

Islamic Identity and Pro-Recycling: The Role of Spirituality in Sustainability Message Communications

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Abstract

The environment's health has deteriorated from widespread deforestation to unprecedented global warming. Numerous studies have investigated the impact of pro-environmental campaigns on public concern, but they have had limited success in explaining attitudes toward pro-environmental behaviours such as recycling. The current study examined if moral and Islamic identity framing can influence pro-recycling attitude formation among young Muslims. The primary study comprised a 2 x 2 x 2 experimental study to assess the influence of moral and Islamic framing on gain or loss framing effects on ad attitude, recycling attitude, ad believability, and recycling intention. MANOVA, individual ANOVA, and paired comparison of means were used to test the hypotheses. The study's results indicated that Islamic framing had the most substantial influence on the dependent variables, followed by morality for both loss and gain-matched messages. Moreover, combining moral and Islamic identity framing did not have the expected cumulative effect hypothesised. The main contribution of this study lies in shifting the focus of sustainability communications from the dominant scientific view of environmentalism to the New Environmental Paradigm, specifically in testing spiritually rooted message frames to foster recycling attitudes. Despite numerous spiritual framing messages being used in global sustainability contexts, this domain remains largely unexplored in the extant literature, so this study serves as an initial foray into this promising research stream.

Keywords: message framing, moral identity, recycling, religious identity, spiritual paradigm



1.0 Introduction

Despite the relative success of recycling programmes in many cities and countries around the world, "people do not recycle as often as they could" (White et al., 2011, p. 272), and surprisingly, this statement is still relevant (e.g., Kumar & Kumar, 2018; Sallaku et al., 2019). Compounding this problem is that the concurrent rise in waste is offsetting any progress in recycling rates. Projected global waste levels are expected to offset recycling rates the most in developing and emergent economies (Ferronato et al., 2019). For instance, Asian countries are not the most significant polluters, but are the most vulnerable to environmental degradation (ESCAP, 2018). Most developing nations have a waste management challenge due to increasing population and economic growth in emerging countries (e.g., Ferronato & Torretta, 2019), which results in increased waste output (Jusoh et al., 2018). Despite this, grassroots environmental and sustainable initiatives are exploding in Asian countries (Gorana & Kanaujia, 2017; Otsuka, 2018). There is a growing consensus for studying environmental change in these increasingly urban and industrialising Asian socio-economies (Hoang et al., 2019).

Indeed, there is a growing recognition that "spiritual" and "moral ecology" frameworks have an increasing part to play in shifting attitudes towards more pro-environmental behaviours in many parts of the world (e.g., Hwang, 2018; Urban et al., 2019; Yu et al., 2019; Gholamzadehmir et al., 2019). In particular, and despite the salient roles of religion and morality in shaping environmental concerns (Lakhan, 2018; Morrison et al., 2015; Shinde, 2011), prior research has not investigated the integration of activating religious and moral identity in framing messages within pro-environmental contexts. Severson and Coleman (2015) said that existing dominant perspective approaches have not worked well when used in global contexts. This is because public policy communications about sustainability have not been very effective.

We examined the most effective way to encourage the development of pro-recycling attitudes among Malaysian Muslims by evaluating the role of Islamic and moral identity activations within message framing. Thus, we drew on calls that pro-environmental public policy initiatives should not only rely on scientific facts, but also resound with citizens' morals (Severson & Coleman, 2015; Wu et al., 2021). Islam as a religion harnesses a deep environmental awareness (Dien, 2004; Emari et al., 2017; Yusuf, 2020). The underlying ethical principles



that dictate environmental protection stem from the belief that the natural world is God's creation. Hence, protecting it is to cherish and worship the Creator (Dien, 2004; Emari et al., 2017; Yusuf, 2020). Secondly, the creation itself is in a continuous state of praise for the Creator. The fact that this is postulated in the Qur'an reinforces the notion of environmental appreciation and preservation. The link between Islamic values and environmental behaviour emanates from several empirical studies on Muslim consumption underpinned by ecological considerations. For example, Islamic values have an important role in green purchase intention (Hassan, 2014) and environmentally considerate consumption in India (Islam & Chandrasekaran, 2016; Khan & Kirmani, 2018). Moreover, environmental and religious advertising messages efficiently boost the purchase of disposable plant containers for religious ceremonies in Iran (Siyavooshi et al., 2019). Still, most studies focus on consumption patterns, while there is a pressing need to examine Islamic values regarding the process of recycling consumption-generated waste.

2.0 Literature Review

2.1 The Spirituality and Sustainability

The omission of religious and morality-based framing in sustainability communications is surprising given that in explaining public attitudes to the environment, both have been proposed as instrumental in shaping attitudes. Ignatow (2006) explained that the public's attitude to environmental issues is shaped by cultural models of ecological problems related to human interaction with nature, and this decoding is mainly based on the "fundamental moral and religious views of the relationship between nature and humanity" (Kempton et al., 1995, p. 2). Ignatow (2006) elaborated on two common forms of cultural models of nature-human relations; the ecology and spiritual models. The ecological model emphasises the "scientized" view of the ecosystem, one in which "nature [is] decoupled from God and coupled to rationalised human society..." (Frank, 1997, p. 416). In contrast, the spiritual model more closely resembles the New Environmental Paradigm (NEP) (Dunlap and Van Liere, 1978) and implies an "ecocentric system of beliefs where humans are seen as being part of natural systems".

The NEP and spiritual perspectives therefore counter the dominant anthropocentric ecology perspective "of beliefs in Western



societies [where] humans are seen as being independent from, and superior to, other organisms in nature" (Hawcroft and Milfront, 2010, p. 144). Therefore, the NEP and spiritual paradigms emphasise a greater valuation of nature, empathy, and compassion for other species, and a greater desire for more careful sustainable planning initiatives (Dunlap and Van Liere, 1978). Ignatow (2006) argued that although the spiritual model overlaps with the NEL paradigm, it is a "much narrower idea"—that the natural world is sacred and in harmony when left alone and is inherently distinct from and threatened by human activity (ibid. p. 444). The spiritual model, therefore, recognises nature as pure and humans as predisposed to polluting behaviours (Douglas, 1966). For instance, the Islamic concept of Hima protects natural areas free from human activities, reflects the spiritual paradigm (Ignatow, 2006; Gottlieb, 1995; Hitti, 2002). Unlike wildlife reserves and national parks in the West and worldwide, Hima sanctuaries are common in many Islamic countries. Still, the sanctity of these reserves is explicitly linked to Islamic values. Without a doubt, spiritual values, or, to be more precise, religious values (e.g., Islamic values), are necessary for making decisions for sustainability (Shaharir, 2012).

