

The Influence of Uncertainty Avoidance on Visual and Rhetorical Strategies in Breast Cancer Awareness Advertising

Germain Mesureur

¹Keisen University, Department of English Communication, Japan

E-Mail: germain@keisen.ac.jp

Received 05 February 2026

Accepted 24 March 2026

Published 12 May 2026

ABSTRACT

This study investigates the influence of national culture on the design of health communication messages, specifically focusing on how Hofstede's uncertainty avoidance dimension correlates with the characteristics of breast cancer awareness advertisements. The study seeks to determine to what extent uncertainty avoidance influences the visual and rhetorical construction of breast cancer awareness advertisements globally. A quantitative content analysis is conducted on a sample of 208 static advertisements from a wide range of countries. Key variables, including image type (photograph vs. drawing), visual representation of breasts, persuasion type (ethos, pathos, logos), and shock value, are systematically coded. The analysis of the results reveals significant correlations between the Uncertainty Avoidance Index (UAI) of an advertisement's country of origin and its design elements. Advertisements from high-UAI countries are significantly more likely to employ tame messaging, symbolic depictions, or a complete absence of breast representation, and logos-based persuasive appeals. Conversely, advertisements from low-UAI countries are associated with higher shock values, more direct and photographic imagery, and emotionally-driven content. The findings indicate that uncertainty avoidance is a predictor of the visual and rhetorical strategies used in breast cancer awareness campaigns, suggesting that in cultures less tolerant of ambiguity, communication strategies are more conservative and emotionally restrained. These results could have implications for the development of culturally sensitive and effective global health campaigns.

Keywords: Fear Appeals; Health Communication; Hofstede's Cultural Dimensions; Public Service Announcement (PSA)

1. INTRODUCTION

The relationship between culture and communication strategies in advertising and health messaging is a complex and well-studied area. Researchers have investigated how national and individual cultural orientations influence the reception and effectiveness of persuasive messages, particularly those employing fear appeals (e.g., Bartikowski et al. 2019; Sook Moon and Chan 2005). Research on the effectiveness of public service announcements is extensive (see Keller and Lehmann 2008, for a meta-analysis), but to the best of the researcher's knowledge, no studies have incorporated both commercial and non-profit breast cancer awareness campaigns. Understanding cultural variations in these two fields could be crucial for the success of health campaigns.

Hofstede's cultural dimensions have often been used to understand these differences and can help to analyze variations in advertising content and consumer responses across different countries (Hofstede et al. 2010). This study focuses specifically on uncertainty avoidance, the measure of the extent to which members of a culture feel threatened by ambiguous or unknown situations and communications. Cultures with high uncertainty avoidance prefer clear rules, structured environments, and predictability, impacting their stress management, adherence to rules, and future planning, which, in turn, influence communication effectiveness. On the other hand, cultures with low uncertainty avoidance are more comfortable with ambiguity and change. In public communications, this manifests itself in greater receptiveness to abstract concepts and a

willingness to engage with messages that are more open-ended or encourage individual interpretation. Uncertainty avoidance significantly shapes the effectiveness of health communication by influencing the reactions to ambiguous health information (Kuang and Wilson 2017; Vishwanath 2003). Cultures with high uncertainty avoidance may exhibit heightened anxiety and avoidance behaviors when faced with ambiguous health-related information, necessitating clear, structured, and detailed communication strategies. This underscores the importance of culturally appropriate strategies that explicitly address ambiguity to enhance communication effectiveness across diverse cultural contexts.

Research on fear appeals—messages designed to motivate behavior change by highlighting negative consequences to actions, or lack thereof—has explored whether their effectiveness is moderated by the receiver’s cultural background. Some studies suggest that advertisers tailor their approaches based on perceived cultural sensitivities, potentially guided by Hofstede’s uncertainty avoidance measures (De Meulenaer et al. 2015). However, other studies have presented slightly different findings, highlighting methodological concerns in measuring cultural orientations and proposing that cultural orientation may only partially explain the effectiveness of fear appeals (Jansen and Verstappen 2014; Jansen and Van Der Kroef 2019). Additionally, some research indicates that advertisements may reflect aspirational rather than dominant cultural values—a phenomenon known as the “value paradox” (De Meulenaer et al. 2015; Sook Moon and Chan 2005). This suggests that in cultures with high uncertainty avoidance, messaging might not always provide the expected structure, but may instead utilize provocative “shock” imagery to disrupt traditional norms or appeal to modernizing aspirations. This potential disconnect between national cultural dimensions and actual creative execution underscores the necessity of analyzing the specific content of local and international campaigns.

The use of fear-arousing messages and “shockvertising” is common in breast cancer awareness campaigns (Dobrenova et al. 2019; Parry et al. 2013). Fear appeals aim to motivate behavioral changes by highlighting significant and personally relevant health threats while providing feasible countermeasures. The theoretical basis of fear appeals is rooted in frameworks such as Protection Motivation Theory (PMT; Rogers 1975, 1983; Floyd et al. 2000) and the Extended Parallel Process Model (EPPM; Witte 1992; Witte and Allen 2000). These models posited that message processing involves threat appraisal (evaluation of severity and susceptibility) and coping appraisal (evaluation of response efficacy and self-efficacy). According to the

EPPM, when both threat and efficacy perceptions are high, individuals engage in danger control and take protective measures; conversely, when perceived threat is high, but efficacy is low, individuals may default to fear control, characterized by denial or defensive avoidance (Witte 1994). While moderate fear can encourage the systematic processing of health information and enhance attitude change, the practical application often faces issues such as imbalanced messaging (De Hoog et al. 2007; Ruiters et al. 2001). When threat messages outweigh efficacy messages, the communication may inadvertently trigger fear control, thereby undermining the campaign’s effectiveness.

This study aims to empirically evaluate the design of existing health-related communication messages, particularly in breast cancer awareness campaigns, by examining their correlation with the uncertainty avoidance dimension, and specifically answer the following question:

RQ: To what extent does the national cultural dimension of uncertainty avoidance (UAI) influence the visual and rhetorical construction—specifically image type, breast representation, persuasion type, and shock value—of breast cancer awareness advertisements globally?

By analyzing a sample of 208 static image advertisements from various countries, this research seeks to uncover significant relationships between cultural uncertainty avoidance and key characteristics of these advertisements, such as image type, visual representation of breasts, persuasion type, and shock value. The findings could contribute to a better understanding of how cultural context influences the visual and rhetorical construction of public health messaging, offering insights for more effective and culturally sensitive campaign development.

2. LITERATURE REVIEW

2.1 *Uncertainty Avoidance and Fear Appeals*

Uncertainty avoidance significantly shapes the effectiveness of health communication by influencing individuals’ reactions to ambiguous health information. Cultures with high uncertainty avoidance exhibit heightened anxiety and avoidance behaviors when confronted with ambiguous health-related information, necessitating clear, structured, and detailed communication strategies (Kuang and Wilson 2017; Vishwanath 2003). Uncertainty avoidance thus requires tailored communication approaches to effectively manage public health responses and decision-making processes.

