Communicating with culturally diverse and economically deprived communities to encourage adoption of environmentally friendly behaviours- the effectiveness of local versus global message framing and shocking images.

Abstract

The purpose of this study was to examine the effectiveness of global versus local message framing, and shocking versus non-shocking images in a local campaign in a culturally diverse and economically deprived area of High Town, Luton, UK to promote the use of a jute shopping bag to a culturally, ethnically and economically diverse community. In a 2 x 2, between-subjects exploratory survey experiment, 160 respondents, who met the residential criteria, were approached in High Town to complete a pen-and-paper survey. The results showed that global framing coupled with the shocking image achieved the highest levels of behavioural intention. When levels of consumer's perceived effectiveness, global identity and place attachment were taken into consideration, the interaction between the message frame and image was statistically significant, suggesting that message framing and image are critical aspects of targeted communications that affect behavioural intentions. Global message framing (compared to local) and the shocking image achieved the highest behavioural intention suggesting that this type of message may be more likely to result in positive behavioural intentions amongst a diverse population. This study provides additional empirical evidence in the context of communicating with culturally diverse and economically diverse populations in deprived areas. It extends our knowledge about the effectiveness of global and local message framing and shocking and non-shocking images.

Key words: Global and local message framing, shock message framing, diverse communities, plastic bags, global identity, place attachments, perceived consumer effectiveness, social marketing.

Introduction

Whilst behaviour change is complex and many factors influence how individuals behave, communication is one of the tools at the disposal of social marketers and government employees to persuade a targeted audience and influence behaviour. This is especially true when behaviours are not strictly legislated and/or policed. Communication then becomes an important social marketing tool (Anghelcev & Sar, 2014; Lahtinen, Dietrich, & Rundle-Thiele, 2020). What is communicated and in what way has been proven to influence attitudes and behavioural intentions (Edelstein et al., 2020; Kareklas, Muehling, & Weber, 2015). When communicating with individuals who represent culturally, ethnically and economically diverse backgrounds with the intention of changing their behaviour, what is the most effective way to do so? What should advertisers say and display in an advertisement, leaflet, or a poster to increase the likelihood of achieving the best results amongst diverse individuals? One common practice in social marketing campaigns is the segmenting and targeting of a population based on cultural factors such as social identity or place attachment (Willis, Lee, Reynolds, & Klik, 2020; El Hazzouri & Hamilton, 2019). Some studies show that when messages are personalised and congruent with audience characteristics, this can instigate a more positive response from the targeted individuals (Teeny, Siev, Briñol, & Petty, 2020). To answer these questions, we tested four messages promoting the use of a jute shopping bag – as part of a local initiative called the High Town Bag project (Grassroots, 2021).

Recent reports suggest that despite increased levels of awareness about plastic pollution, most people are still not concerned by the spiralling and detrimental effects of plastic in our environment (Gabbatiss, 2018). Whilst plastic overuse and pollution is a global challenge, efforts to curb this are undertaken by a range of organisations including at a local level (Grossman, 2016). One example of a local venture aiming to address the problem is the High Town Bag project focusing on a local community in Luton, UK. The High Town Bag project is a local voluntary scheme supported by funding from the local council with the aim to increase the use of reusable jute shopping bags and consequently decrease the use of single use plastic shopping bags amongst the residents of High Town (Grassroots, 2021). Due to the devastating impact that plastic bags can have on the natural environment the Government has recently increased the cost of plastic bags from 5p to 10p to be extended to all businesses including small and medium sized retailers. Previously the levy was only relevant for businesses over 250 employees but due to the importance and urgency of the issue to protect the natural environment this has recently been widened to smaller businesses (Gov, 2021). In order to encourage consumers to reduce their usage, the High Town Bag project was created. The project faced obstacles from local shop owners who argued that 'people in High Town do not care about sustainability', and only a few shops have assumed the initiative. Further, even if consumers already own a reusable bag, it has been found that only a third use these for high street shopping

and these are mostly only used for large supermarket shopping (Wrap, 2021). Therefore, communications-based community initiatives are required to further encourage reusable bags on a local level.

High Town is a challenging place where residents resist change, have difficulty participating in environmentally friendly behaviours and reject wider community engagement in general. In addition, parts of the ward represent the top 50% most deprived on a national scale (Luton, 2019). Large proportion of the residents are dismissive, uncommitted and are predominantly temporary inhabitants (immigrants, temporary workers, and international students attending the local university). Native British residents interact with the immigrant population – and this large proportion of uncommitted, transient residents poses challenges in engaging the whole community in initiatives to improve the neighbourhood (Luton, 2019). Local community groups are committed to work towards better community cohesion and improving the locality in general (see Friends of High Town, 2021).

Questions therefore arise as to why there is such a lack of commitment from the diverse population in the local area. This may be influenced by how attached the diverse communities feel towards a place such as High Town due to their transient nature. For instance, it has been previously found that individuals who feel more (less) attached to an area (place attachment) may be more (less) likely to engage in community initiatives (Kim & Koo, 2020). Further, it could also be argued that due to the high levels of diversity in High Town, the levels of residents' feelings of belonging and commitment to the area may depend on whether they identify with a wider global identity or alternatively a local identity. This has also been found to be an important variable in influencing the uptake of pro- environmental behaviours (Ng & Basu, 2019). Thus, suggesting such diversity creates contexts in which social identities and place attachments become more perceivable to individuals (Sturgis, Brunton-Smith, Kuha, & Jackson, 2014; Umaña-Taylor, 2004) and hence may play a role in their behaviour, including responding to communications that emphasise those identities (Lin & Wang, 2016).