In particular, Southeast Asian countries, such as Malaysia, provide an exciting policy context for sustainability research given the growing recognition that religious values in Malaysia, namely the Islamic stewardship ethic, have the power to "create large-scale and deep-seated ecological transformation" (Mohamad and Mamat, 2012, p. 238), a perspective supported by several other studies highlighting the role of religious communities in promoting environmental practises in Malaysia (e.g., Zuhdi 2012). Malaysia's recycling rates (for domestic and non-domestic wastes) currently stand at 31.52%, compared to 55% for neighbouring Singapore and 88.88% for Thailand. Moreover, despite the potential of activating religious identity as a driver of recycling rates, Malaysia has favoured an economic ecology-based model to encourage recycling by introducing e-money incentive systems to encourage Malaysians to recycle (Ariffin et al., 2020). Malaysia, therefore, presents a fascinating policy context since, on the one hand, a moral and spiritual model appears to have traction amongst the country's underlying values of the Muslim public. Still, on the other hand, the government is pushing an economic-based model of ecology management. According to Thogerson (1994), economic schemes to encourage recycling "reframe" the problem in terms of costs and benefits decoupled from the underlying moral (or spiritual)



imperative to recycle, and in a long time, such a policy can lead to weakening intrinsic moral and spiritual motives for recycling (Shaw et al., 2016).

2.2 Framing for Sustainability

Engaging the public to develop pro-environmental attitudes and behaviours towards recycling is widely accepted as an international public policy issue (Goldberg et al., 2018) and one that will require policymakers to determine the optimal communication conditions to engineer this attitudinal and behavioural change (Hansen & Cox, 2015; Tummers, 2019). However, communicating sustainable change is problematic as, unlike other public policy initiatives, it is perceived as detached from everyday life (Morton et al., 2011) within the developed world (Postmes et al., 2013). Compounding this difficulty is the growing public uncertainty over climate change regarding the "precise extent, time scale, and consequences" (Morton et al., 2011, p. 103). Given this complexity, it is unthinkable to convey climate change information neutrally, so the way sustainability messages are framed is critical (Isa et al., 2016; Isa et al., 2017).

Framing theory examines the "priming and activation of knowledge schemas, which then guide individual perceptions, inferences, and actions" (Cornellisen & Werner, 2014, p. 183) and is increasingly being used to develop optimal sustainable communication messages (Isa et al., 2016, 2017; Kause et al., 2019). Frames effectively function as narratives that aim to justify the importance of a common-concern problem and thus highlight aspects of an idea for maximum salience and resonance for the target audience (Nisbet, 2009). Public policy research has demonstrated that how public policy messages are framed has an essential effect on how policy attitudes are developed (Clayton, 2018). Indeed, the public analyses myriad interlinked concerns when forming a position on a given policy, including alternative policies' social, economic, and ethical effects (Severson & Coleman, 2015). To make an effective message framing policy, it is essential to first find out what the underlying values of the target subpopulation are (Dean, 2014), and then to find out what frames may be more important in changing policy attitudes among the target subpopulation (Severson & Coleman, 2015).

Rooted in prospect theory (Tversky & Kahneman, 1979), gain (or positive) and loss (or negative) framed messages provide the foundation for most framing studies. Gain and loss-framed messages



highlight the positive or negative consequences of engaging or not engaging in a particular behaviour (Block & Keller, 1995; Shiv et al., 1997; 2004). Loss-framed messages are more effective (Meyerowitz & Chaiken, 1987), especially under conditions of high involvement (Maheswaran & Meyers-Levy, 1990), with greater depth of processing (Block & Keller 1995), when the implications are riskier (Meyers-Levy & Maheswaran, 2004), and for illness-detecting (vs illness-preventing) behaviours (Rothman & Salovey, 1997).

Climate change and pro-environmental campaigns are usually communicated through a loss frame; hence, policymakers assume that grim future forecasts will prompt responsible actions. Despite the widespread use of loss-framed sustainable messages, framing studies designed to influence pro-environmental attitudes and behaviours have been more inclined to the greater efficacy of gain frames (Morton et al., 2011). Still, they have also produced mixed results (White et al., 2011). Some evidence, for instance, indicates the effectiveness of loss-framed messages, especially from a personal acquaintance. Yet, the effectiveness of gain-framed messages for shaping attitudes towards curbside recycling and environmental conservation has also been validated (Jacobson et al., 2019).

Moreover, the focus of previous recycling studies, not unlike the general framing literature, is mainly on the difference of framing effects in single frame conditions, often within loss versus gain contexts (Cornellisen & Werner, 2014). Little is known about the impact of mixed-message frames (Isa et al., 2016; Isa et al., 2017; Oh & Ki, 2019). Therefore, whilst most framing studies focused on gains and losses, exploring mixed-message frames (for instance, examining the competing or synergistic effects of conceptually different but related) through alternative message frames also presents a fruitful avenue for the future (Cornellisen & Werner, 2014).

Previous environmental studies have attempted to reconcile this difference by manipulating the point of reference (self vs other) as it interacts with loss and gain frame messages. Self-referencing refers to the cognitive process whereby individuals place greater salience on self-relevant incoming information with previously stored information, previously stored in memory, related to the self to give sense and meaning to new information (Bellezza, 1981, 1984; Markus, 1977, 1980). Communication messages, therefore, resonate with oneself more and are more likely to be held favourably (Yalch & Sternthal, 1985). Indeed, several environmental studies have also proposed that



aligning pro-environmental communications with self-interest is expected to increase participation (e.g., Pickett-Baker & Ozaki, 2008; Segev, Fernandes & Wang, 2015), and yet others have suggested that appealing to individuals' social consciousness is sufficient to affect choices (Polonsky, 2011).

