968$) and intention ($\alpha = 0.977$). There was no difference between a celebrity and a medical doctor in participant intention to act on cancer preventative messages (crude $M_{\text{Medical Doctor Intention}} = 4.9$, $SD = 1.6$; $M_{\text{Celebrity Intention}} = 4.7$, $SD = 1.8$, $p = 0.406$) (Table 5.1). However, as hypothesised, participants perceived a medical doctor as having a higher level of expertise than a celebrity spokesperson (crude $M_{\text{Medical Doctor}} = 5.03$, $SD = 1.2$; $M_{\text{Celebrity}} = 4.4$, $SD = 1.4$; $p < 0.001$). This was also found for each of the five individual components of source expertise. After adjusting for familiarity, higher source expertise was also found to be associated with higher behavioural intention to follow cancer preventative PSA messages ($\beta = 0.5$, $p < 0.001$; Table 5.2). A significant indirect effect was observed for health spokesperson type on participant intention to act through source expertise ($\beta = -0.3$, $p = 0.002$). Moreover, as hypothesised, participants perceived a celebrity as having higher levels of familiarity than the medical doctor (crude $M_{\text{Medical Doctor}} = 2.7$, $SD = 1.8$; $M_{\text{Celebrity}} = 4.3$, $SD = 2.02$; $p < 0.001$); however, after adjusting for expertise, higher familiarity scores were not statistically significantly

Table 5.1 Health spokesperson effects (part one): Summary of crude means (SD)

	Medical doctor	*Celebrity*	*p-Value*
Intention	4.9 (1.6)	4.7 (1.7)	0.409
Familiarity	2.7 (1.76)	4.3 (2.0)	<0.001*
Expertise	5.03 (1.2)	4.4 (1.4)	0.001*
– *An expert*	4.79 (1.3)	4.03 (1.7)	<0.001*
– *Experienced*	4.99 (1.28)	4.5 (1.5)	0.015*
– *Knowledgeable*	5.17 (1.3)	4.7 (1.6)	0.014*
– *Qualified*	5.1 (1.3)	4.3 (1.6)	<0.001*
– *Skilled*	5.08 (1.3)	4.62 (1.5)	0.014*

*Significant at $p < 0.05$ using independent t-test

Table 5.2 Mediating effects of health spokesperson expertise and familiarity on behavioural intention (part one)

	β	*95% CI*	*p-Value*
Effect 1a: Association of spokesperson on familiarity	1.5	1.04, 2.03	<0.001*
Effect 1b: Association of familiarity on intention	0.7	−0.04, 0.18	0.219
Indirect effect (1a*1b) of spokesperson on intention, through familiarity	0.1	−0.07, 0.28	0.233
Effect 2a: Association of spokesperson on expertise	−0.6	−0.94, −0.26	0.001*
Effect 2b: Association of expertise on intention	0.5	0.35, 0.66	<0.001*
Indirect effect (2a*2b) of spokesperson on intention, through expertise	−0.3	−0.5, −0.11	0.002*
Total effect of spokesperson on intention (without mediators)	−0.19	−0.63, 0.25	0.406
Direct effect of spokesperson on intention (with mediators)	0.01	−0.44, 0.46	0.967

*Significant at $p < 0.05$ using structural equation modelling
β = beta coefficient

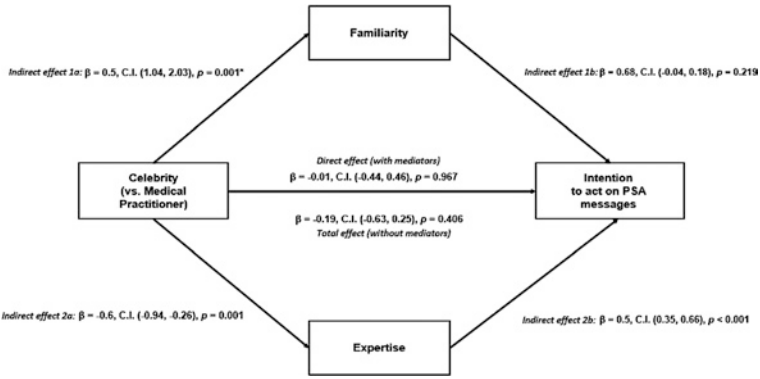

Fig. 5.3 Mediation analysis: Celebrity versus medical doctor (part one)

associated with higher behavioural intention ($\beta = 0.07$, $p = 0.219$). After adjusting for mediation through expertise and familiarity, no statistically significant direct effect was observed between the health spokesperson and behavioural intention ($\beta = 0.01$, $p = 0.967$; see Fig. 5.3). Overall, 92% ($n = 206$) of respondents reported that they would prefer information from a medical doctor; rather than a celebrity (3.6%) or a