Subsequently, this study focuses on examining the effectiveness of communications and as this is a diverse community, we look at resident's social identities and place attachments and whether appealing to global rather than local identity using shocking versus non-shocking images will be more effective. In addition, we examine how levels of person's perceived consumer effectiveness (PCE) (the belief that individual actions can make a difference in wider issues such as environmental matters) influences their behavioural intention as PCE has been an important concept specifically connected to the reduction of plastic bag use (Jaiswal & Kant, 2018).

Literature Review and conceptual background

Message framing and shock advertising

Message framing is an overall idea that organises and shapes a message. The core theme that then underpins the success of message framing is the congruency or fit between the message and the audience (White, McDonnell, & Dahl, 2011; Grinstein & Riefler, 2015). Strategically, marketers and communicators can choose message framing to encourage consumers to make sustainable choices (White, Habib, & Hardisty, 2019). Due to the nature of the research, amongst various options of message framing, we focus on a message that frames the environmental problem as global (worldwide problem) versus local (regional problem). We use the term 'global' to suggest the issue is a large- scale challenge reaching countries wider than the participants home-based area and on the other side 'local' to highlight the implications on the immediate location of the participants (Grinstein & Riefler, 2015).

Research has shown that global/ local message framing in communications is important and effective in a variety of related contexts such as cause-related marketing messages (Wei, Ang, & Liou, 2020), climate change (Wiest, Raymond, & Clawson, 2015), and the communications of environmental sustainability towards a cosmopolitan target audience (Grinstein & Riefler, 2015). However, the existing research on the global and local message framing focusing on environmental issues has not been conclusive. Whilst some research demonstrated that consumers perceive global messaging more favourably (Spence & Pidgeon, 2010), other research has discovered locally framed messaging to be more impactful (Scannell & Gifford, 2013; Wiest *et al.*, 2015) and may therefore be influenced by domain and context. This also may suggest that both framing approaches can result in positive behavioural intentions. In relation to the optimum impact required for urgent behaviour change triggered by proactive environmental messages White *et al.* (2019) suggested that the communications should be presented in such a way that relate to a specific city, area, and locality to make them seem more relevant and appropriate for a given target audience. On the other hand, in the context of message framing, it has been suggested that pro-environmental causes are viewed as more global over local potentially because they are perceived by an audience as helping the whole of mankind (Moon, Bergey, Bove, & Robinson, 2016).

Shocking versus non-shocking images

Shock advertisement is "*a deliberate attempt to startle an audience and thereby violating norms and societal values and personal ideas to capture the attention of a target audience*" (Dahl, Frankenberger, & Manchanda, 2003, p.269). Its intention is to grab the audience's attention, whilst creating a buzz, and breaching

those norms, traditions, and existing customs (Skorupa, 2014). Shock advertising is designed to provoke the audience's thoughts and feelings facilitated by a disruptive surprise (Cockrill & Parsonage, 2016).

The concept has been researched in a multitude of contexts, for instance, communications for charity advertising (Cockrill & Parsonage, 2016), implications for brand building in emerging markets (Srivastava, 2020), consumer's ethical judgement in shock communications (Moraes, Kerrigan, & McCann, 2019), and the influence on consumer brand evaluations (Lee, Septianto, Frethey-Bentham, & Gao, 2020). More pertinent to this study, research has found shock advertisements to be a constructive way to generate awareness in the field of social marketing and to make a bigger impact than non-shocking image due to their ability to increase appeal to consumers and promote recall (Lee *et al.*, 2020; Dahl *et al.*, 2003). However, inconclusively, findings have shown that non-shocking advertisements are more appropriate when the product is a socially accepted product as shock appeals may match controversial products better (Lee *et al.*, 2020). Advertisers are often hesitant to employ shocking advertising due to its negative associations (Evans, Adamo, & Czarnecka, 2019).

Research specifically looking at the impact of shock advertising on environmental issues is currently sparse, however, one such study reported that climate campaigns triggered shock and surprise in the brain provoking more powerful recall and increased brain activity over non-shocking advertising (Mostafa, 2020). Research has also observed that a person's language, history, culture, and beliefs, are potential factors that can impact responses to shock advertisements (Fam, Waller, & Erdogan, 2004; Lee *et al*., 2020) and therefore cultural factors should be considered.

The role of consumer's identity, place attachment and perceived consumer effectiveness

In diverse communities, such as High Town, individuals represent and interact with other individuals who are part of a wide range of different cultural and ethnic groups. In such situations, citizens may feel either more or less attached to their local community and develop social identity that is less or more global (Devadason, 2011; Verkuyten, 2006). At the same time, consumer's beliefs about the impact of one's consumption choices may also be an important factor to consider when designing programmes to encourage individuals and wider communities to adopt environmentally friendly behaviours.

Global identity

Social identities have been often found to be paramount in the prediction of behaviour in a multitude of domains, including communication effectiveness (Prati, Albansei & Pietrantoni, 2017). For instance, social identity was pertinent in the promotion of health behaviour (Stevens *et al*., 2017); environmentally friendly

consumption behaviour (Bartels & Reinders, 2016; Udall *et al*., 2020; Carfora, Caso, Sparks & Conner, 2017; White *et al*., 2019), and was found to trigger improvements in communication effectiveness (Guan & So, 2016) amongst other findings.

Social identity is an individual's concept of belonging to a social group or category (Stets & Burke, 2000). Tu *et al.* (2012), when examining the effects of social identity theory in the development and extension of the research of Arnett (2002), suggested that people hold identities that lean towards either global or local. In other words, individuals tend to have higher affiliations with communities that are on one hand global or on the other hand local. In line with this research the definition of global identity is to hold feelings of belongingness when identifying with a global community and lifestyle (Tu *et al*., 2012). When considering attitudes towards global versus local product choice Zhang & Khare (2009) found that the criteria of determining whether the consumer identified as global or local was a critical and significant element. Furthermore, based on these findings, this research proposes that a participant's global identity may be important in understanding the perceptions of environmentally friendly advertisements in a diverse community.