Many researchers have explored how national and individual cultural orientations affect the reception and effectiveness of persuasive messages, notably focusing on the use of fear appeals (Bartikowski et al. 2019; Jansen and Verstappen 2014; Vincent and Dubinsky 2005). The results from these studies do not show a clear picture of the impact or uncertainty avoidance. Recognizing these cultural variations is essential for the success of international advertising and health campaigns (Bartikowski et al. 2019; Sook Moon and Chan 2005).

A foundational framework often employed to understand these cultural differences is Hofstede's cultural dimensions (Hofstede et al. 2010). This theory proposes that national cultures vary along several dimensions, such as power distance, individualism versus collectivism, masculinity versus femininity, and uncertainty avoidance. These dimensions have been used to predict and explain variations in advertising content and consumer responses across different countries (Sook Moon and Chan 2005). Uncertainty avoidance, measured on Hofstede's Uncertainty Avoidance Index (UAI), describes the extent to which members of a culture can feel uncomfortable or even threatened by ambiguous or unknown situations. High uncertainty avoidance cultures are characterized by a preference for clear rules, structured environments, and predictability, impacting how they manage stress, rules, and future planning, as these can impact the effectiveness of communication (Hofstede et al. 2010).

Research on fear appeals—messages designed to motivate behavior change by highlighting negative consequences—has investigated whether their effectiveness is moderated by the receiver's cultural background. Bartikowski et al. (2019) conduct a content analysis of print advertisements in Canada, China, and France and find significant variations in the frequency and types of fear appeals used, reflecting cultural sensitivities. For example, China predominantly uses social and self-esteem fear appeals, whereas physical fear appeals dominate in France and Canada. This indicates that advertisers tailor approaches based on perceived cultural sensitivities, potentially guided by Hofstede's uncertainty avoidance measures.

Tapping into further research examining cultural influences, Jansen and Verstappen (2014) explore responses to self-targeted versus family-targeted health-related fear appeals among Dutch and Spanish participants; contrary to an earlier assumption that a receiver's nationality or cultural orientation (particularly individualism versus collectivism) would interact with the type of fear appeal message used. Specifically, it was assumed that self-targeted threats would be more

effective in individualistic cultures, while group- or family-targeted threats would resonate more strongly in collectivistic cultures because in collectivist settings a person's behavior reflects on the broader family or community. Their study does not identify significant nationality or cultural orientation interaction effects; however, the study highlights methodological concerns in measuring cultural orientations. Similarly, Jansen and Van Der Kroef (2019) compare participants from the Netherlands, China, and South Africa regarding their responses to similar fear appeals. Although nationality-based interactions concerning perceived severity, susceptibility, and danger control are observed, cultural orientation offers only partial explanatory power. These findings underscore the nuanced relationship between cultural orientation and fear appeal effectiveness, challenging overly simplistic assumptions and highlighting a need for refined measurement approaches.

Beyond the research area of fear appeals, Sook Moon and Chan (2005) compared television commercials in Hong Kong and Korea, considering Hofstede's dimensions of uncertainty avoidance and masculinity/femininity. Their analysis reveals that, paradoxically, Korean advertisements—despite being from a high uncertainty avoidance culture—often reflect low uncertainty avoidance values. This phenomenon, termed “value paradox,” suggests that advertisements may reflect aspirational rather than dominant cultural values. In health communication, the value paradox becomes a balancing act between authority and autonomy. While a high-UAI culture, such as South Korea, would be expected to respect the expertise of doctors and the safety of clinical data, health campaigns may need to pivot toward low-UAI themes to overcome the rigidity of social expectations.

Vincent and Dubinsky (2005) also explore the impact of fear appeals in a cross-cultural context, specifically comparing reactions to high and low threat advertisements in France and the United States. They find that a high level of threat significantly induces greater fear and purchase intention compared to low threat levels. However, no significant cultural differences between French and U.S. subjects are observed, suggesting complexity in how cultural uncertainty avoidance interacts with fear appeals and underscoring the importance of further cross-cultural exploration in this area.

De Meulenaer et al. (2015) investigate how individual differences in uncertainty avoidance, anxiety, and chance belief influence the processing of health risk messages. Their research reveals that perceived efficacy has a stronger influence on message

acceptance among low-uncertainty-avoidance groups, whereas perceived threat has a stronger impact among high-anxiety individuals. This highlights the importance of individual psychological characteristics alongside cultural dimensions in fear appeal effectiveness.

In conclusion, while there is a general consensus that culture influences communication, the precise mechanisms and the extent of this influence, particularly concerning fear appeals and specific cultural dimensions, remain subjects of ongoing research and debate. Studies such as Bartikowski et al. (2019) and Sook Moon and Chan (2005) highlight variations in advertising practices across cultures, while others, such as Jansen and Van Der Kroef (2019) and Jansen and Verstappen (2014), explore the impact of cultural factors on health message reception. However, the direct applicability of broad cultural dimensions such as those proposed by Hofstede is sometimes challenged by empirical findings, pointing towards the need for more refined models and methodologies in cross-cultural communication research.

2.2 Fear Appeal and Shockvertising

The use of fear-arousing messages and shockvertising in breast cancer awareness campaigns is common but remains contentious. Fear appeals are designed to motivate behavior change by highlighting significant and personally relevant health threats and providing feasible means to counteract them (Ruiter et al. 2001). The theoretical foundation of fear appeals rests on two cognitive appraisals: threat appraisal (severity and susceptibility) and coping appraisal (response efficacy and self-efficacy) (De Hoog et al. 2007; Kline and Mattson 2000). When both threat and efficacy perceptions are high, individuals engage in “danger control”, actively taking protective measures. Conversely, high perceived threat paired with low efficacy can trigger “fear control” involving denial or defensive avoidance (Ruiter et al. 2001). While acknowledging that the literature shows a wide variety of outcomes, Keller and Lehmann (2008) summarise that moderate fear appeals are most effective for increasing behavioral intentions. Their meta-analysis indicates that most studies suggest that while low levels of fear arousal tend to have a negligible impact, high levels can precipitate a counterproductive effect. They note, however, that the influence of fear is often moderated by individual characteristics; high-fear appeals may be persuasive among individuals with a high degree of personal involvement in the issue, whereas low-fear appeals can be more effective for an audience that is less involved (Keller and Block 1996).

Evidence suggests that moderate fear effectively encourages systematic processing of health

information, enhancing engagement and attitude change. Research by Meyerowitz and Chaiken (1987) indicates that loss-framed messaging is more effective in promoting monthly breast self-examination (BSE). Study participants who were exposed to information emphasizing the negative consequences of omitting BSE demonstrated markedly more positive attitudes, intentions, and behaviors related to the practice than those who received gain-framed messages or materials with no persuasive content. In addition, Ruiter (2001) stresses that mild fear arousal related to BSE promotes a more careful consideration of the information. Moreover, narrative-based fear appeals effectively evoke emotional engagement, meaningfully influencing attitudes and intentions by drawing audiences into a compelling personal story—a process known as transportation (Ooms et al. 2017). Mas et al. (2024) find that Latin American participants exhibit a notably stronger emotional response to fear-inducing media compared to European participants. This highlights the considerable impact of cultural context on emotional processing of fear appeals and emphasizes the importance of tailoring fear-based messages to specific cultural sensitivities.