Table 5.3 Participant spokesperson preference (count % within participant group) (part one)

	Health Spokesperson PSA Group (count % within participant group)		*Total (%)*
	Medical Doctor (%)	*Celebrity (%)*	
Celebrity	2 (1.8)	6 (5.3)	8 (3.6)
Medical Doctor	106 (95.5)	100 (88.5)	206 (92.0)
Celebrity Doctor	3 (2.7)	7 (6.2)	10 (4.5)
Total	111 (100)	113 (100)	224 (100)

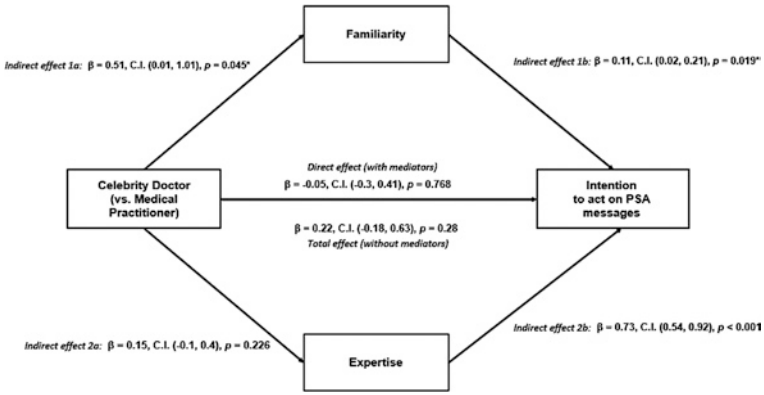

Fig. 5.4 Mediation analysis: Celebrity doctor versus medical doctor (part two)

celebrity doctor (4.5%; Table 5.3). Spokesperson preference for information from a medical professional was not significantly different between celebrity and medical doctor groups (88.5% vs. 95.5% respectively; $p = 0.153$) (Fig. 5.4).

Study Two: Medical Doctor Versus Celebrity Doctor

A separate sample of 225 members of the Australian public (117 male, 106 female, two transgender/intersex/unidentified, $M_{age} = 45$, range 14–79 years, $SD = 20.6$) participated in part two of this study. Both the celebrity doctor and medical doctor were equally effective at directly

Table 5.4 Health spokesperson effects (part one): Summary of crude means (SD)

	Medical Doctor	*Celebrity Doctor*	*p-Value*
Intention	5.0 (1.5)	5.2 (1.6)	0.637
Familiarity	2.5 (1.9)	3.04 (2.0)	0.048*
Expertise	4.7 (0.9)	4.9 (1.0)	0.229
– *An expert*	4.8 (1.5)	5.2 (1.2)	0.029
– *Experienced*	4.84 (1.4)	5.2 (1.2)	0.071
– *Knowledgeable*	5.03 (1.3)	5.3 (1.2)	0.136
– *Qualified*	5.03 (1.5)	5.3 (1.2)	0.143
– *Skilled*	5.02 (1.5)	5.2 (1.2)	0.282

*Significant at $p < 0.05$ using independent t-test

impacting participant intention to act on cancer preventative messages (crude $M_{\text{Medical Doctor Intention}} = 5.0$, $SD = 1.5$; $M_{\text{Celebrity Doctor Intention}} = 5.2$, $SD = 1.6$; $p = 0.28$) (Table 5.4). No significant difference was found between the spokesperson type and source expertise (crude $M_{\text{Medical Doctor Expertise}} = 4.7$, $SD = 0.9$; $M_{\text{Celebrity Doctor Expertise}} = 4.9$, $SD = 1.0$; $p = 0.229$), suggesting that participants perceived a celebrity doctor as being equal in medical expertise to a medical doctor spokesperson. This was also found for four of the five scale individual components of source expertise. Adjusting for familiarity, higher source expertise was found to be associated with higher behavioural intention to follow cancer preventative PSA messages ($\beta = 0.73$, $p < 0.001$; see Table 5.5). Overall, no statistically significant indirect effect was observed for health spokesperson type on participant intention to act through source expertise ($\beta = 0.11$, $p = 0.233$). Participants perceived a celebrity doctor as having higher levels of familiarity (crude $M_{\text{Medical Doctor}} = 2.5$, $SD = 1.9$; $M_{\text{Celebrity Dr}} = 3.04$, $SD = 2.0$; $p = 0.048$). After adjusting for expertise, higher familiarity scores were also found associated with higher behavioural intention ($\beta = 0.11$, $p = 0.019$); however, no significant indirect effect was observed between the health spokesperson and behavioural intention through familiarity ($\beta = 0.06$, $p = 0.120$). Overall, 93.8% ($n = 211$) of respondents reported that they would prefer information from a medical doctor; rather than a celebrity (2.7%) or a celebrity doctor (3.6%; see Table 5.6). Spokesperson preference was not significantly different between celebrity and medical doctor groups (93.6% versus 93.9% respectively; $p = 0.556$).

