

Climate change and sustainability:

Understanding the beliefs of marketing faculty

ABSTRACT

Addressing climate change and sustainability topics in university research and teaching is paramount; however, the majority of marketing studies and courses do not examine these concepts. We investigate global warming beliefs and the sustainability values, attitudes, and beliefs of marketing faculty to understand how these may impact upon the state of sustainability research and teaching within the marketing academy. Using an online survey method, marketing faculty were surveyed from around the world. We found that belief in global warming was high and that this was affected by political ideology and research area. We also found broad perceptions of sustainability (i.e., beyond the environmental domain) in marketing faculty, possibly more so than previous higher education studies have revealed. However, a greater belief in market ideology to solve sustainability issues also exists. We found significant effects or associations between gender, political ideology, religion, expertise, region of current residence, and region of conferred highest degree on sustainability beliefs (definition, conception, and attitudes). Considering that we find a high belief in global warming and a broad and holistic understanding and positive attitude towards sustainability, questions remain about why only limited research and teaching has been done on the intersection between marketing and sustainability.

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1. INTRODUCTION

Climate change is the most pressing issue of our time, and the production of consumer goods has a significant impact on greenhouse gas (GHG) emissions (Intergovernmental Panel on Climate Change [IPCC], 2014). The climbing temperatures (atmospheric and ocean), rising sea levels, and melting ice sheets from climate change affect all life on earth (IPCC, 2014). The recent 2015 Paris Climate Summit demonstrated the commitment by 195 countries to limit temperature increases to 1.5 °C. However, climate change as a wicked problem—one which lacks definition and scope and is a symptom of other problems (e.g., overconsumption, reliance on fossil fuels)—presents several challenges to preventing heating beyond 1.5 °C, one of which is perceptions of global warming (Rittel & Webber, 1973). For example, 67% of Americans believe that global warming is happening, whereas 16% believe that it is not happening, with the remaining 17% not being sure (Leiserowitz, Maibach, Roser-Renouf, Feinberg, & Rosenthal, 2015).

The overconsumption of products, and the very production, transportation, and consumption of these goods, leads to increased GHG emissions (Brundtland, 1987; IPCC, 2014). Moreover, industry contributes to approximately 31% of GHG emissions, transport 14%, and agriculture and land use 24% (IPCC, 2014). Consequently, sustainable development (SD) requires society to take into account economic practices on the natural and social environment (Borland & Lindgreen, 2013). SD has been proposed as the solution to various environmental, social, and economic problems, and is defined “as development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland, 1987, p. 43).

Indeed, climate change is Goal 13 in the 2030 Agenda for Sustainable Development by the United Nations. At the very least, sustainability requires a shift in our consumption patterns with an understanding that the carrying capacity of the earth has already been surpassed (Borland & Lindgreen, 2013). A more likely scenario is that society will require a fundamental transformation of our relationship between people and the planet, and the way we consume and produce (Hopwood, Mellor, & O'Brien, 2005).

Global warming discussion has not yet entered mainstream academic research in marketing. Considering that the production, consumption, and transportation of goods is a leading cause of GHG emissions, questions must be raised about the marketing academy's ability and willingness to engage in a meaningful discussion about marketing's role in GHG emissions, and how marketing can contribute to global warming prevention.

At the forefront of this debate exists the contradictory nature of sustainability, especially environmental sustainability, and marketing (Varey, 2011). The question remains whether marketing, with its focus on the promotion of continuous consumption, can be sustainable? More importantly, can marketing, with its ability to influence both production and consumption, play an active role in changing current production, distribution, and consumption practices to reduce GHG emissions? Unfortunately, research on global warming remains on the periphery in marketing journals. Furthermore, for such a change to occur in the marketing academy in terms of research, teaching, and overall philosophy, we must first understand the current perceptions of global warming and sustainability within the academy.

2. LITERATURE REVIEW

Given the growing importance of sustainability in providing a possible solution to current ecological, social, and economic issues, especially global warming marketing should reflect on its role in perpetuating unsustainability and its role in establishing a sustainable society. However, the sustainability construct, both within and outside marketing, is still contested

(Hopwood et al., 2005; McDonagh & Prothero, 2014). Moreover, acknowledging that consumerism is a problem contributing to climate change is a contentious issue, one which has even sparked a response from Pope Francis, “to blame population growth instead of extreme and selective consumerism on the part of some, is one way of refusing to face the issues ... since the planet could not even contain the waste products of such consumption.” If indeed consumption is part of the problem, marketing must be the starting point for any examination into societal lifestyle change.