Witte and Allen’s (2000) meta-analysis demonstrates that strong fear appeals generally produce high levels of perceived severity and susceptibility and are significantly more persuasive than low or weak appeals. Using the extended parallel process model (EPPM), they confirmed that strong fear appeals combined with high-efficacy messages yield the greatest behavior change, while strong fear appeals coupled with low-efficacy messages provoke the highest defensive responses, including denial and avoidance. Moreover, their analysis suggests a consistently positive linear relationship between fear appeal strength and persuasive outcomes.

However, the practical application of fear appeals often encounters issues such as imbalanced messaging or generating negative emotions in the wrong target group. Kline and Mattson’s (2000) analysis of BSE pamphlets reveals that threat messages far outweigh efficacy messages, undermining persuasive effectiveness and potentially leading to fear control rather than protective behaviors. Moreover, fear appeals risk unintended negative effects on non-target audiences. Jones and Owen (2006) find that high-threat mammography messages considerably distress younger women, who were not the primary audience, while not motivating the intended older demographic. This highlights the need for more precise audience targeting and careful message calibration.

Extreme fear appeals may evolve into shockvertising,

deliberately violating social norms to capture attention (Dahl et al. 2003). However, the “shock” in shockvertising is inherently tied to a culture’s ethical and social boundaries. In high-UAI contexts, where there is a lower tolerance for the violation of social norms and a higher emphasis on formal rules (Hofstede et al., 2010), shock tactics involving nudity or graphic medical imagery may be perceived not just as provocative, but as ethically transgressive or socially irresponsible. Conversely, in lower-UAI cultures, the “shock” may be viewed as a necessary tool for authenticity or emotional “truth-telling”. These varying ethical thresholds likely mediate how advertisers in different regions navigate the tension between the need to capture attention and the need to maintain social legitimacy, directly influencing the design choices observed in breast cancer campaigns. When it comes to breast cancer awareness, campaigns employing graphic imagery to highlight post-mastectomy realities are clear examples of shockvertising’s effectiveness in achieving attention and message retention. Parry et al. (2013) subscribe to the idea that shock tactics are perceived as more justifiable for not-for-profit (NFP) organizations than for-profit (FP) campaigns. However, such tactics require careful execution. Dobrenova et al. (2019) analyze online breast cancer advertisements, finding varied and sometimes misaligned use of emotional appeals such as fear, humor, erotic, shame-guilt, across detection behaviors, suggesting that advertisers may not consistently apply evidence-based strategies.

These findings collectively underscore the importance of culturally appropriate strategies that explicitly address ambiguity, enhancing communication effectiveness within diverse cultural contexts. Based on the existing literature regarding cultural dimensions and fear appeals, this study tests the following hypotheses:

- H1: Advertisements from cultures with high uncertainty avoidance will utilize more structured and detailed informational content (high efficacy) compared to those from low-uncertainty avoidance cultures.
- H2: There is a significant relationship between a country’s (UAI) and the visual representation of breasts, with high-UAI cultures utilizing more abstract or symbolic representations to avoid social ambiguity.
- H3: Shock value in advertisements will be more prevalent in not-for-profit (NFP) campaigns than in for-profit (FP) campaigns, regardless of cultural orientation.
- H4: In line with the Value Paradox, advertisements

in high-UAI cultures (e.g., South Korea or Japan) may occasionally utilize higher shock levels or low-UAI themes to appeal to aspirational modern values, contradicting traditional UAI predictions.

3. DATA AND METHODOLOGY

3.1 Data Collection

The final sample for this content analysis consists of a total of 208 advertisements for breast cancer awareness created between 2010 and 2024. The sources used to gather the advertisements include advertisement repositories (Adsoftheworld, History of Advertising Trust, The Advertising Archives, Campaignsoftheworld, Adsspot), specialized publications (Adage, Adweek, Lürzer’s Archive), and the author’s personal photographic collection of posters and print advertisements seen around Japan, France, and the United Kingdom. Whenever necessary, other sources such as non-profit organization websites and Google image search are used to gather larger resolution images of any repository sources that are not clearly readable. All the items included in the sample are static images, some originating from the print media, others having been created for online use. No videos or animations are included in the sample.

3.2 Procedures

3.2.1 Sample refinement

The total number of breast cancer awareness advertisements found is 310. From this total, 17 are removed because it is not possible to identify the countries of origin of the campaigns. A further three are from countries that are not included in Hofstede’s UAI (Botswana, n=1; Rwanda, n=1; Zimbabwe, n=1).

In the total of usable 290 advertisements, some countries (USA, n=89; Japan, n=40) or geographical regions (North America, n=93; Europe and Russia, n=71) are overwhelmingly represented, so the following rules are applied in order to create a balance between geographical regions while keeping a normalized distribution of UAI values across the sample.

- Ensure the sample’s mean and median UAI values are close for the sample to be normally distributed.
- Keep as many entries as possible.
- Ensure that all countries present in the usable sample are represented in the final sample.

- Ensure that the sample is evenly distributed across the geographical regions of the world.
- Ensure that geographical regions are grouped using similar UAI value ranges.
- Any exclusion from a country's sub-sample is done at random.

This leads to the changes listed in Table 1; the final sample obeys all the rules for inclusion and has an average UAI value of 66.64 with a median UAI value of 66.

Table 1: Exclusions and Final Sample Breakdown

Region	Original usable sample	Exclusions	Final sample
North America	93	USA -57	41
South and Central America (including Mexico)	24	None	24
Middle East and Africa	30	None	30
East Asia (Japan and South Korea, High UAI)	41	None	41
South East Asia / Oceania (Low to mid UAI)	31	None	31
Europe & Russia	71	France -5 Germany -2 Greece -4 Italy -3 Portugal -5 Romania -4 UK -7	41
Total	290		208
Final sample breakdown: Australia, n=4; Austria, n=1; Bolivia, n=3; Brazil, n=7; Canada, n=4; Chile, n=1; China, n=5; Colombia, n=2; Czech Republic, n=1; Ecuador, n=1; Egypt, n=3; France, n=4; Germany, n=2; Greece, n=2; Honduras, n=1; India, n=4; Iraq, n=1; Ireland, n=1; Israel, n=2; Italy, n=3; Japan, n=40; Kenya, n=4; Kuwait, n=3; Lebanon, n=3; Malaysia, n=2; Mexico, n=3; Morocco, n=1; Mozambique, n=2; Netherlands, n=3; New Zealand, n=8; Nigeria, n=2; Peru, n=2; Poland, n=3; Portugal, n=4; Puerto Rico, n=1; Romania, n=4; Russia, n=5; Saudi Arabia, n=1; Singapore, n=4; South Africa, n=4; South Korea, n=1; Spain, n=3; Taiwan, n=1; Thailand, n=3; UAE, n=4; UK, n=5; Uruguay, n=1; USA, n=37; Venezuela, n=2.			