Segev et al. (2015) highlighted that messages centred on the individual's self are more powerful than those dealing with broader social and environmental issues. In the context of green advertising for consumer products, gain frames and self-appeals elicit more favourable responses than loss frames and environmental appeals. White et al. (2011), however, found in a recycling context that loss (gain) framed messages were more effective when matched with a concrete (abstract) mindset, given the greater immediacy (and therefore more self-referencing influence) and long-term implications (and therefore less self-referencing influence) of concrete and abstract perspectives, respectively.

2.3 Religion, Morality, and Environmental Sustainability

Sustainability studies have been the subject of much debate within the field. For instance, Thøgersen (1996) argued that attitudes towards recycling are not the result of careful cost-benefit analysis, but stem from morality. As a result, the most widely used analytical framework for explaining recycling behaviour—that action is motivated by a desire to maximise utility, often through a cost-benefit or loss-gain approach—is insufficient and does not provide a solid foundation for policy initiatives. Since Thøgersen's (1996) call for more studies validating the role of moral obligations in recycling contexts, several correlational studies have affirmed the role of moral obligations as a driver of pro-social attitude development. Most of the attention on morality within a pro-environmental context has focused on perceived moral obligations as a predictor of behavioural intentions (Wu et al., 2021). For instance, Müller et al. (2021) found that moral obligations encouraged a sense of responsibility and this induced pro-environmental intentions. Others have also corroborated the link between moral obligations and recycling intentions (e.g., Li & Wu, 2019). Even though more and more people agreed that recycling is a good moral act (Isa et al., 2016; Isa et al., 2017), no study has looked into the priming of morality in a message-framing context.

The link between religious beliefs and sustainability values has attracted, in many ways, a richer debate from philosophers and social



scientists. This debate is rooted in a rich stream of studies stemming largely from White (1967), who first proposed the Judeo-Christian tradition of ownership over nature that enabled industrial societies of the West to exploit nature while being indifferent to its welfare. Several studies have since confirmed that Christians participate in fewer pro-environmental behaviours than people of other faiths (e.g., Michaels et al., 2021). Others contended that Western religions teach a stewardship ethic toward nature that emphasises resource sustainability and, as a result, leads to more pro-environmental attitudes and actions (e.g., Eom et al., 2021; Whitney, 1993). Other studies have shown mixed results (e.g., Michaels et al., 2021).

Although these studies are useful in emphasising the role of religion in potentially influencing environmental concerns, they do not explore the effects of integrating religious values through, for instance, symbolism or language within message framing on environmental attitudes or behavioural change. Furthermore, any typical correlational studies are also open to alternative explanations and typify the problems inherent in measuring religious beliefs and attitudes as correlates of pro-sociality (Asad et al., 2021). For instance, Agudelo and Cortes-Gómez (2021) supported earlier theoretical studies that have pointed out the contribution of religiosity and spirituality to sustainability and pro-social behaviour. Although experimental designs using religious priming effects do not eliminate these problems, they represent a more robust approach to assessing the religiosity of pro-sociality relationships (Shariff et al., 2011; Isa et al., 2016; Isa et al., 2017). Therefore, this study examined morality and religious priming effects on recycling attitude development.

2.3.1 Positive (gain) vs. Negative (loss) Framing

Since recycling prevents further damage to the environment, recycling can be classified as a low-risk prevention behaviour (Segev et al., 2015; Kim et al., 2021). Rothman and Salovey (1997) were the first to highlight the greater persuasion efficacy of gain frames relative to loss frames for prevention behaviours. As gain-framed messages stress the desired outcomes and benefits of adopting a behaviour, these messages tend to be more congruent with a risk-averse strategy (Detweiler et al., 1999; Millar & Millar, 2000) and therefore are more appropriate for cautious behaviours such as recycling (Segev et al., 2015). Several authors have found evidence for the greater efficacy of gain frames in encouraging recycling attitudes (e.g., Isa et al., 2017;



Jacobson et al., 2018; Yoon et al., 2019). Gain frames activate the attitude of "playing it safe" (Segev et al., 2015). They are therefore less likely to activate perceptual defence or reactance caused by the more significant "discomfort associated with contemplating the negative consequences of failure to recycle..." (Lord, 1994, p. 343) inherent in loss-framed recycling messages.

Moreover, Yoon et al. (2019) found that where a more significant pre-existing concern for environmental issues exists, gain frames reinforce an individual's action further. According to a Pew survey (Stokes et al., 2015), 81% of Malaysians believed global climate change is causing or will cause harm to people all over the world. The prevalence of this attitude in the USA was 61%. This reinforces the view that recycling is likely to be perceived as a preventive behaviour and, therefore, more predisposed to gain messages. Indeed, interview informants also confirmed the preventative nature of recycling to counter the "growing and looming threat" of climate change. Therefore,

Hypothesis 1: A gain-framed message will elicit a more favourable attitude towards the ad (H1a), recycling (H1b), recycling intentions (H1c), and ad believability (H1d) than a loss-framed message.

2.3.2 Moral Identity

Moral identity can be defined as "a commitment to one's sense of self to lines of action that promote or protect the welfare of others" (Hart et al., 1998, p. 515) or as a "person's associative cognitive network of related moral traits (e.g., being kind), feelings (e.g., concern for others), and behaviours (e.g., helping others)" (Woo & Winterich, 2013, p. 98). According to Aquino and Reed (2002), this mental self-representation of one's moral character is held internally (internalisation) but can also be projected to others through moral actions (symbolisation) and therefore is consistent with the concept of the self, comprising internal (private) and external (public) components (Fenigstein et al., 1975). The internalisation element of moral identity has been described as moral identity centrality (Aquino et al., 2009) because "the internalisation of moral traits makes them easier and faster to retrieve, thus making them more influential (i.e., central) on attitudes and behaviours" (Woo & Winterich, 2013, p. 98). As a result, internalisation has more predictive power over moral actions than



symbolisation (Aquino & Reed, 2002; Aquino et al., 2009; Woo & Winterich, 2013).