Moreover, environmental issues have an impact on a global scale and thus create implications on both a global and local level (Fielding & Hornsey, 2016) therefore further exploration is required in defined locality areas.

Place attachments

Place attachments are defined as functional, cognitive, and emotional bonds or links that an individual perceives they have with a certain location or destination. Many factors can influence place attachments on a social and physical level and can be relevant to different sizes and scales of places such as houses, neighbourhoods, communities, societies, towns, and cities (Parker, Roper, & Medway, 2015; Lee, Busser, & Yang, 2015). Previous studies have shown that residents who have a cooperative outlook towards their area of residence will hold a perception of having an increased closeness towards the community. Therefore, if the residents identify with their local area, then place attachments will be found to be higher. Overall, this can instigate the passion to stay in the area, and the participants will be more likely to report a positive and optimistic perspective of the location (Styvén, Mariani, & Strandberg, 2020).

Most recently, specifically focusing on environmental issues, researchers have considered the impact and success of place attachments in a multitude of contexts such as stewardship towards public goods in locations (Peck, Kirk, Luangrath, & Shu, 2020), drivers of pro-environmental behaviour in tourist destinations (Kim & Koo, 2020) and consequences of social media marketing on advertising places related to outdoor preservation

(Chaudhury, Nafees, & Perera, 2020) to name a few. More specifically, increased place attachments have been found to relate strongly to a higher level of eco-friendly and sustainable behaviour including recycling and limiting plastic bag use in a community and residential setting (Lee, Yap, & Levy, 2016).

One environmental study considered the implications of highlighting ecological issues in advertising in connection to specific community locations. Parker *et al*. (2015) found that messages that included the appearance of litter (versus no litter) had such a strong influence on an individual's perceptions of a place that it stimulated a negative anti-place effect. This suggests that environmental issues can have a profound impact on perceived place attachments. On the other hand, individuals with high levels of place attachment may be more likely to want to engage in the community because they regard the location as a part of their inner being (Kim & Koo, 2020). This suggests that place attachment is a critical aspect of communication effectiveness in environmental issues.

Perceived consumer effectiveness

Perceived consumer effectiveness (PCE) is defined as "*a domain-specific belief that the efforts of an individual can make a difference in the solution to a problem*" (Ellen, Wiener, & Cobb-Walgren, 1991, p. 102; González, Felix, Carrete, Centeno, & Castaño, 2015). Early research has shown that PCE was a significant predictor of environmental behaviour. For example, Kinnear, Taylor, and Ahmed (1974) who originally authored the term found that PCE levels significantly influenced consumer behaviour and the overall degree to which eco-friendly products are purchased. More recently, PCE had the highest impact for targeted consumers over other variables when focusing on consumption and purchasing of green products in relation to their eco-friendly buying behaviour (Emekci, 2019) suggesting the continued relevance of the concept in green consumer behaviour.

Diverse studies have presented important findings relating to PCE for example, in n a Mexican population, consumers who were non-ecologically inclined were found to have lower levels PCE compared to other pro-ecological factors (González *et al*., 2015). On the other hand, however, Jaiswal & Kant (2018) found that PCE had a significant and positive impact on attitude and purchase intention towards green products when surveying an Indian population. This suggests that PCE should be considered by green marketers and policy makers within communication campaigns to prevent the use of plastic bags and encourage the adoption of environmentally friendly bags amongst other sustainable product options. Many previous studies have found that PCE has a significant effect on green behaviour and attitudes (Emekci, 2019). However, specifically, the ways in which green marketing can be implemented into existing marketing ideas and communications in the context of different cultural factors is not yet clear. Contrasts may exist between different consumers and their environmental based

choices in terms of their behaviour, dependent on their fundamental attitudes and values, and further exploration is required (Alsaad, Saif-Alyousfi, & Elrehail, 2020; González *et al.,* 2015). This study therefore applies the variable of PCE as a mediator to consumers' attitudes and behaviours to test whether individuals in High Town perceive that they can a make difference in wider environmental issues by reducing their plastic bag use.

3.1. Method

Exploratory experiment

This study is an exploratory experiment which is a specific type of experiment whereby researchers vary a number of parameters in order to explore the patterns that are formed to then infer and deduce rules from the findings. Their aim is not to confirm theories, but to examine relationships between variables (Scheel, Tiokhin, Isager, & Lakens, 2020; Steinle, 2002).

Survey and stimuli design

The questionnaire was developed and administered in English. As the study targeted both immigrant and native residents, we considered that respondents would vary in their level of language proficiency but since we tested messages that would be displayed with an English copy, the survey was administered in English language only (Wenz, Al Baghal, & Gaia, 2021).

Messages were developed in cooperation with the team involved in the High Town Bag project taking into consideration the fundamental aims and objectives of the initiative. These messages were fictitious and were developed in Adobe Acrobat to mimic usual message testing procedures, and to take into consideration resource constraints such as the time and cost needed to develop experimental messages more professionally. As the High Town Bag project would most likely only be able to use free software such as Canva or Adobe Acrobat due to financial restraints, we intended to reflect this in the design of the messages. The messages would be displayed in shops (for example at tills) to encourage customers to switch to the reusable High Town jute bag. Therefore, four advertising messages were designed in Adobe Acrobat and the manipulation was expressed through the different images (bird/shocking or bag/ non shocking) and different wording (global or local). For the global frame, the copy on the leaflet read: "All over the world, birds are victims of our overuse of plastic bags. Help to stop the plight of our birds on a global scale. Switch from using plastic bags to the durable High Town reusable bags made of cotton fabric". On the other hand, for the local framing the copy read: "Birds in High Town are the victims of our overuse of plastic bags. Help to stop the plight of our birds on a local scale. Switch from using plastic bags to

the durable High Town reusable bags made of cotton fabric". The two messages were then both added onto a bird image and a bag image to develop the 2 x 2 experimental design. The messages and images are supplied as appendices (Figure 1A and Figure 2A). The messages were then printed and attached to the survey.