awareness advertisements fall into the Public Service Announcement category (PSA). PSAs are typically produced or commissioned by not-for-profit (NFP) organizations such as NPOs and NGOs, or government bodies. These are often then produced and distributed pro bono by media outlets. The rest of the sample (n = 72) belongs to what can be broadly referred to as for-profit (FP) advertising, divided into either cause marketing (CM) or cause-related marketing (CRM). CM (n = 60), sometimes called awareness marketing (Minton and Cabano 2022), encompasses the campaigns that are produced by for-profit companies, with a view of increasing awareness for a cause while at the same time raising the companies' public image and possibly increasing sales as well. CRM (n = 10), on the other hand, is produced with a direct association between a company and a named not-for-profit organization that will directly receive payments or other benefits from the partner company's CRM campaign. It should be noted that while the distinction between CM and CRM does exist, Pracejus et al. (2003) suggest that CRM advertisements' copy is often abstract or vague, creating the potential for ambiguity in the legitimacy of the message. Among the FP companies, the sample can also be divided in terms of how congruent the advertising companies' activities are with the use of the pink ribbon and breast cancer awareness. Some FP companies, such as privately run hospitals or health insurance providers, could be deemed to have a legitimate reason to use medical issues in their marketing. The activities of other companies, including automotive manufacturers, restaurant chains, food and drinks distributors, may appear to be less congruent with breast cancer awareness. In some cases, these companies may even incur risk of being seen as "pinkwashing"—a term for cause marketing where companies exploit the pink ribbon's symbolism for profit while potentially undermining the very cause they claim to support.

Figure 1 shows an example of a cause marketing campaign produced by the UAE-based supermarket chain Big Mart, in which they encourage women to get regular check-ups for breast cancer. Figure 2 is a CRM campaign by Japanese underwear company Wacoal, which states they will donate 10 Japanese Yen to the Japan Cancer Society for every bra fitting done in Wacoal stores for the duration of the campaign. Figure 3 is an example of a PSA from a Brazilian hospital, which highlights the issue that images of female breasts cannot be posted on social media, but the scars from breast cancer removal operations are not censored.

The sample is divided into two broad categories, according to the kind of advertiser behind the campaigns. For the most part (n = 136), breast cancer



Figure 1: UAE's CM 'Breast Cancer Awareness' Campaign from Big Mart (BlackT Media for Big Mart 2023)



Figure 3: PSA from 'I Can Show Breasts on Social Media' (Propeg for Hospital Aristides Maltez 2016)



Figure 2: CRM 'Pink Ribbon Fitting Campaign' from Wacoal (Wacoal Corporation Public Relations and Advertising Department for Wacoal 2014)

3.2.2 Coders

Following Neuendorf's (2009) guidelines, two university students (one male, one female), blind to the research themes, served as coders. The researcher is not involved in the coding. Each coder received over two hours of training on the coding manual. A preliminary pilot test was carried out using 25 breast cancer awareness campaigns, all of which are distinct from the final study sample. Intercoder reliability is evaluated using Cohen's kappa for both the pilot test and the main sample. Upon successful completion of the pilot test, where reliability for every reported variable exceeded .700, the coders proceeded to independently code the main study sample. In the final coding reliability assessment, all variables achieved kappa values exceeding 0.75+. This cut-off was chosen as a compromise between Hayes's (2005, 128) 0.75+ and Krippendorff's (2019, 356) 0.80+, indicating substantial to excellent agreement beyond what would be expected by chance.

3.2.3 Coding Variables

3.2.3.1 Image Type

The type of visual content used in the advertisements is coded using four variables: photographic images, drawings, mixed visual (photograph and drawing used together in the design), and text-only. Photographs are more realistic and carry more visual information than drawings, but also tend to be more specific and can lower the relatability of the image. For instance, a younger viewer may feel as though the campaign

does not target them if it includes a photograph of an older woman. A generic sketch of a woman could more easily reach both younger and older audiences. The same issue extends to body size, breast shape, skin tone, etc. Text-only campaigns can be very powerful, but may require more attention to communicate the message, especially in designs where the amount of copy is substantial.

3.2.3.2 Visual Representation of Breasts

Extending the range of image types listed above, the sample is also coded to assess the type of visual representation of breasts. Campaigns are coded using four variables: actual breasts and/or nipples being displayed, visual metaphor of breasts and/or nipples, bust or bosom being central to the design, but fully or partially hidden under clothing or other cover, and breasts being altogether absent from the design.

3.2.3.3 Type of Persuasive Message Used

In order to assess the type of persuasive message used in the campaigns, the rhetorical appeals –ethos, pathos, and logos– are used as bases for this variable. These are foundational concepts in the art of persuasion (Williams et al. 2024). Ethos refers to the credibility and character of the source of information. In public health, this would apply to messages considered to be more persuasive if they come from trusted institutions such as famous NGOs and governmental bodies, or respected figures (such as doctors or scientists). The perceived expertise, trustworthiness, and goodwill of the source considerably impact whether the audience accepts the message. In a small number of campaigns (n = 7), the ethos appeal originates from the use of celebrities who have a direct connection to breast cancer. For example, American actress Emma Stone, whose mother is a breast cancer survivor, appeared in a campaign by Revlon, and Japanese actress Masumi Miyazaki, a survivor herself, in a PSA by AC Japan. The second form of appeal, pathos, is the appeal to emotion, aiming to evoke feelings in the audience that make them more receptive to the message. Public and private health campaigns often use pathos by eliciting fear (of disease or negative health outcomes), hope (for a healthier future), or empathy (for those affected by a health issue). These emotional connections can be powerful motivators for behavior change. Finally, logos is the appeal to logic and reason. This involves using facts, statistics, evidence-based arguments, and clear reasoning to convince an audience. Public health messages employ logos by presenting data on disease prevalence, risk factors, the effectiveness of early detection, and the scientific basis for health recommendations.

As this particular variable relies upon a clear understanding of the written content of the campaigns, a preliminary translation was done by the researcher using machine translation tools. The results were checked and confirmed or amended by native speakers of all the source languages (Arabic, Chinese, Greek, Italian, Japanese, Korean, Portuguese, Romanian, Russian, Spanish, Thai). 18 campaigns are removed from the sample as no native speaker was available to provide a reliable translation. It is worth noting that while 159 campaigns originated from non-English speaking countries, it is common practice for campaigns to be translated by the advertisers themselves for wider dissemination or for submission to advertisement repositories and specialized publications. As a result, only a small number of these (n = 62) required actual translation.