Several studies have shown the positive effects of the internalisation element on charitable donations (Reed & Aquino, 2003; Shang et al., 2012; Gotowiec & van Mastrigt, 2019). These studies typically use internalisation moral identity traits (e.g., compassionate, caring, helpful, etc.) as primes for investigating the effects of moral identity. Despite empirical support for the positive effects of moral identity on charitable donations or out-group evaluations, the effects of moral identity on environmental attitudes remain unexplored. This is surprising given the recognition that recycling is a moral act (Thøgersen, 1996; Razali, Daud, Weng-Wai & Jiram, 2020). As recycling is a public or social action, associating recycling with morality is more likely to activate alignment with any latent internal aspects of moral identity and, thus, results in more positive recycling attitudes. According to Shang et al. (2012), moral identity discrepancy or self-appraisal based on how moral a person believes he/she is versus how moral he/she would ideally drive moral identity effects. Therefore, we expect this moral identity effects to be stronger than a gain (loss) frame alone and are more closely linked with gain than loss frames.

Hypothesis 2: Gain (loss) frames matched with moral identity elicit a more favourable attitude towards the ad (H2a), recycling (H2b), recycling intentions (H2c), and ad believability (H2d) than a gain (or loss) framed message only.

2.3.3 Islamic Identity

The positive effects of religious priming on pro-sociality have an established history (Asad et al., 2021). Typically, these studies use verbal stimuli such as "God" or "prayer" as religious primes. Taylor et al. (2010) investigated the effects of the Christian Ichthus symbol (i.e., two bisecting curves resembling a fish). They found that it enhanced the framed advert's perceived quality and purchase intentions. Others such as Rothschild, Abdol Hossein Abdollahi, and Pyszczynski (2009) found that both American and Iranian respondents primed with religious compassion, through exposure to Biblical and Qur'anic verses respectively, showed less support for extremist or "hawkish" policies.

Within religious communities, religion is the structure that underpins morality (Statman and Sagi, 2022). Therefore, the



mechanisms proposed to explain the effects of moral identity also have traction in explaining religious priming effects. As Batson and Stocks (2004, p. 147) stated, "Feeling good about oneself and seeing oneself as a person of worth and value play a major role in much contemporary religion." Indeed, Shariff (2015, p.108) suggested that morality mediates the effects of religious values on pro-sociality as religions "endorse meta-ethics rooted in deontic rules and views of objective moral truths." Thus, religious primes should have a more substantial effect than moral primes alone. This stronger effect is explainable by additional mechanisms which may be activated by religious primes, such as reducing the anonymity of the situation, thus increasing pro-social reputational concerns and activating a submission or conformity effect to authority (Schumann, 2020). We would therefore expect that not only would Islamic identity frames have a stronger influence than moral identity framing, but a combined Islamic-moral identity message would generate a cumulative effect, resulting in a more decisive influence than Islamic framing on its own. Therefore, the following two hypotheses were developed to reflect these predicted effects.

Hypothesis 3: Gain (loss) frames matched with Islamic identity elicit a more favourable attitude towards the ad (H3a), recycling (H3b), recycling intentions (H3c), and ad believability (H3d) than a gain (or loss) framed message only and gain (loss) matched with moral identity frames.

Hypothesis 4: Gain (loss) frames matched with combined Islamic and moral identity elicit a more favourable attitude towards the ad (H4a), recycling (H4b), recycling intentions (H4c), and ad believability (H4d) than with moral identity or Islamic identity matched to frame.

A conceptual framework proposed integrates the framing concept with advertising design and impacts recycling behaviour and attitude development (Figure 1).



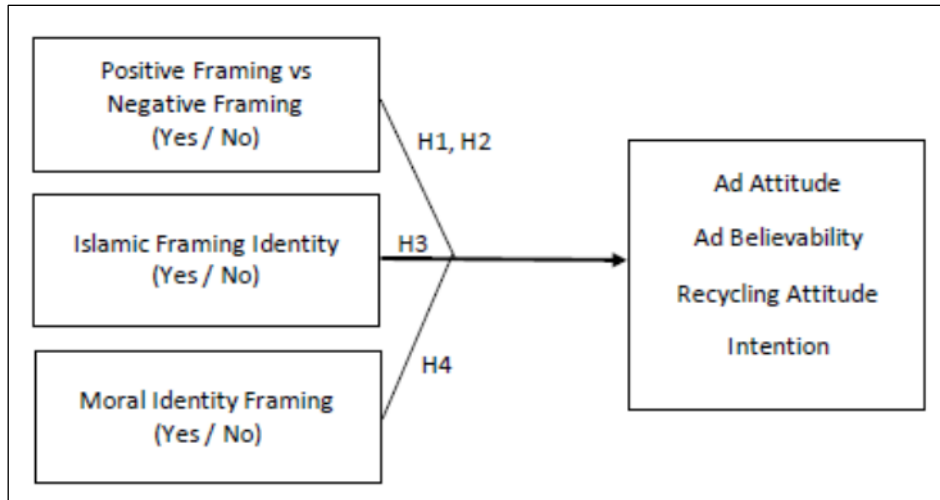


Figure 1 : Conceptual Framework

3.0 Methodology

3.1 Participants and Experimental Stimuli

This study employed a 2 (positive vs. negative) x 2 (Islamic identity: yes/no) x 2 (moral identity: yes/no) between-subjects experimental design. The target participants were Muslims and students at higher learning institutions. As this study had set certain criteria, purposive sampling was employed. This study required eight hundred and eighty Muslim students (representing Muslim consumers and involving eight experimental groups) to participate in the experiment on the same day and time frame. The researcher purposely chose this institution due to easy access to a large enough subject pool. Furthermore, this design sometimes "requires random assignment in some institutional settings such as a school or university; it is more likely to utilise people who would be aware of each other and of the conditions to which you have assigned them" (Iacobucci & Churchill, 2009). Therefore, respondents from Universiti Teknologi MARA, Shah Alam were chosen as UiTM is the only public university comprised of most Muslim students and has become the largest university in Malaysia in terms of size and student enrolment.