Prior research has suggested that business schools and the marketing discipline subscribe predominantly to a neoclassical economic worldview (Springett, 2010; Varey, 2011). This worldview is dominated by a belief in the need for unlimited economic growth, free markets, increasing consumption of products and services, and the ability of science and technology to provide solutions to environmental problems (Kilbourne, 2004; Painter-Morland, 2015; Springett, 2010). Scholars are calling for a change in the business schools worldview towards a more environmentally and socially aware paradigm (e.g., Giacalone & Thompson, 2006; Varey, 2011). Without this paradigm shift, many suggest that engagement with topics such as sustainability will be fruitless (Giacalone & Thompson, 2006; Painter-Morland, 2015; Springett, 2010). However, existing power structures, a preference for the status quo, and overall university culture and faculty mind-sets are barriers for such a transition (Doh & Tashman, 2014).

Transformative consumer research, consumer culture theory, critical marketing, and macromarketing are subdisciplines of marketing, which have risen to the challenge to address questions and issues on capitalism, marketing, and the environment. However, marketing management still dominates current research that seems to tout sustainability as a nonpressing issue (McDonagh & Prothero, 2014). Indeed, Purani, Sahadev, and Kumar (2014) found that only 2% of articles in 10 of the most highly ranked marketing journals were devoted to

sustainability. In addition, there is evidence to suggest that the marketing curriculum has so far failed to successfully address and integrate sustainability (Nicholls, Hair, Ragland, & Schimmel, 2013; Weber, 2013).

Societal marketing, social marketing, and demarketing are just some of the concepts that have risen out of the rejection of the profit focused nature of marketing management. Criticisms of marketing management revolve around its environmental and social impact, with its focus on “short-run operational focus on profit ... its emphasis on material consumption without consideration of the long-run societal or environmental impact ... its narrow stress on the individual and the gratification of immediate and selfish wants” (Ward & Lewandowska, 2006, p. 242). In the past, social marketing has aimed to address global warming through environmental behaviour change primarily using programmes/campaigns related to energy, recycling, transportation, pollution, and water (Takahashi, 2009). However, the complexity of climate change and other wicked problems proves difficult for social marketing beyond individual behaviour change and more long-term societal, lifestyle, institutional, and cultural changes (Kemper & Ballantine, 2017; Shove, 2010). Furthermore, beyond social marketing, developing green products, and segmenting the “green” consumer, marketing researchers have rarely taken up the challenge to address global warming and sustainability (McDonagh & Prothero, 2014). A possible avenue to understand why there is a lack of research and teaching on this topic area is to “take stock” of the current views of the marketing academy in relation to global warming and sustainability.

Several studies have examined faculty perspectives of sustainability across the university (e.g., Christie, Miller, Cooke, & White, 2015; Reid & Petocz, 2006) and business school (e.g., Doh & Tashman, 2014; von der Heidt & Lamberton, 2014). For example, Cotton, Warren, Maiboroda, and Bailey (2007) surveyed and interviewed lecturers at the University of Plymouth. They found that most supported and agreed upon the basic environmental aspects

of SD (e.g., maintaining biodiversity), however, questioning of the dominant paradigm and current economic structures were less supported. Many lecturers surveyed also stated that SD required some sort of balance and that the concept of SD was quite problematic, difficult, and contested. Overall, the study found a greater understanding of environmental issues, but ambiguity existed with social and economic issues such as confusion about economic growth, local production, and inclusion of poverty in SD. Other studies have found the same (e.g., Reid & Petocz, 2006).

In addition, only Delong and McDermott (2013) have focused on marketing faculty, albeit through a survey of high level administrators. Their study found that marketing department chairs and deans considered that sustainability content was quite important in the marketing curriculum, more so than the importance of sustainability in the business curriculum as a whole. No other study has specifically examined marketing faculty's perception of sustainability, especially across various academic ranks.