Table 5.5 Mediating effects of health spokesperson expertise and familiarity on behavioural intention (part two)

	β	*95% CI*	***p*-Value**
Effect 1a: Association of spokesperson on familiarity	0.51	0.01, 1.01	0.045*
Effect 1b: Association of familiarity on intention	0.11	0.02, 0.21	0.019*
Indirect effect (1a*1b) of spokesperson on intention, through familiarity	0.06	−0.02, 0.13	0.120
Effect 2a: Association of spokesperson on expertise	0.15	−0.1, 0.4	0.226
Effect 2b: Association of expertise on intention	0.73	0.54, 0.92	<0.001*
Indirect effect (2a*2b) of spokesperson on intention, through expertise	0.11	−0.07, 0.3	0.233
Total effect of spokesperson on intention (without mediators)	0.22	−0.18, 0.63	0.28
Direct effect of spokesperson on intention (with mediators)	0.05	−0.3, 0.41	0.768

*Significant at $p < 0.05$ using structural equation modelling
β = beta coefficient

Table 5.6 Participant spokesperson preference (count % within participant group) (part two)

	Health Spokesperson PSA Group (count % within participant group)		*Total (%)*
	Medical Doctor (%)	*Celebrity Doctor (%)*	
Celebrity	4 (3.6)	2 (1.7)	6 (2.7)
Medical Doctor	103 (93.6)	108 (93.9)	211 (93.8)
Celebrity Doctor	3 (2.7)	5 (4.3)	8 (3.6)
Total	110 (100)	115 (100)	225 (100)

Discussion and Conclusion

There were no statistically significant differences between a celebrity and medical doctor influencing audience intention to follow advertised health advice. Important differences were noted, however, for the expertise and familiarity scores for the health spokesperson types. After adjusting for familiarity, a significant association was found for audience intention to act on health advertising messages through source. Though the celebrity health spokesperson had higher familiarity amongst participants, after adjusting for expertise, this did not translate into increased behavioural

intention, rejecting our anticipated hypothesis that celebrity familiarity would increase participant intention to act on health PSA messages. Further, participants overwhelmingly reported a preference for receipt of health information from a medical doctor rather than a celebrity.

Similarly, there was also no statistically significant difference between a medical doctor and celebrity doctor on audience intention to follow advertised health advice. No significant differences were found between the two health spokesperson types for source expertise, demonstrating a shared audience perception that a celebrity doctor and medical doctor have similar medical expertise when presenting cancer prevention messages. As expected, after adjusting for source expertise, participants reported higher familiarity with a celebrity doctor. While familiarity was found to have a significant positive influence on participant behavioural intentions, consistent with study one, no significant association was found for audience intention to act on health advertising messages through spokesperson familiarity.

Though familiarity of a spokesperson is important, the findings of this study emphasise the importance of perceived expertise in health-based advertising. Drawing from source credibility theory, *expertise* is recognised as a level of experience, skill, 'valid assertions' or knowledge held by a spokesperson.[47] When a message is delivered from a highly credible source, consumers are more likely to be persuaded and accept an advertisement's arguments.[48] Findings from this study complement previous research of medical doctors being recognised as a source of expertise,[49] and also support the positive influence source expertise has on effectively persuading behaviour change.[50]

Implications

These findings have implications for those planning cancer prevention social marketing campaigns. Since the nature and subject of preventative cancer advertisements are medically orientated, the expertise of medical doctors can play an important role in persuading audience behavioural intentions. Casting a non-celebrity medical doctor as a spokesperson may also have additional benefits. Research indicates that non-celebrity spokespersons, such as created characters, have the capacity to be more effective in producing memorability amongst audiences.[51] Furthermore, marketing doctors are given more freedom and control over limiting any associated risks, reducing the effect of multiple advertisement

oversaturation,[52] and in reducing the chance of 'vampire effect' occurring; where the celebrity him- or herself can overshadow the advertisement message, leaving consumers remembering the spokesperson but not the actual endorsed product/message.[53] Given the potential risks and costs associated with use of celebrity spokespersons, as well as taking into account audience preferences matching the principles of many cancer charities that promote patient-centred care and consumer involvement in service planning, the results of this study suggest the use of medical doctor spokespersons for cancer prevention social marketing messages. Moreover, there is no additional benefit of using a celebrity doctor as health spokesperson.

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