3.2 Procedures

Eight well-trained enumerators were recruited to assess, respond to, and control the eight groups' experiments. They organised the experiment, including booking all equipment and rooms. Before the



experiment, all the assistants were briefed about their roles. The experiment was conducted in three lecture theatres (same size and condition) on the same day and time. On their arrival, they were welcomed, and each respondent was randomly assigned to either one of the eight experimental conditions. Overall, eight hundred and eighty undergraduate students participated in the experiment. Hence, eight groups (two control and six experimental groups) were required. Each person was put into one of the eight conditions at random when they arrived. They were also given a pamphlet about recycling and a paper questionnaire to fill out.

At the appointed time, the enumerators also outlined their purpose, reassuring participants of the confidentiality of the proceedings, and requesting students not to interrupt each other. The participants were then provided with a booklet that contained a recycling advertisement and questions. Participants were instructed to view the advert and complete the attached questionnaire at the booklet's end. Participants were reminded to check for missing answers and thanked after returning the booklet. Accordingly, the basic frames of the pamphlet page were all the same among the eight experimental groups.

Moreover, the pages were the same; the only differences were the combinations of advertising components. Each pamphlet was purposely designed without images or pictures to avoid potential confounding effects from pre-existing attitudes. Pamphlets with positive or negative text as the only message framing were designed for the control group. In contrast, pamphlets with different combinations of message framing were designed for the experimental groups. The entire array of experimental groups involved is presented in Table 1.

Table 1 : Experimental Groups

Group	Framing(s)
Control group 1A	Positive
Experimental group 2A	Positive, moral identity
Experimental group 3A	Positive, Islamic identity
Experimental group 4A	Positive, moral identity, Islamic identity
Control group 1B	Negative
Experimental group 2B	Negative, moral identity
Experimental group 3B	Negative, Islamic identity
Experimental group 4B	Negative, moral identity, Islamic identity



This research was mainly conducted as a "laboratory experiment," and a few issues were highlighted and justified. In addition to threats to the internal and external validity of experiments, one of the most compelling issues that a researcher must control is the contamination of exogenous or nuisance variables. One way to control contaminating variables is to randomly assign a group of participants to different groups. Without predetermination, every member will have an equal chance of being assigned to each group. According to Sekaran and Bougie (2010, p.231), "the randomisation process allows distributing the confounding variables among the groups equally; the variables of age, sex, and previous experience (the controlled variables) will have an equal probability of being distributed among the groups." They also added, "If these variables do indeed have a contributory or cofounding effect, the researcher has controlled the cofounding effects (along with those of other unknown factors) by distributing them across groups" (p. 232). Thus, a lab experiment, also known as a true experiment, is a more appropriate technique in any given situation. Conducting experiments also reduces bias from uncontrollable factors, which is possible in a field setting.

Accordingly, eight different brochures were used; each containing various framing options. Firstly, the gain-loss framing options were developed to emphasise the positive consequences of recycling, and the loss-framed option emphasised the negative effects of not recycling. Secondly, moral identity framing was based on recycling as an act of 'caring' and was consistent with other moral identity priming studies. The emphasis here was to prime the behaviour with a moral identity trait. Finally, the Islamic framing, the Qur'anic verse of "Do not waste (resources) extravagantly" from Surah Al-A'raf (Verse 31), was selected, presenting the spiritual element. Pamphlets with positive or negative frames as the only message framing were designed for the control groups. In contrast, pamphlets with different combinations of message framing were designed for the experimental groups.

4.0 Findings

4.1 Description of Respondent's Profile

From 880 data collected, only 850 were usable. Eight hundred fifty students, with 55 per cent females and 45 per cent males, were involved in this study. As the sample was drawn from final full-time year



business students, 100 per cent of the students were of single status, and most were less than 24 years old.

4.2 Manipulation Checks

As a manipulation check for positive-negative framing, we adopted a four-item scale from Maheswaran and Meyers-Levy (1990). The researcher, therefore, asked the respondents whether "The pamphlet contended that recycling activities lead to positive consequences," "The pamphlet stressed the positive results of engaging in recycling behaviours," or "The pamphlet stressed the negative results of not engaging in recycling behaviours," and "Information in the pamphlet directed attention to the negative consequences of failing to engage in recycling activities." For Islamic and moral identity frames, the two-item scale from Aquino et al. (2009) was adopted and therefore asked the respondents, "The advert makes me think recycling is a moral cause," "The advert demonstrated that recycling is a moral action", and similarly for Islamic identity, "The advert makes me think recycling is an Islamic cause", "The advert demonstrated that recycling is an Islamic action." All manipulation items were answered on a Likert scale of 1 to 7 (1 = "strongly disagree," and 7 = "strongly agree"). When individual items were averaged, all three manipulation scales formed reliable scales (> 0.90).

The ANOVA main effects demonstrated the robustness of the manipulation checks. For the positive vs. negative treatments, significant main effects were found. The respondents in the positive treatment groups responded significantly more than the negative treatment groups [$F(1,848)=2015.85$, $p<.001$, positive and negative means =6.14 and 3.08, respectively]. Additionally, as a further manipulation check examining any overlap between moral and Islamic identities, manipulation check scales for both moral and Islamic identity were included in each respective treatment group. A further manipulation test was conducted for each treatment across groups. The manipulation for the message framing between the eight groups found a significant difference [$F(7,842)=289.71$, $p<0.001$]. A test on the single framing of positive, negative, Islamic identity, and moral identity among the eight groups found a significant difference [$F(7,842)=210.34$, $p<0.001$, $F(7,842)=57.54$, $p<0.001$, $F(7,842)=179.67$, $p<0.001$ and $F(7,842)=94.72$, $p<0.001$, respectively], thus further supporting the validity of each frame type.