The final stimuli materials and survey instrument were pre-tested on a group of 30 university students – a mix of native British and international. A manipulation check was performed by asking the following question: "This advertisement describes the overuse of plastic bags as a global issue." After that, the survey was discussed with the coordinator of High Town Bag project and piloted with a small group of residents.

Participants

One hundred and sixty respondents were recruited via two approaches, these being a street survey during the High Town Festival and door to door data collection within High Town neighbourhood. The sample size was determined following recommendations by Geuens and De Pelsmacker (2017) who suggest there must be at least 30 respondents per experimental condition for the study to be valid. Therefore, our sample sizes ranged from 36 to 42 respondents per condition. Participants were randomly assigned to one of the four conditions of a 2 (framing: global vs. local) by 2 (image: bag versus bird) between-subject design. The main dependent variable was behavioural intentions to bring one's own shopping bag to their next shopping trip. In addition, we measured control variables including feelings of efficacy about respondent's individual environmental impact (PCE) (from Morton *et al.*, 2011), an individual's perspective of their global/local identity (from Der-Karabetian and Ruiz, 1997) and their perceived place attachment to Hightown (from Gustafson, 2009).

Participation was voluntary and participants did not receive any payment or other incentives to participate. A consent form and covering letter was attached to the survey to provide an explanation of the research and to gain consent from the participants. The research team's details were also on the covering letter to enable the participant to contact the researcher at any time for clarification or to seek further information. Participants were first screened by using the following qualifying question: "*Do you live in High Town*"? If yes, the respondent was then handed a questionnaire. This procedure resulted in 160 completed questionnaires, with 72 (45%) male respondents, and 88 (55%) female respondents. The respondents had a mean age of 42.11 (SD = 12.28), the minimum age was 18, and the maximum was 70. One hundred and seven (107, 67%) of the respondents were born in the UK, and 53 (33%) were born outside of the UK.

Measures

Place attachment was measured using a similar form of wording to the statement presented by Gustafson (2009). The concept was measured with a one-item measure that asked respondents to respond to the following statement: "My sense of belonging to my local community of High Town is:". The four-point response scale ranged from very weak (1) to very strong (4).

After the message was shown to a participant **behavioural intention** was measured with the following item: "This image made me think that I want to stop using plastic shopping bags." The seven-point response scale ranged from strongly disagree (1) to strongly agree (7).

Global identity was measured with a five-item scale adopted from Der -Karabetian & Ruiz, (1997). The seven-point response scale ranged from strongly disagree (1) to strongly agree (7).

Perceived consumer effectiveness was measured with a four-item scale adopted from Webb *et al*. (2008). The seven-point response scale ranged from 1 – strongly disagree to 7 – strongly agree.

Data Analysis

We used SPSS 27 to carry out two-way ANCOVA analysis to examine the effectiveness of message framing and image type when controlling for consumer's level of global identity (GI, place attachment (PA), and perceived consumer effectiveness (PCE).

Assumptions

The dependent variables were measured on a Likert scale, and we approached this scale as interval. Outliers were retained in the analysis. Covariates were not highly correlated (values between .367 and .619). Histograms were used to explore dependent variable residuals and no skewness was observed. The Levene's test confirmed that equal variances between groups can be assumed (p = .103) (Hair *et al*., 2010).

Descriptive statistics

First, examined scale reliabilities, item and scale means and standard deviations presented in table I. Scale reliabilities were above the acceptable threshold (Hair *et al*., 2010).

Table I: Constructs, measures and response scales.

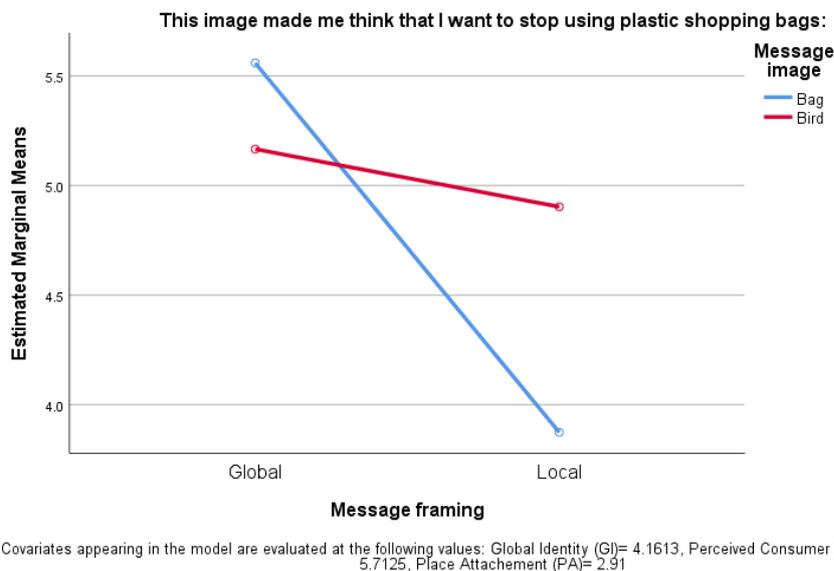| MEASUREMENTS	α	Mean (SD)