3.2.3.4 Shock Value

The sample is also coded to assess the intensity of the textual and visual message. PSAs and related forms of advertising are often designed to communicate their message more directly, as the advertisers are less concerned about creating negative emotions in their audience. Shock tactics are commonly used in PSA campaigns and are considered to be acceptable. For-profit companies engaged in cause marketing must balance raising awareness with protecting their brand image from negative associations. It is worth noting that there seems to be no consensus in the literature about the effectiveness of using shock tactics in advertising, for both PSAs and for-profit campaigns. Nevertheless, CM and CRM campaigns sometimes use shock tactics as well, but the companies involved often prefer to use softer tactics to avoid possible negative reactions and emotions associated with them (Sen and Bhattacharya 2001). When it comes to breast cancer advertising, the possibility of partial or complete breast removal because of surgery, and the prospect of death from the disease are two shocking messages that are present in some of the PSA campaigns analyzed. In addition, images of bare breasts and nipples, even healthy examples, may not be culturally, religiously, or legally acceptable, and such images can also be considered shocking when used in advertising. Visual metaphors are widely used to represent bosoms or breasts and nipples, as well as drawings and diagrams offering varying degrees of realism. The text content of the advertisements, including the use of statistics related to the incidence, epidemiology, or mortality rates of breast cancer, can also range from informational and neutral to outright threatening.

The shock value of the advertisements in the sample is rated on a five-point scale, using the criteria listed in Table 2.

Table 2 Shock Level Coding Criteria

Criteria	Description
1 – Tame	Gentle images of fully dressed women; no visible breasts or emphasis on the bosom area of the body; positive and encouraging impression and messages only. See Figure 1 for an example.
2 – Common	Visual metaphoric representation of healthy breasts or nipples; focus on healthy general body; no specific focus on breasts; overall positive impression and messages.
3 – Average	Clearly understandable drawings of breasts and nipples; emphasis on the covered bosom area of the body or cleavage; slightly negative impression and messages. See Figure 2 for an example.
4 – Challenging	Photographic or photo-realistic images of healthy breasts or nipples, suggestion of possible mastectomy (breast removal); visual metaphoric representation of diseased breasts or nipples; negative impression and messages.
5 – Shocking	Photographic or photo-realistic images of diseased breasts or nipples; photographic or photo-realistic images of the scars resulting from the mastectomy operation; suggestion of possible death; strongly negative impression and messages. See Figure 3 for an example.

It is worth pointing out that the criteria developed for measuring the shock value variable of this sample are designed to be a relative scale rather than an absolute ranking. Depictions or suggestive drawings of nudity are strongly taboo or outright illegal in some cultures. What could be considered “average” in one place may be deemed “shocking” in another. This can be clearly illustrated when considering the following country pairs, which, while having very similar UAI values, have different state or dominant religions and therefore very different views or regulations about the representation of nudity: Pakistan & Austria UAI = 70, Iran & Finland UAI = 59, Indonesia & Canada UAI = 48, Malaysia & United Kingdom UAI = 36~35 (Hofstede et al. 2010).

3.3 Analytical Framework

- ANOVA is used to test how the continuous variable (“Uncertainty Avoidance Index”) varied across the categories of other variables. Tukey’s HSD (Honestly Significant Difference) post-hoc test is then used to identify where any significant differences lie.
- The Chi-squared test is used to find associations between the coding of two categorical variables.

4. RESULTS

The main coding results converted to percentages are presented in Figure 4. Statistical analysis reveals significant correlations between Hofstede’s UAI and the design characteristics of the breast cancer awareness advertisements sampled. The key findings of ANOVA and Chi-squared tests are presented in Tables 3 and 4.

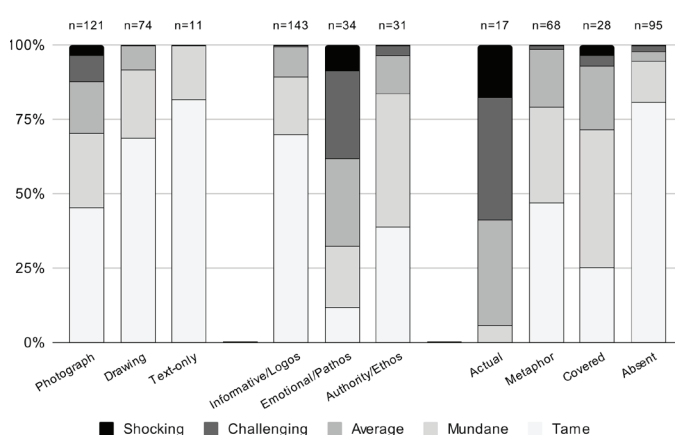


Figure 4: Shock Value by Image Type, Main Persuasion Type, and Breast Representation

Overall, as illustrated in Figure 4, most campaigns are relatively mild. Across nearly all categories, the largest portions fall into “tame” and “mundane,” meaning they are designed to be safe, non-confrontational, and broadly acceptable to audiences. Looking at the visual format, photograph-based campaigns include slightly more “challenging” or “shocking” content compared to drawings or text-only messages, which are almost entirely tame. This suggests that real images may be used when campaigns want a stronger emotional impact. In terms of message type, emotional (pathos-based) campaigns stand out as the most intense. They contain the highest proportions of “challenging” and “shocking” content, indicating that emotional appeals are more likely to use stronger imagery or messaging. In contrast, informative (logos) and authority-based (ethos) campaigns are mostly moderate or mild. Finally, campaigns that present the issue in a more direct or “actual” way tend to be more intense than those using metaphors or more indirect approaches. Metaphorical campaigns are generally safer and less likely to be shocking.

Table 3 ANOVA Test Results

ANOVA p values	Image Type	Breasts Representation	Persuasion Type	Shock Value
Uncertainty Avoidance Index	0.001	0.023	0.012	0.000

Table 4 Chi-squared Test Results

Chi-squared test p values	Image Type	Breast Representation	Persuasion Type	Shock Value
Advertiser	0.526	0.002	0.053	0.000
Image Type		0.037	0.583	0.021
Breast Representation			0.000	0.000
Persuasion Type				0.000

An ANOVA test indicates a statistically significant relationship between the UAI of the country of origin and the primary image type used in the advertisements ($p = 0.001$). A post-hoc analysis revealed that this difference is most pronounced between advertisements using photographic images and those using drawings. The UAI also shows a significant correlation with:

- Breast representation ($p = 0.023$), with a notable difference between advertisements featuring actual breasts and those where breasts were absent.
- Persuasion type ($p = 0.012$).
- Shock value ($p = 0.000$).

Specifically, advertisements from countries with higher UAI scores were associated with “Tame” and “Common” shock values. Conversely, as the shock value increases, the associated UAI score tends to decrease. This confirms that cultures with high uncertainty avoidance may favor more informative and less direct advertising approaches.

The Chi-squared test results reinforce these findings, showing statistically significant relationships between several categorical variables (Table 4). Strong associations are found between the shock value of an advertisement and its image type ($p = 0.021$), breast representation ($p = 0.000$), and persuasion type ($p = 0.000$).

Furthermore, the type of advertiser showed a significant correlation with:

- Breast Representation ($p = 0.002$).
- Shock Value ($p = 0.000$).

The relationship between advertiser and persuasion type is nearly significant ($p = 0.053$) and was considered close enough to the 0.050 threshold to be relevant for discussion. Photographs are found to have a greater emotional impact than drawings or text-only designs, aligning with the significant correlation found between image type and shock value.