4.3 Dependent Variables

Advertising believability was measured using the ten-item scale adopted from Beltramini and Evan (1985), attitudes towards the ad were measured using a three-item scale adopted from Lutz et al. (1983), and attitudes towards recycling using a six-item scale adopted from Tonglet et al. (2004). Finally, intentions to recycle were measured using a three-item scale adopted from Loroz (2007). The reliabilities for each scale exceeded 0.7 (ad believability [$\alpha=0.95$], ad attitude [$\alpha=0.72$], recycling attitude [$\alpha=0.89$], and intention to recycle [$\alpha=0.70$]).

4.4 Results of Multivariate Analysis

Hypotheses 1a, 1b, 1c, and 1d predicted that gain-framed messages would elicit more favourable responses (i.e., attitude towards the ad, recycling, recycling intentions, and ad believability) than loss-framed messages. A multivariate analysis of variance (MANOVA) was conducted where message framing was the independent variable, and the responses were included in the model as dependent variables. Results demonstrated a main effect of framing on responses ($F(7, 842) = 19.234, p < 0.05, \text{Wilks' lambda} = 0.83$). Following Tabachnick and Fidell (2001), individual ANOVAs were performed for each dependent variable: attitude towards the ad, recycling, intentions to recycle, and ad believability. As a preliminary check for ANOVA's assumption of homogeneity of variance, Levene's test of homogeneity of variance was conducted across the treatment groups. The findings from Levene's test indicated non-significance for each dependent variable, and therefore the quality of error variance between groups can be assumed (Field, 2001).

ANOVA analysis found significant main effects on each of the dependent variables, attitude towards ad ($F(7,842)=20.62, p<0.001$), attitude towards recycling ($F(7,842)=17.34, p<0.001$), recycling intention ($F(7,842)=13.26, p<.001$), and ad believability ($F(7,842)=27.43, p<0.001$). Moreover, planned comparisons also showed that the mean values for each dependent variable in the gain frame treatment to be significantly higher than in the low frame groups in which the attitude towards the ad ($M_{\text{gain}}=4.92, SD=1.03, M_{\text{loss}}=4.51; p<0.001$), attitude towards recycling ($M_{\text{gain}}=4.03, M_{\text{loss}} = 3.71, p < 0.001$), recycling intention ($M_{\text{gain}}=4.15, M_{\text{loss}}=3.75, p<0.001$), and ad believability ($M_{\text{gain}}=4.03, M_{\text{loss}}=3.44, p<0.001$), thus supporting H1a, H1b, H1c, and H1d.



Hypothesis 2 predicted that morality-framed messages would have more favourable responses than gain-loss frames. A MANOVA was conducted in which message framing and morality were put into the model as independent variables, and the responses served as dependent variables. In this case, a significant interaction effect was observed for all dependent variables ($F(7,842) = 21,741, p < 0.01$, Wilks' lambda = 0.82). Individual ANOVA analysis for the moral and Islamic frames found significant main effects on each of the dependent variables, attitude towards ad ($F(1,426) = 111.644, p < .05$), towards recycling ($F(1,426) = 37.48, p < .05$), towards recycling intention ($F(1,426) = 39.61, p < .01$), and advertising believability ($F(1,426) = 220.28, p < .01$). Moreover, findings from the planned comparisons of means between the groups, despite showing the mean values for each dependent variable in the moral frame treatment to be higher than in the gain/loss groups, were not significant. These results are shown in Table 2. Based on this, we partially accepted H2a, H2b, H2c, and H2d.

Table 2 : Comparison of Means for Hypothesis Two

Pair	Mean difference	t-value	p-value
Morality-Gain Gain only	0.46 (Aad)	6.98	<0.05
	0.45 (Arec)	12.22	<0.05
	0.43 (Aint)	14.51	<0.05
	0.42 (Abel)	9.13	<0.05
Morality-Loss Loss only	0.28 (Aad)	7.52	0.19
	0.30 (Arec)	10.31	0.09
	0.29 (Aint)	5.84	0.09
	0.61 (Abel)	11.39	<0.05

Hypothesis 3 predicted that Islamic identity frames would have more favourable responses than moral/gain-loss or gain/loss only frames. A MANOVA was conducted in which message framing, moral and Islamic identity were put into the model as independent variables, and the responses served as dependent variables. In this case, a significant interaction effect was observed for all dependent variables ($F(7,8424) = 15,615, p < 0.001$, Wilks' lambda = 0.91). Individual ANOVA analysis for the Islamic frames found significant main effects on each of the dependent variables, attitude towards ad ($F_{\text{Islamic}}(1,423) = 67.79, p < .001$), towards recycling ($F_{\text{Islamic}}(1,423) = 21.81, p < .001$), towards recycling intention ($F_{\text{Islamic}}(1,423) = 88.54, p = .009$), and



advertising believability ($F_{\text{Islamic}(1,423)} = 88.54, p = .009$). Moreover, planned comparisons also showed that the mean values for each dependent variable in the Islamic frame treatment were significantly higher than in the moral and gain/loss groups. These results are shown in Table 3. Based on this, we accepted H3a, H3b, H3c, and H3d.

Hypotheses 4 predicted that the combined Islamic/moral frames would have more favourable responses than the Islamic frames alone. A MANOVA was conducted in which the combined frame and Islamic frame messages were put into the model as independent variables, and the responses served as dependent variables. A significant interaction effect was observed for all dependent variables ($F(7,842) = 19,744, p < 0.01$, Wilks' lambda = 0.89). The individual ANOVA analysis for the combined frames found significant main effects on each of the dependent variables, attitude towards ad ($F_{\text{Islamic/moral}(1,423)} = 56.98, p < .01$), towards recycling ($F_{\text{Islamic/moral}(1,426)} = 37.48, p < .05$), towards recycling intention ($F_{\text{Islamic/moral}(1,426)} = 88.54, p = .01$), and ad believability ($F_{\text{Islamic/moral}(1,426)} = 220.28, p < .05$). However, planned comparisons showed that the mean values for each dependent variable in the combined Islamic frames were significantly lower than in the moral frames. Based on this, we rejected H4a, H4b, H4c, and H4d. These results are shown in Table 4.