Place attachment (PA) (Gustafson, 2009) (scale 1-4)		-	-
My sense of belonging to my local community of High Town is.		-	**2.91 (.84)**
Perceived consumer effectiveness (PCE) (Webb *et al*., 2008) (scale 1-7)		**.95**	**5.71 (1.28)**
What I purchase as a consumer has an effect on the nation's environmental problems			5.74 (1.31)
Each consumer's behaviour can have an effect on how companies treat the natural environment.			5.63 (1.45)
Each consumer has an effect on how companies behave towards the environment, hence it makes a difference what I do.			5.68 (1.42)
Each consumer can have a positive effect on society by purchasing products sold by environmentally responsible companies.			5.81 (1.26)
Global identity(GI) (Der -Karabetian & Ruiz, 1997) (scale 1-7)		**.82**	**4.16 (1.20)**
I feel that I am living in a global village			4.47 (1.54)
I feel that what I do could "touch" someone all around the world			4.56 (1.75)
I feel like I am "next door neighbours" with people living in other parts of the world			3.59 (1.48)
I feel that I am related to everyone in the world as if they were my family.			3.28 (1.54)
I feel that people around the world are more similar than different			4.91 (1.51)
Behavioural intention (scale 1-7)			
This image made me think that I want to stop using plastic shopping bags		-	4.91 (1.80)

Table II: Means, adjusted means, standard deviations, and standard errors for the claim that the advert made recipients to intend to stop using plastic shopping (BI) bag and covariates (GI, PCE, PA).

Advertisement	Constructs	M	SD	M_{adj}	SD_{adj}
Global /non-shocking	BI	5.38	1.87	5.55	.24
	GI	3.77	1.15	-	-
	PCE	5.82	1.37	-	-
	PA	2.86	.92	-	-
Local/non-shocking	BI	3.94	1.43	3.87	.26
	GI	4.51	.91	-	-
	PCE	5.40	1.04	-	-
	PA	3.11	.74	-	-
Local/shocking	BI	4.70	1.69	4.90	.25
	GI	3.86	1.21	-	-
	PCE	5.81	1.05	-	-
	PA	3.08	.65	-	-
Global/shocking	BI	5.48	1.78	5.16	.24
	GI	4.53	1.31	-	-
	PCE	5.76	1.55	-	-
	PA	2.64	.93	-	-

In order to examine the effectiveness of the four messages, we calculated means and standard deviations for the dependent variable and co-variates which are presented in Table II. Next we conducted ANCOVA analysis. There was a statistically significant interaction between message frame and message image on behavioural intention, whilst controlling for GI, PCE and PA, $F(1,153) = 6.653$, $p = .011$, partial $\eta^2 = .042$ as co-variates (Figure 1). When co-variates were controlled for, global framing was still more effective than local framing, and within global framing, the shocking image achieved the highest BI.

Figure 1. Behavioural intention for message framing and message image.

This image made me think that I want to stop using plastic shopping bags:

Covariates appearing in the model are evaluated at the following values: Global Identity (GI)= 4.1613, Perceived Consumer Effectiveness (PCE) = 5.7125, Place Attachement (PA)= 2.91

Discussion

Fostering effective public engagement with environmental pollution issues, such as overuse of single -use plastic shopping bags, requires multiple approaches including communication. The current study focused on examining the effectiveness of global-local message framing combined with shocking versus non-shocking imagery in a local communication campaign to promote the use of jute shopping bag to a culturally and economically diverse population. The findings reveal that on average, globally framed messages coupled with a shocking image led to the highest behavioural intention and may be therefore the most effective strategy. The study suggests that regardless of the image used global framing provoked higher behavioural intentions for the targeted recipients, than locally framed advertisements. Thus, suggesting that framing plastic bag use as a global issue may be more effective than local framing. At the same time, it is important to note that local framing, although associated with lower BI than global framing, also led to positive results and evaluations. This may suggest that both framing options, local and global, produce positive BI and may be used simultaneously to increase BI.

Furthermore, this research also provides evidence regarding the role of person's global identity, place attachment and PCE in the effectiveness of global- local framing and shock messages. The findings revealed that when held constant, the global/ shock framing still gave the highest results despite the measurement of the control variables. In summary, the results of this research add to the message framing literature by providing noteworthy insights into the factors that influence communications in a culturally and economically diverse community. Specifically, this study assists in increased understanding of how factors including global, local and shock messages will be perceived in campaigns targeted towards culturally and socially diverse communities. Consequently, local governments, grass roots initiatives, and environmental practitioners should find these findings useful and consider these when addressing environmental issues within culturally diverse areas to improve message targeting practices and reduce plastic bag use. The findings of the study may also be useful for profit led organisations, such as jute bag manufacturers to build awareness of the negative implications of plastic bag use and to improve their reputation as a socially responsible organisation. Furthermore, other media could be considered such as local community social media pages and other digital platforms to target a wider audience with the correct and congruent messages based on the cultural demographics of the area.

Limitations and future research

There are several limitations to this study. The findings of the study may not be generalisable beyond this study to other communities of a similar standing, due to the transient an impermanent nature of the residents and broad differences in ethnicity. Following on from this not all participants had English as their first language, and this may have influenced the perception and perspective of the leaflet and responses given. The advertisement could therefore be developed in other languages appropriate to the diversity of the location and be tested accordingly.

As participation was voluntary, the sample may be skewed towards individuals who are already actively engaged in the matters of the community and we may have missed those who are indifferent, transient and temporary members of the community.

Furthermore, this study did not consider the impact of other demographics such as age, gender, residential status (homeowner), and length of residence to moderate the impact on the uptake of communications and the added effects on the measured covariates such as place attachments. Therefore, the consideration of these moderating factors in a future study may strengthen the theoretical model and provide further demographic insights to segment and target further.