4.1 Hypothesis Testing

4.1.1 H1: Uncertainty Avoidance and Informational Content

The analysis supports H1. The ANOVA test revealed a statistically significant relationship between the UAI and the primary persuasion type used in the advertisements ($p=0.012$). Advertisements originating from high-UAI countries were significantly more likely to utilize logos-based persuasive appeals, which rely on facts, statistics, and logical reasoning. This aligns with the preference in high-UAI cultures for clear, structured, and detailed communication strategies to manage the anxiety associated with ambiguous health information.

4.1.2 H2: Uncertainty Avoidance and Visual Representation of Breasts

The analysis supports H2. There is a statistically significant correlation between the UAI of an advertisement’s country of origin and the nature of breast representation ($p=0.023$). Advertisements from countries with higher UAI scores predominantly featured symbolic depictions or the complete absence of breasts. In contrast, more direct and photographic imagery was associated with countries scoring lower on the UAI. This suggests that high-UAI cultures utilize abstract visual strategies to avoid the social ambiguity and discomfort associated with explicit health imagery.

4.1.3 H3: Shock Value in NFP vs. FP Campaigns

The analysis supports H3. A Chi-squared test showed a highly significant relationship between the type of advertiser and the shock value of the campaign ($p=0.000$). As predicted, shock tactics were found to be more prevalent and acceptable in PSAs typically commissioned by NFP organizations. Conversely, FP entities—including those engaged in cause marketing—favored “tame” or “softer” tactics to avoid potentially negative associations with their brand.

4.1.4 H4: The Value Paradox in High-UAI Cultures

The analysis largely refutes H4. While H4 predicted that high-UAI cultures might utilize shock imagery to appeal to modernizing, “low-UAI” aspirational values, the results showed a consistently inverse relationship between UAI and shock value ($p=0.000$). As a country’s UAI score increased, the associated shock value of its advertisements tended to decrease, favoring “Tame” and “Common” levels of intensity. This indicates that in the specific context of health communication, advertisers are more likely to adhere to dominant, protective cultural norms rather than challenging them with paradoxical aspirational themes.

5. DISCUSSION

The results suggest that some significant correlations exist between uncertainty avoidance and the general design trends of public and private health-related communication.

This further supports the idea that countries with a higher tolerance for uncertainty (lower UAI) might be more receptive to advertisements with higher shock values, while countries with a lower tolerance for uncertainty (higher UAI) seem to be associated with advertisements that have a more moderate approach (Tame or Mundane) to message communication. This somehow contradicts the “value paradox” introduced by Sook Moon and Chan (2005), who subscribe to the idea that advertisements in a high-UAI culture (Korea) sometimes reflect *low-UAI* (aspirational) values. While the “value paradox” may apply to some forms of commercial or product advertising, it appears less relevant in the context of health communication. Matters of health and disease are inherently anxiety-provoking and represent a high-threat context. In such scenarios, individuals in high-UAI cultures prioritize the reduction of ambiguity and the restoration of a sense of control. Consequently, advertisers likely follow dominant, protective cultural norms by providing clear, structured, and “tame” guidance, rather than risking the defensive avoidance triggered by “shocking” aspirational themes. In addition, in high-UAI societies, there is a lower tolerance for the violation of social norms. For-profit entities engaging in CM or CRM advertising may be doubly motivated to create “Tame” campaigns to minimize reputational risk and maintain social legitimacy.

The content analysis reveals statistically significant relationships between the UAI and several key characteristics of breast cancer advertisements and suggests that the cultural dimension of uncertainty avoidance influences not only the emotional tone of public health messaging but also its visual and rhetorical construction. This stands in contrast to studies that found a more ambiguous connection between cultural orientation and how people responded to fear appeals (Jansen and Van Der Kroef, 2019; Jansen and Verstappen, 2014). The difference in outcome may be due to the nature of the health issue presented in the messages studied (chlamydia vs. breast cancer) and the presence of CM and CRM in the current study’s sample, as opposed to a story-based fear appeal in the chlamydia studies.

Breast representation shows significant variation by UAI levels. Countries scoring higher on the UAI

tend to feature advertisements in which breasts are either absent or represented symbolically, rather than depicted explicitly. Similarly, shock value was inversely related to UAI, as higher uncertainty avoidance cultures predominantly employed tame or mundane messaging, whereas countries with lower UAI scores were more likely to tolerate challenging and shocking content. This trend implies a cultural preference among high-UAI societies for emotional restraint and avoidance of potentially discomfoting stimuli in health communications.

Persuasion type is also significantly associated with UAI, indicating that high-UAI cultures may prefer informational or rational appeals over emotional or fear-based strategies. Image Type, as a broader visual category, likewise shows a strong correlation with UAI, suggesting that the overall visual framing of advertisements—whether abstract, symbolic, or realistic—varies systematically with cultural attitudes toward uncertainty.

For example, significant associations are found between the type of advertiser and most of the variables, confirming that not only cultural values but also institutional sources of the advertisements (e.g., governmental vs. NGO vs. corporate advertisers) play a role in shaping the form and tone of the messaging. Furthermore, the significant relationship between Image Type and Shock Value ($p = 0.021$) underscores the interconnectedness of visual style and emotional intensity in the advertisements.

Taken together, these results underscore a broader pattern: high-UAI cultures appear to gravitate toward advertising strategies that reduce ambiguity, emotional intensity, and visual directness. In contrast, low-UAI cultures demonstrate greater openness to risk, ambiguity, and emotional confrontation in media content. In addition, for-profit entities in high-UAI countries may be doubly motivated to create “Tame” campaigns—driven by both the national cultural preference for avoiding uncertainty and their own corporate imperative to minimize reputational risk. For example, countries such as Japan, Portugal, and Greece, which score high on Hofstede’s UAI, may prefer breast cancer advertisements that emphasize symbolism, clarity, and emotional moderation. These might include campaigns focusing on education, support networks, or medical guidance, often avoiding explicit visuals or emotionally charged imagery. This is corroborated by Yfantidou and Skandali’s study (2025) of Greek women’s perceptions of breast cancer advertisements. Greece is a high uncertainty avoidance country (UAI = 112, rank No.1), and the study shows that Greek women are more motivated by positive advertisements with reliable data and credible endorsements, preferring

tame, informational (logos), and trustworthy (ethos) messages.

On the other hand, countries such as Denmark, Great Britain, and New Zealand, which exhibit lower levels of uncertainty avoidance (UAI = 23, 35, 49, respectively), are more likely to produce or respond positively to advertisements employing direct breast imagery, fear appeals, or shocking elements to provoke strong reactions and raise awareness.

The findings can also be interpreted through the lens of Witte and Allen's Extended Parallel Process Model (EPPM) (2000), which posits that individuals' responses to fear appeals depend on the balance between perceived threat and perceived efficacy. In high-UAI cultures, the tendency to avoid ambiguity and discomfort may predispose individuals to engage in fear control responses—such as denial or message avoidance—especially when advertisements emphasize threat without accompanying efficacy cues. This may explain the preference for tame imagery and logos-based messages that reduce emotional intensity and ambiguity. Conversely, in low-UAI cultures, where there is greater tolerance for uncertainty and emotional confrontation, individuals may be more likely to engage in danger control responses, especially when high-threat messages are paired with clear efficacy components. Thus, the observed cultural variation in shock value, persuasion type, and visual representation may reflect culturally contingent pathways through the EPPM framework, reinforcing the need for campaign designs that align with both cultural orientations and psychological processing styles.