Table 3 : Comparison of Means for Hypothesis Three

Pair	Mean difference	t-value	p-value
Islamic-Gain	1.17 (Aad)	12.98	0.001
Moral-Gain	1.17 (Arec)	8.33	0.001
	1.28 (Aint)	5.89	0.001
	1.42 (Abel)	14.65	0.001
Islamic-Gain	1.63 (Aad)	4.91	0.001
Gain only	1.62 (Arec)	11.67	0.001
	1.71 (Aint)	9.08	0.001
	1.84 (Abel)	7.65	0.001
Islamic-Loss	1.20 (Aad)	8.82	0.001
Moral-Loss	1.34 (Arec)	17.54	0.001
	1.48 (Aint)	6.31	0.001
	1.29 (Abel)	9.33	0.001



Pair	Mean difference	t-value	p-value
Islamic-Loss	1.48 (Aad)	14.31	0.001
Loss only	1.64 (Arec)	12.34	0.001
	1.77 (Aint)	9.22	0.001
	1.90 (Abel)	7.81	0.001

Table 4 : Comparison of Means for Hypothesis Four

Pair	Mean difference	t-value	p-value
Combined-Gain	1.17 (Aad)	12.98	0.001
Islamic-Gain	1.17 (Arec)	8.33	0.001
	1.28 (Aint)	5.89	0.001
	1.42 (Abel)	14.65	0.001
Combined-Loss	1.63 (Aad)	4.91	0.001
Islamic-Loss	1.62 (Arec)	11.67	0.001
	1.71 (Aint)	9.08	0.001
	1.84 (Abel)	7.65	0.001

5.0 Discussions

This study addressed whether religious and moral identities can influence recycling attitudes. The experimental study aimed to measure the attitudinal responses to a recycling advert across groups exposed to religious and morality primed frames. As this study tested the spiritual paradigm in sustainability message framing, the Islamic identity appeal was compared to an appeal based on moral identity, and positive and negative framed messages. Overall, the analysis revealed stronger effects of Islamic identity framing relative to moral or positive/negative framing, lending support to the spiritual model of environmentalism. According to the findings, Islamic framing had the most significant impact on the dependent variables. This finding is in line with Omar, Osman, Alam, and Sanusi (2015), who found that religion has a significant positive impact on environmentally conscious behaviour.

The research hypothesis that predicted gain-framed messages would have a stronger influence than negative-framed messages was supported (H1). The findings support existing environmental studies (e.g., Jacobson et al., 2018). Given that the frames used were centred on self-referencing by focusing on gain or loss to the self, family, and friends, this finding is not surprising. Indeed, gain-framed messages,



when matched with moral identity, Islamic identity, and both, also showed stronger effects than comparable loss-matched messages. This suggests that our findings do not support the loss-framed logic (Morton et al., 2011). It does, however, support emerging studies that advocate the use of gain-framed messaging in fostering pro-environmental attitudes (e.g., Morton et al., 2011; Segev et al., 2015).

The findings also support the influence of moral identity on pro-social attitude formation since moral identity matched gain (loss) messages had stronger effects than gain (loss) messages only (H2), albeit some differences in means were non-significant. The partial acceptance of H2 supports the consensus that internalisation-based moral identity, i.e., activated by moral traits such as caring and helping, can positively influence pro-recycling attitudes. Given the lack of studies exploring moral identity effects in recycling contexts, this study contributes to the empirical studies assessing morality effects on recycling, thus adding to the literature on recycling as a morally driven behaviour (Razali et al., 2020; Thøgersen, 1996). However, given the partial acceptance and generally small differences in means relative to the gain/loss frames, it is possible that the choice of morality frame could be made more salient. Moral identity is a complex and culturally bound construct (Csordas, 2013; Hannah, Thompson & Herbst, 2018). Therefore, what is considered reflective of morality in one culture may be less so in another. Although we tried to control this by conducting exploratory interviews in which caring emerged as a moral theme linked to the environment and through manipulation check validation, which proved robust, the complexity of moral identity may require additional approaches to derive more specific culturally derived moral identity traits. We propose that future research incorporating moral identity frames in communication contexts should conduct more rigorous derivation and validation of moral identity traits linked to cultures.

The main proposition of the study is that whilst moral identity is important, it can be superseded by spiritual identity in religious target audiences, which was also validated. Indeed, gain-framed messages matched with Islamic identity strongly influenced contrasting morality identity frames (H3). This was to be expected as religious identity includes moral identity, but not necessarily the other way around. Therefore, by default, activating religious identity can also activate moral identity, which will generate a cumulative effect. Based on this logic, we also hypothesised that when moral identity and Islamic identity are matched together, this will generate a stronger cumulative



effect, given the dual activation of moral and religious identities. The results indicated that this was not the case, as when Islamic identity was matched with moral identity, the effect was diluted or reduced (H4). This lends credence to spiritual identity activation's role in attitude recycling. The dilution effect may be a result of several causes. First, it is possible that Islamic identity through specific Qur'anic messages activates its unique schematic representations mentally, based on the subject of the specific verse, and adding an association which does not align with this schematic activation may be perceived as desacralising its effects. For instance, had the verse selected focused on caring, the dual effects might have been demonstrated. As it happens, the verse we selected was about a potential negative moral identity trait of being extravagant. Therefore, the moral identity frame of people who recycle is confused about processing this as complementary to the extravagant identity. Several framing scholars (e.g., Cornelissen & Werner, 2014; Isa et al., 2016) have said that mixed-message frames' competing or synergistic effects are a good area for future research. Our findings about using religious and moral identity primes in mixed-frame contexts also pointed in this direction.

Moreover, giving this a second related response may cause a diluting effect. We know from behavioural theorists that when people perceive persuasion as a part of a "sales strategy" or a "hard sell", they may no longer perceive the need to reciprocate efforts intended by the communication. Therefore, it is possible that when an overload of message frames is presented, especially when the mixed messages are not conceptually aligned, people question the authenticity of the communicator and the messages, thus reducing their intended support compared to when the messages are perceived as authentic.