In this study the advertisements were developed especially for this research project. However, this may threaten ecological validity and how this generalises in real world settings (Vargas, Duff, & Faber, 2017). Therefore, real world, local environmental advertisements could be considered through content analysis or existing advertisements could be tailored and manipulated with global/ local and shock factors accordingly.

Theoretically, behavioural intention is a key concept measured to predict actual behaviour (Ajzen, 1991) and this study was developed as a cross-sectional survey experiment. Further research could extend this experiment to assess the long -term impact of this type of print material through measurements after exposure at different time points to test if actual behaviour (that is actual reduction in plastic bag use) was truly provoked. A follow up study could therefore consider whether participants in a defined area really do reduce their plastic bag use based on global and shock messages to test effectiveness for such initiatives, to move beyond the limitations of only measuring the intentions to change behaviour.

This research also provides a foundation for further exploration for the optimum variables and conditions to implement to improve targeted communications within defined locations.

References

Ajzen, I. (1991), "The theory of planned behaviour", *Organizational Behaviour and Human Decision Processes*, 50 (2), pp.179-211.

Alsaad, A., Saif-Alyousfi, A. Y., & Elrehail, H. (2020), "Religiosity, idealism, and ethical consumption: the mediating effect of perceived customer effectiveness and moral obligation", *Journal of Social Marketing*. 11(1), pp. 25-43. DOI: https://doi.org/10.1108/JSOCM-07-2020-0116

Anghelcev, G., & Sar, S. (2014), "In the mood for [the right kind of] social marketing communication: How congruity between consumer mood and message framing influences intentions to recycle", *Journal of Social Marketing*, 4(1), pp. 38-57. DOI: https://doi.org/10.1108/JSOCM-04-2013-0025

Arnett, J.J., 2002. The psychology of globalization. *American psychologist*, Vol.*57* (10), p.774.

Carfora, V., Caso, D., Sparks, P., & Conner, M. (2017). Moderating effects of pro-environmental self-identity on pro-environmental intentions and behaviour: A multi-behaviour study. *Journal of Environmental Psychology*, 53, 92-99.

Chaudhury, S., Nafees, L., & Perera, B. Y. (2020), "For the Gram": An Exploration of the Conflict between Influencers and Citizen-Consumers in the Public Lands Marketing System", *Journal of Macromarketing*, https://doi.org/10.1177/0276146720956380

Cockrill, A. & Parsonage, I. (2016), "Shocking people into action: Does it still work?: An empirical analysis of emotional appeals in charity advertising", *Journal of Advertising Research*, 56(4), pp. 401-413.

Dahl, D.W., Frankenberger, K.D., & Manchanda, R. V. (2003). "Does it pay to shock? Reactions to shocking and nonshocking advertising content among university students", *Journal of Advertising Research*, Vol. 43(3), pp. 268–280.

Der-Karabetian, A., & Ruiz, Y. (1997), "Affective bicultural and global-human identity scales for Mexican-American adolescents", *Psychological Reports*, Vol 80 (3), pp. 1027-1039.

Devadason R. (2011), "Place Attachment, Community Cohesion and the Politics of Belonging in European Cities", in: Morales L., Giugni M. (eds) Social Capital, Political Participation and Migration in Europe. Migration, Minorities and Citizenship. Palgrave Macmillan, London. https://doi.org/10.1057/9780230302464_11

Edelstein, Z., Kharfen, M., Kim, M., Tsoi, B., Salcuni, P.M., Gamble, T., Cutler, B., Branson, B. and El-Sadr, W.M., (2020). Use of awareness raising campaigns to expand HIV testing: experiences in the Bronx, NY and Washington, DC (HPTN 065 study), *Journal of Social Marketing,* Vol. 10 No. 3, pp. 339-356. https://doi.org/10.1108/JSOCM-10-2018-0114

El Hazzouri, M., & Hamilton, L. K. (2019), "Why Us?! How Members of Minority Groups React to Public Health Advertisements Featuring Their Own Group" *Journal of Public Policy & Marketing*, Vol. 38(3), pp. 372-390.

Ellen, P. S., Wiener, J. L., & Cobb-Walgren, C. (1991), The role of perceived consumer effectiveness in motivating environmentally conscious behaviors. *Journal of public policy & marketing*, Vol.10(2), pp. 102-117.

Emekci, S. (2019), "Green consumption behaviours of consumers within the scope of TPB", Journal of Consumer Marketing, Vol. 36 No. 3, pp. 410-417. https://doi.org/10.1108/JCM-05-2018-2694

Evans, A.I., Adamo G.E., Czarnecka, B. (2019), "European Destination Managers' Ambivalence Towards the Use of Shocking Advertising". In: Bigne E., Rosengren S. (eds) Advances in Advertising Research X. European Advertising Academy. Springer Gabler, Wiesbaden. https://doi.org/10.1007/978-3-658-24878-9_16

Friends of High Town (2021), "Friends of High Town. Working Together for High Town' available at: https://friendsofhightown.org/about/ (Accessed 9th March 2021)

Fam, K., Waller, D.S. and Zafer Erdogan, B. (2004), "The influence of religion on attitudes towards the advertising of controversial products", *European Journal of Marketing*, Vol. 38 No. 5/6, pp. 537-555. https://doi.org/10.1108/03090560410529204

Fielding, K. S., & Hornsey, M. J. (2016). A social identity analysis of climate change and environmental attitudes and behaviors: Insights and opportunities. Frontiers in Psychology, 7, 121.Gabbatiss, J. (2018), "Most people still do not care about buying plastic bottles, say campaigners", available at: https://www.independent.co.uk/environment/plastic-bottles-waste-recycling-pollution-single-use-keep-britain-tidy-water-a8307591.html (Accessed 22 June 2018)

Geuens, M., & De Pelsmacker, P. (2017), "Planning and conducting experimental advertising research and questionnaire design". *Journal of Advertising*, Vol. 46(1), pp. 83-100.