5.1 Limitations

This study is limited to an empirical evaluation of the way existing health-related communication messages are designed, the fear-inducing and shock levels of their messages, and how this correlates with the uncertainty avoidance characteristics of the countries they originate from. It does not measure how effective such messages are on their target populations.

One country-specific limitation of the sample used in this study is that most of the Japanese breast cancer awareness campaigns are the result of yearly design competitions organized by Pink Ribbon Festival, supported by the Japan Cancer Society. The winners of these competitions are widely circulated on SNS channels, and prints are displayed in hospitals and clinics. The entries in these competitions are not necessarily created by advertising or design professionals, as members of the public can also enter (Japan Cancer Society 2022). In the Japanese sample, only six of the PSA campaigns included were

produced by AC Japan (the Japanese equivalent of the USA's Ad Council) or other established NPOs and NGOs. Correlation analysis performed on the final sample, excluding 27 amateur-created campaigns from Japan, returned highly similar ANOVA values (Image Type, $p=0.0282$; Breasts Representation, $p = 0.0194$; Persuasion Type, $p=0.0139$; Shock Value, $p=0.0008$). Nonetheless, the Pink Ribbon campaigns, regardless of who produced them, accurately represent the reality of the Japanese breast cancer advertising landscape and are, therefore, considered valid for inclusion in the sample. It should be noted that the intrinsically amateur nature of the Pink Ribbon design competition, which is responsible for most of the Japanese entries in the sample, means that the designs and messages in many of the advertisements may not be of a professional standard. These "amateur" designs could, however, be interpreted as a more direct and unfiltered expression of the public's own comfort level and creative instincts regarding the breast cancer communications. For example, the 2022 contest entries were pulled by the organizers, following complaints from members of the public and breast cancer sufferers about the message contained in some of the entries (HuffPost Japan Edition 2022; Japan Cancer Society 2022). This could be seen as a powerful real-world example of a high-UAI culture actively rejecting communication that causes discomfort. At the time of writing, there appear to be no plans to hold a competition in the foreseeable future.

5.2 Recommendations

This study did not code or assess for efficacy. Future research could investigate whether the campaigns from low-UAI countries that were coded as "challenging" or "shocking" appear to provide clear, empowering calls to action, and whether the "tame" or "mundane" logos-driven campaigns in high-UAI countries inherently provide a stronger sense of efficacy by offering clear, structured information and reducing anxiety from the outset. In low-UAI cultures, advertisers may successfully use shock to grab attention, but it is critical that this is balanced with prominent, high-efficacy information to guide audiences toward danger control. In high-UAI cultures, the strategy should be different as the message itself should be designed to minimize ambiguity and anxiety, building trust (ethos) and providing logical, clear guidance (logos) as the primary pathway to motivating behavior, as fear-inducing messages may be rejected outright.

Disclosure statement.

The author reports there are no competing interests to declare.

REFERENCES

- Bartikowski, Boris, Michel Laroche, and Marie-Odile Richard. 2019. "A Content Analysis of Fear Appeal Advertising in Canada, China, and France." *Journal of Business Research* 103 (October): 232–39. <https://doi.org/10.1016/j.jbusres.2019.01.049>.
- BlackT Media. 2023. "Big Mart: Breast Cancer Awareness • Ads of the World™ | Part of the Clio Network." Ads of the World™. 2023. <https://www.adsoftheworld.com/campaigns/breast-cancer-awareness-776c7787-1ffc-45c2-967f-b2ac051775f2?>
- De Hoog, Natascha, Wolfgang Stroebe, and John B. F. de Wit. 2007. "The Impact of Vulnerability to and Severity of a Health Risk on Processing and Acceptance of Fear-Arousing Communications: A Meta-Analysis." *Review of General Psychology* 11 (3): 258–85. <https://doi.org/10.1037/1089-2680.11.3.258>.
- De Meulenaer, Sarah, Patrick De Pelsmacker, and Nathalie Dens. 2015. "Have No Fear: How Individuals Differing in Uncertainty Avoidance, Anxiety, and Chance Belief Process Health Risk Messages." *Journal of Advertising* 44 (2): 114–25. <https://doi.org/10.1080/00913367.2015.1018465>.
- Dobrenova, Fanny V., Sonja Grabner-Kräuter, Sandra Diehl, and Ralf Terlutter. 2019. "The Use of Advertising Appeals in Breast Cancer Detection Messages: A Web Content Analysis." *Women & Health* 59 (8): 867–82. <https://doi.org/10.1080/03630242.2019.1565904>.
- FLOYD, DONNA L., STEVEN PRENTICE-DUNN, and RONALD W. ROGERS. 2000. "A Meta-Analysis of Research on Protection Motivation Theory." *Journal of Applied Social Psychology* 30 (2): 407–29. <https://doi.org/10.1111/j.1559-1816.2000.tb02323.x>.
- Hayes, Andrew F. 2005. *Statistical Methods for Communication Science*. Routledge.
- Hofstede, Geert, Gert Jan Hofstede, and Michael Minkov. 2010. *Cultures and Organizations: Software of the Mind: Intercultural Cooperation and Its Importance for Survival*. 3rd edition. New York, NY: McGraw-Hill.
- HuffPost Japan. 2022. "Omae Hitori No Oppai Janai" Nyūgan Kenshin Yobikakeru Posutā Ni Hamon ⇒ Nihon Taigan Kyōkai Ga Owabi ["You're Not the Only One with Boobs." J-CAST ニュース. J-CAST ニュース. February 21, 2022. https://www.j-cast.com/2022/02/21431456.html?p=all&utm_source.
- Jansen, Carel, and Geke van der Kroef. 2018. "The Impact of Receivers' Nationality and Cultural Orientation on the Effects of Fear Appeals in Health Communication." *Journal of Intercultural Communication Research* 48 (1): 72–90. <https://doi.org/10.1080/17475759.2018.1555673>.
- Jansen, Carel, and Renate Verstappen. 2014. "Fear Appeals in Health Communication: Should the Receivers' Nationality or Cultural Orientation Be Taken into Account?" *Journal of Intercultural Communication Research* 43 (4): 346–68. <https://doi.org/10.1080/17475759.2014.981675>.
- Japan Anti-Cancer Association. 2022. "Gankenshin Kenkyū Josei Jigyō No Kōbo Bosshū Ni Tsuite" ["Call for Applications for the Cancer Screening Research Grant Program." 日本対がん協会 | がんで苦しむ人や悲しむ人をなくしたい. February 21, 2022. <https://www.jcancer.jp/news/12725>.
- Jones, Sandra C., and Neville Owen. 2006. "Using Fear Appeals to Promote Cancer Screening—Are We Scaring the Wrong People?" *International Journal of Nonprofit and Voluntary Sector Marketing* 11 (2): 93–103. <https://doi.org/10.1002/invsm.48>.
- Keller, Punam Anand, and Lauren Goldberg Block. 1996. "Increasing the Persuasiveness of Fear Appeals: The Effect of Arousal and Elaboration." *Journal of Consumer Research* 22 (4): 448. <https://doi.org/10.1086/209461>.
- Keller, Punam Anand, and Donald R. Lehmann. 2008. "Designing Effective Health Communications: A Meta-Analysis." *Journal of Public Policy & Marketing* 27 (2): 117–30. <https://doi.org/10.1509/jppm.27.2.117>.
- Kline, Kimberly Nicole, and Marifran Mattson. 2000. "Breast Self-Examination Pamphlets: A Content Analysis Grounded in Fear Appeal Research." *Health Communication* 12 (1): 1–21. https://doi.org/10.1207/s15327027hc1201_01.
- Krippendorff, Klaus. 2019. *Content Analysis: An Introduction to Its Methodology*. Fourth edition. SAGE.