Religious primes, especially those revolving around verses of the Quran, would be expected to be perceived as sacred, thus implying that the communicator has a genuine desire to be authentic. Adding a non-aligned frame to this message might be perceived as desacralising the communicator's intent, which creates a spillover effect on the desired response. Despite the reduced effect with the moral identity prime, the overall effect was still significantly higher than the gain (loss) frames alone and matched with moral identity, indicating the salience of the religious primes in recycling attitude formation. Activating religious identity for a majority of religious audience has obvious benefits in fostering pro-recycling attitudes, which lends support to the "New Environmental Paradigm" (Dunlap & Van Liere, 1978) and



specifically the spiritual paradigm (Heintzman, 2016; Irvine, Hoesly, Bell-William & Warber, 2019). The managerial implications of this approach are reviewed next.

6.0 Managerial Implications

As leveraging communication effects for sustainability is needed to match the communication content with the worldview of its intended audience (Severson and Coleman, 2015; Engelland, 2014), otherwise "opportunities to serve the common good are lost" (Engelland, 2014; p.1). This echoes the wider strategic decision facing international advertisers whether to localise, adapt the message content, or maintain a "one glove fits all" standardised messages across cultures and at the global level. If the majority audience is conservatively religious, it makes sense to integrate religious identity-based frames. Even in a mixed religious affiliation population, religious priming can be used for targeted campaigns. The profound difference this can make in sustainability attitude generation is evident from our study's dramatic differences observed between alternative non-religious and religious frames.

Although this is the first study to demonstrate the effects of religious versus moral identity primes on recycling attitudes, the findings should not come as a surprise by using Islamic identity frames with Muslim samples. For instance, numerous accounts (see Wardekker et al., 2009 for a review) that document the framing of climate change in the USA in religious terminology exist, ranging from Al Gore's description of the Intergovernmental Panel on Climate Change's Fourth Assessment Report' using a quote from Deuteronomy, President Bush's description of technological breakthroughs allowing the American public to become "better stewards of the environment", and President Obama's presidential campaign message, "My values speak to... the expanse of God's creation that is warming day by day".

In terms of using Islamic appeals for Muslim audiences in social marketing initiatives, numerous of such campaigns exist targeting Muslim populations, such as the Ramadhan Humanitarian Aid, Zakat Donations, and Climate Change campaigns, which were funded by Islamic Relief UK using verses from the Quran (Islamic Relief, 2022). The Greater Manchester Waste Disposal Authority reported that it has used recycling appeals, including Qu'ranic verses (GMWDA, 2015). Using Qu'ranic appeals for social marketing purposes, targeting



Muslims and therefore fostering sustainability attitudes, should be seen as an approach based on adaptation. This is not to say that such an approach does not pose its challenges. For instance, the GMWDA (2015) cautioned against door drops using Qu'ranic verses as this could be perceived as unethical by Muslims, underscoring the need to use Qu'ranic appeals as mass-based appeals or within electronic and digital media contexts. Our study, however, also highlighted the need to empirically test mixed-frame messages with Qu'ranic appeals to engineering the most optimal combination.

7.0 Limitations and Further Research

The limitation of potentially adopting a moral identity trait, which does not resonate strongly with Malaysian sociology; therefore, the need to pursue more rigorous derivation of moral identity traits for cultural contexts, has already been discussed. A second key limitation in our study is that we have focused on intentions as a dependent variable, and whilst intentions have become a useful indicator in understanding the communication effects of sustainability messages (Morton et al., 2011), the intention-behaviour gap precludes their use as substitutes for actual behaviour. The few studies that have used actual behaviour in framing studies demonstrated that framing effects can be persistent over time (e.g., Meyerowitz & Chaiken, 1987). Therefore, a promising avenue for further research is to investigate framing effects on actual behaviour.

Third, the sample used an educated group of the general population: students. Hence, the picture amongst the wider population is likely to be more complex. On the other hand, students have been suggested as a key starting point for creating long-term sustainability in society (Lee, 2014; Kardos et al., 2019). Students "play a direct role in providing knowledge-based solutions to the incoming environmental problems" (Ehrampoush and Moghadam, 2005, p.27).

A fourth limitation linked to the sample profile is that we did not measure the respondents' religiosity. It would be interesting to compare responses based on the levels of religiosity of the sample to further support the proposition that religious identity activation works better for more conservatively religious individuals. Despite these shortcomings, we recognised that true generalisability can only be achieved by comparing multiple studies with other sub-populations and contexts (Skarmeas & Shabbir, 2011). Therefore, using this study as a context



to leverage comparisons may shed further important insights on the use of Islamic identity framing effects in sustainability contexts.

A fifth limitation is an obvious omission of moderating pathways that may further shed insights on how religious and moral primes foster recycling attitudes. Given the diversity of potential pathways through which moral and religious priming may operate, numerous options exist for further research to advance our understanding of the communication effects of spiritual framing. For instance, moral identity effects on reducing impulsivity (Gatersleben et al., 2017) and selfishness (Barasch et al., 2014), fostering moral emotions (Pohling et al., 2017), self-regulation effects (Krettenauer, 2020); or religious priming effects on pro-social behaviour and green behaviour (Isa et al., 2016; Isa et al., 2017) provide numerous options for further research.

8.0 Conclusions

The findings suggested that communicating sustainability should not be seen in isolation, but in conjunction with the target audience's values. When there is potential for spiritually rooted values as salient in sustainability attitude formation, whether morally or religiously driven, sustainability communications should embrace this within its message framing initiatives. This is consistent with numerous calls asserting that sustainable communications will be lost unless adequately aligned with the worldviews of target audiences. In this initial investigation, we demonstrated the salience of moral and religious priming on recycling attitude formation. We recognised that this study is an initial foray into developing our understanding of sustainability communications, adopting a new environmental and spiritual perspective as theoretical underpinnings, and therefore reflecting a paradigmatic shift away from the more traditionally adopted Dominant Perspective which has characterised sustainability studies, especially in the West.

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