González, E. M., Felix, R., Carrete, L., Centeno, E., & Castaño, R. (2015), Green shades: a segmentation approach based on ecological consumer behavior in an emerging economy. *Journal of marketing theory and practice*, Vol. 23(3), pp. 287-302.1

Gov, (2021), 10p plastic bag charge to come into force on 21 May https://www.gov.uk/government/news/10p-plastic-bag-charge-to-come-into-force-on-21-may (Accessed 21 May 2021)

Grassroots, (2021), "Near neighbours case studies", available at: http://grassrootsluton.org.uk/near-neighbours-case-studies (Accessed 30 March 2021)

Grinstein, A., & Riefler, P. (2015), "Citizens of the (green) world? Cosmopolitan orientation and sustainability". *Journal of International Business Studies*, Vol. 46(6), pp. 694-714.

Grossman, A.J. (2016), "How to get people to stop using plastic bags? Punishment and Donald Trump poop bags", available at: https://www.huffpost.com/entry/how-to-get-people-to-stop_b_9840756?guccounter=1 (accessed 18 December 2018).

Guan, M., & So, J. (2016). Influence of social identity on self-efficacy beliefs through perceived social support: A social identity theory perspective. Communication Studies, Vol. 67(5), pp. 588-604.Gustafson, P. (2009), "More cosmopolitan, no less local: The orientations of international travellers", *European Societies*, Vol. 11(1), pp. 25-47.

Jaiswal, D., & Kant, R. (2018), "Green purchasing behaviour: A conceptual framework and empirical investigation of Indian consumers", *Journal of Retailing and Consumer Services*, Vol. 41, pp. 60-69.

Kareklas, I., Muehling, D. D., & Weber, T. J. (2015), "Re-examining health messages in the digital age: A fresh look at source credibility effects". *Journal of Advertising*, Vol. 44(2), pp. 88-104.

Kim, M., & Koo, D. W. (2020), "Visitors' pro-environmental behavior and the underlying motivations for natural environment: Merging dual concern theory and attachment theory", *Journal of Retailing and Consumer Services*, Vol 56, pp.102-147.

Kinnear, T.C., Taylor, J.R. and Ahmed, S.A., (1974), "Ecologically concerned consumers: who are they? Ecologically concerned consumers can be identified" *Journal of Marketing*, Vol. 38(2), pp.20-24.

Lahtinen, V., Dietrich, T. and Rundle-Thiele, S. (2020), "Long live the marketing mix. Testing the effectiveness of the commercial marketing mix in a social marketing context", *Journal of Social Marketing*, Vol. 10 No. 3, pp. 357-375. https://doi.org/10.1108/JSOCM-10-2018-0122

Lee, C. K. C., Yap, C. S. F., & Levy, D. S. (2016), "Place identity and sustainable consumption: implications for social marketing", *Journal of Strategic Marketing*, Vol. 24(7), pp. 578-593.

Lee, M. S., Septianto, F., Frethey-Bentham, C., & Gao, E. (2020), "Condoms and bananas: Shock advertising explained through congruence theory". *Journal of Retailing and Consumer Services*, Vol. 57, pp. 102-228.

Lee, S., Busser, J., & Yang, J. (2015), "Exploring the dimensional relationships among image formation agents, destination image, and place attachment from the perspectives of pop

star fans", *Journal of Travel & Tourism Marketing*, Vol. 32(6), pp. 730-746.

Lin, Y. C., & Wang, K. Y. (2016), "Local or Global Image? The Role of Consumers' Local–Global Identity in Code-Switched Ad Effectiveness Among Monolinguals" *Journal of Advertising*, Vol. 45(4), pp. 482-497.

Luton (2019), High Town Ward Profile, available at : https://www.luton.gov.uk/Community_and_living/Lists/LutonDocuments/PDF/Ward%20profiles/Ward-High-Town.pdf (Accessed 24 March 2021).

Moon, S., Bergey, P. K., Bove, L. L., & Robinson, S. (2016), "Message framing and individual traits in adopting innovative, sustainable products (ISPs): Evidence from biofuel adoption", *Journal of Business Research*, Vol. 69(9), pp. 3553-3560.

Moraes, C., Kerrigan, F., & McCann, R. (2019), "Positive shock: a consumer ethical judgement perspective". *Journal of Business Ethics*, Vol. 165, pp. 735-751.

Mostafa, M. M. (2020), "Neural correlates of fear appeal in advertising: An fMRI analysis", *Journal of Marketing Communications*, Vol. 26(1), pp. 40-64.

Ng, S. and Basu, S., (2019), Global identity and preference for environmentally friendly products: The role of personal responsibility, *Journal of Cross-Cultural Psychology*, Vol. 50(8), pp.919-936.

Parker, C., Roper, S., & Medway, D. (2015), "Back to basics in the marketing of place: the impact of litter upon place attitudes". *Journal of marketing management*, Vol. 31(9-10), pp. 1090-1112.

Peck, J., Kirk, C. P., Luangrath, A. W., & Shu, S. B. (2021). "Caring for the Commons: Using Psychological Ownership to Enhance Stewardship Behavior for Public Goods". *Journal of Marketing*, Vol. 85(2), pp. 33–49. https://doi.org/10.1177/0022242920952084

Power, A., & Elster, J. (2005), "Environmental issues and human behaviour in low-income areas in the UK", available at: http://eprints.lse.ac.uk/28324/1/CASEreport31.pdf, (accessed 12 December 2020).