- Kuang, Kai, and Steven R. Wilson. 2017. "A Meta-Analysis of Uncertainty and Information Management in Illness Contexts." *Journal of Communication* 67 (3): 378–401. <https://doi.org/10.1111/jcom.12299>.
- Mas, José M, Andrés Gómez, and Oliver Carrero. 2023. "Emotions in Fear Communication: A Cross-Cultural Neuromarketing Approach." *Psychology & Marketing* 41 (4). <https://doi.org/10.1002/mar.21947>.
- Meyerowitz, Beth E., and Shelly Chaiken. 1987. "The Effect of Message Framing on Breast Self-Examination Attitudes, Intentions, and Behavior." *Journal of Personality and Social Psychology* 52 (3): 500–510. <https://doi.org/10.1037/0022-3514.52.3.500>.
- Minton, Elizabeth A, and Frank Cabano. 2022. "Awareness Marketing: Cause Marketing without Contribution." *Association of Marketing Theory and Practice Proceedings 2022*, January. <https://doi.org/10.20429/amp.2022.68>.
- Neuendorf, Kimberly A. 2009. "Reliability for Content Analysis." In *Media Messages and Public Health: A Decisions Approach to Content Analysis*. Routledge.
- OOMS, JOËLLE A. , CAREL J. M. JANSEN , and SAAR HOMMES. 2017. "View of Health Communication| 'Don't Make My Mistake': On the Processing of Narrative Fear Appeals." *Ijoc*. org. SHILAP Revista De Lepidopterología . November 20, 2017. <https://ijoc.org/index.php/ijoc/article/view/6683/2205>.
- Parry, Sara, Rosalind Jones, Philip Stern, and Matthew Robinson. 2013. "'Shockvertising': An Exploratory Investigation into Attitudinal Variations and Emotional Reactions to Shock Advertising." *Journal of Consumer Behaviour* 12 (2): 112–21. <https://onlinelibrary.wiley.com/doi/full/10.1002/cb.1430>.
- Pracejus, John W., G. Douglas Olsen, and Norman R. Brown. 2003. "ON the PREVALENCE and IMPACT of VAGUE QUANTIFIERS in the ADVERTISING of CAUSE-RELATED MARKETING (CRM)." *Journal of Advertising* 32 (4): 19–28. <https://doi.org/10.1080/00913367.2003.10639146>.
- Propeg for Hospital Aristides Maltez. 2016. "I Can Show Breasts on Social Media." Ads of the World™. 2016. <https://www.adsoftheworld.com/campaigns/breast-cancer-f65d4763-9dce-445b-ade0-fd5cbbd35d6f>.
- Rogers, Robert William. 1983. "Cognitive and Physiological Processes in Fear Appeals and Attitude Change: A Revised Theory of Protection Motivation." In *Social Psychophysiology: A Sourcebook*, 153–77. NY, United States of America: Guilford.
- Rogers, Ronald W. 1975. "A Protection Motivation Theory of Fear Appeals and Attitude Change." *The Journal of Psychology* 91 (1): 93–114. <https://doi.org/10.1080/00223980.1975.9915803>.
- Ruiter, R. A. C. 2001. "Evoked Fear and Effects of Appeals on Attitudes to Performing Breast Self-Examination: An Information-Processing Perspective." *Health Education Research* 16 (3): 307–19. <https://doi.org/10.1093/her/16.3.307>.
- Ruiter, Robert A.C., Charles Abraham, and Gerjo Kok. 2001. "Scary Warnings and Rational Precautions: A Review of the Psychology of Fear Appeals." *Psychology & Health* 16 (6): 613–30. <https://doi.org/10.1080/08870440108405863>.
- Sen, Sankar, and C.B. Bhattacharya. 2001. "Does Doing Good Always Lead to Doing Better? Consumer Reactions to Corporate Social Responsibility." *Journal of Marketing Research* 38 (2): 225–43.
- Sook Moon, Young, and Kara Chan. 2005. "Advertising Appeals and Cultural Values in Television Commercials: A Comparison of Hong Kong and Korea." *International Marketing Review* 22 (1): 48–66. <https://doi.org/10.1108/02651330510581172>.
- Vincent, Anne-Marie, and Alan J. Dubinsky. 2005. "Impact of Fear Appeals in a Cross-Cultural Context." *Journal of Euromarketing* 14 (1-2): 145–67. https://doi.org/10.1300/j037v14n01_08.
- Vishwanath, Arun. 2003. "Comparing Online Information Effects." *Communication Research* 30 (6): 579–98. <https://doi.org/10.1177/0093650203257838>.
- Wacoal. 2014. "Wacoal Group Implements the Pink Ribbon Fitting Campaign Nationwide." *PR Times*, September.
- Williams, Amanda, Amber McLinden, Cassandra Riabko, Kyle Napier, Kylie Robertson, and MRU Instructional Team. 2024. "Theories of Persuasion (by Amanda Williams)." *Insights into Communication Studies: Understanding Foundational Theories for Media Literacy*. Pressbooks. August 31, 2024. <https://pressbooks.openeducationalberta.ca/insightsintocommstudies/chapter/chapter-3-theories-of-persuasion>.

- Witte, Kim. 1992. "Putting the Fear Back into Fear Appeals: The Extended Parallel Process Model." *Communication Monographs* 59 (4): 329–49. <https://doi.org/10.1080/03637759209376276>.
- Witte, Kim. 1994. "Fear Control and Danger Control: A Test of the Extended Parallel Process Model (EPPM)." *Communication Monographs* 61 (2): 113–34. <https://doi.org/10.1080/03637759409376328>.
- Witte, Kim, and Mike Allen. 2000. "A Meta-Analysis of Fear Appeals: Implications for Effective Public Health Campaigns." *Health Education & Behavior* 27 (5): 591–615. <https://doi.org/10.1177/109019810002700506>.
- Yfantidou, Ioanna, and Dimitra Skandali. 2025. "Resonating Messages: A Mixed-Methods Investigation of Breast Cancer Screening Advertisements." *Corporate Communications: An International Journal*, April. <https://doi.org/10.1108/ccij-09-2024-0172>.