Prati, G., Albanesi, C., & Pietrantoni, L. (2017), The interplay among environmental attitudes, pro-environmental behavior, social identity, and pro-environmental institutional climate. A longitudinal study. *Environmental Education Research*, Vol. 23(2), 176-191

Scannell, L., & Gifford, R. (2013), "Personally relevant climate change: The role of place attachment and local versus global message framing in engagement", *Environment and Behavior*, Vol. 45(1), pp. 60-85.

Scheel, A. M., Tiokhin, L., Isager, P. M., & Lakens, D. (2020), "Why Hypothesis Testers Should Spend Less Time Testing Hypotheses", *Perspectives on Psychological Science*, https://doi.org/10.1177/1745691620966795

Skorupa, P. (2014), "Shocking contents in social and commercial advertising", *Creativity Studies*, Vol 7:2, pp. 69-8, https://doi.org/10.3846/23450479.2014.997317

Spence, A., & Pidgeon, N. (2010), "Framing and communicating climate change: The effects of distance and outcome frame manipulations", *Global Environmental Change*, Vol 20(4), pp. 656-667.

Steinle, F. (2002). "Experiments in history and philosophy of science", *Perspectives on science*, Vol 10(4), pp. 408-432.

Stets, J., & Burke, P. (2000). Identity Theory and Social Identity Theory. *Social Psychology Quarterly*, 63(3), 224-237. Retrieved from http://www.jstor.org/stable/2695870

Stevens, M., Rees, T., Coffee, P., Steffens, N. K., Haslam, S. A., & Polman, R. (2017). A social identity approach to understanding and promoting physical activity. *Sports Medicine*, Vol. 47(10), pp. 1911-1918.Sturgis, P., Brunton-Smith, I., Kuha, J., & Jackson, J. (2014). "Ethnic diversity, segregation, and the social cohesion of neighbourhoods in London". *Ethnic and Racial Studies*, Vol 37(8), pp. 1286-1309.

Srivastava, R. K. (2020), "Comparing the three types of approach of advertising in brand building in emerging markets". *Journal of Strategic Marketing*, pp. 1-14.

Styvén, M. E., Mariani, M. M., & Strandberg, C. (2020), "This is my hometown! the role of place attachment, congruity, and self-expressiveness on residents' intention to share a place brand message online", *Journal of Advertising*, pp. 1-17.

Teeny, J.D., Siev, J.J., Briñol, P. and Petty, R.E., (2021). "A review and conceptual framework for understanding personalized matching effects in persuasion". *Journal of Consumer Psychology*, Vol. 31(2), pp. 382-414.

Tu, L., Khare, A., & Zhang, Y. (2012). A short 8-item scale for measuring consumers' local– global identity. *International Journal of Research in Marketing*, Vol. 29(1), pp. 35-42.

Udall, A. M., de Groot, J. I., de Jong, S. B., & Shankar, A. (2020), How do I see myself? A systematic review of identities in pro-environmental behaviour research, *Journal of Consumer Behaviour*, Vol. 19(2), pp. 108-141.Umaña-Taylor, A. J. (2004), "Ethnic identity and self-esteem: Examining the role of social context", *Journal of adolescence*, Vol. 27(2), pp. 139-146.

Vargas, P. T., Duff, B. R., & Faber, R. J. (2017), "A practical guide to experimental advertising research". *Journal of Advertising*, Vol. 46(1), pp. 101-114.

Webb, D. J., Mohr, L. A., & Harris, K. E. (2008), "A re-examination of socially responsible consumption and its measurement". *Journal of Business Research*, Vol. 61(2), pp. 91-98.

Wei, S., Ang, T., & Liou, R. S. (2020), "Does the global vs. local scope matter? Contingencies of cause-related marketing in a developed market", *Journal of Business Research*, Vol. 108, pp. 201-212.

Wenz, A., Al Baghal, T., & Gaia, A. (2021), "Language proficiency among respondents: Implications for data quality in a longitudinal face-to-face survey", *Journal of Survey Statistics and Methodology*, Vol. 9(1), pp. 73-93, Doi: https://doi.org/10.1093/jssam/smz045

White, K., Habib, R., & Hardisty, D. J. (2019), "How to SHIFT consumer behaviors to be more sustainable: A literature review and guiding framework", *Journal of Marketing*, Vol. 83(3), pp. 22-49.

White, K., MacDonnell, R., & Dahl, D. (2011), "It's the mind-set that matters: The role of construal level and message framing in influencing consumer efficacy and conservation behaviors". "*Journal of Marketing Research*", Vol. 48(3), pp. 472-4

Wiest, S. L., Raymond, L., & Clawson, R. A. (2015), "Framing, partisan predispositions, and public opinion on climate change". *Global Environmental Change*, Vol. 31, pp. 187-198.

Willis, L., Lee, E., Reynolds, K. J., & Klik, K. A. (2020), "The theory of planned behavior and the social identity approach: A new look at group processes and social norms in the context of student binge drinking", *Europe's Journal of Psychology*, Vol. 16(3), pp. 357-383. DOI: https://doi.org/10.5964/ejop.v16i3.1900Wrap (2021), Carrier bag use and attitudes https://wrap.org.uk/resources/report/carrier-bag-use-and-attitudes (Accessed 21 May 2021)

Verkuyten, M. (2006), "Multicultural recognition and ethnic minority rights: A social identity perspective". *European Review of Social Psychology*, Vol. 17(1), pp. 148-184.

Zhang, Y., & Khare, A. (2009), The impact of accessible identities on the evaluation of global versus local products, *Journal of Consumer Research*, Vol. 36(October), pp. 524–537.

Appendices

Figure 1A: Non-shocking image and local framing.

Figure 2A: Shocking image and global framing.