A focus on specific disciplines and their perceptions of sustainability is necessary as each has its own assumptions, background, and theories that affect opinions and practices on sustainability (Christie et al., 2015). Marketing has direct implications on product development and the promotion of continuous consumption, both of which have major implications on environmental and social conditions, especially global warming (Varey, 2011). Previous research has asked how many marketing academics are qualified, or at least open and willing, to teach (Nicholls et al., 2013) and research sustainability topics. However, no study has empirically investigated the global warming beliefs and sustainability values, attitudes, and beliefs of marketing faculty, and how these may impact on the state of sustainability research and teaching in the marketing academy. This study seeks to address this important issue. We also examine how expertise, region of residence, political orientation, and several other attributes may be related to the beliefs and attitudes of marketing faculty.

3. METHOD

A quantitative approach using an online survey was chosen to provide generalisable findings and to allow for a greater sample size. The survey was developed and administered using Qualtrics. A single item scale for measuring perceptions of global warming was adapted from the Yale School of Forestry & Environmental Studies and asked “Do you think that global warming is happening?” Compared to the Yale study, the response options were changed from “yes,” “no,” and “I don't know” to “definitely yes,” “probably yes,” “probably no,” and “definitely no.” Previous research indicates greater familiarity with “global warming” than with “climate change,” so this term was instead adopted (Department for Environment, Food, and Rural Affairs, 2002).

To measure sustainability definitions, the sustainability achievement standards from the Australian Government's Australian Learning and Teaching Council (2010) was consulted. They offer five “levels” in relation to conceptual sustainability skills, and these levels have previously been used by von der Heidt and Lamberton (2014) to understand business faculty's perception of sustainability. Due to the complex nature of level five as a multi-choice option— it contains many concepts that are not mutually exclusive and therefore double-barrelled—only the first four levels were used as multi-choice options. Sustainability attitudes were measured using the Cotton et al. (2007) multi-choice question, but we removed the option “I don't know what is meant by SD” to measure purely attitudes, not knowledge. Lastly, to measure sustainability conceptualisation, we used the Cotton et al. nine-item 5-point Likert scale, which was anchored (1 = strongly agree to 5 = strongly disagree).

To recruit participants, public postings were made on several Listservs and a macromarketing Facebook group. Second, personal emails were sent to email addresses publicly listed in the proceedings of two generalist marketing (academic) conferences held in 2015 and one in 2016 that contacted only the presenters. Third, most UK, Canadian, Australian,

and New Zealand marketing departments, and a selection of European and US marketing department websites were consulted to obtain faculty email addresses. An invitation was sent to these email addresses, and a follow-up email was sent a few weeks later. To encourage participation, incentives including Amazon gift cards, a marketing conference registration, and access to the results were offered to participants.

3.1 Survey sample

The total sample size (completed responses) was 437 marketing faculty. The sample contained 64.8% males, and 34.1% females (1.1% did not identify their gender). This is representative of the gender faculty divide at Association to Advance Collegiate Schools of Business (2016) accredited marketing departments (62.5% males and 37.5% females). A number of regions were represented, with 45.3% from North America, 24.6% from Australia/New Zealand, 12.4% from the UK/Ireland, 13.4% from Western Europe, and 4.4% from other countries (Eastern Europe, Asia, South America, or Africa). With regard to academic rank, 50.6% were postdoc/lecturers/instructors/assistant professors or equivalent, 21.1% were associate professors or equivalent, and 28.3% were professors. As part of a larger project, the findings related to global warming and sustainability beliefs and attitudes are presented here.

3.2 Data analysis

The statistical software SPSS 23.0 was used to analyse the data. ANOVA and chi-square were used to examine differences between demographics (e.g., gender, years in academia, and religion) and beliefs in global warming for each of the items.

4 RESULTS

4.1 Global warming beliefs

Respondents were asked about their belief in global warming, with the summary results appearing in Table 1. The results demonstrate that overwhelmingly, marketing faculty believe

in global warming; however, there are just under 3% who do not believe in global warming, and almost 20% who are not certain that global warming is occurring (indicated by the response “possibly yes”). Past research has also shown that 28% of Americans were extremely sure that global warming is happening, 32% very sure, 37% somewhat sure, and 3% not sure at all (Leiserowitz et al., 2015). Consequently, respondents had a high level of global warming beliefs, arguably more so than the general public.

< Insert Table 1 about here >

Politically, respondents who believed in global warming were more likely to identify as very left (5.3%), left (28.8%), or slightly left (27.8%; $\chi^2 = 108.24$, $p = .00$), and have research interests in societal marketing (e.g., social marketing, corporate social responsibility, ethics, and sustainability; 5.0%), a combination of societal marketing/marketing management (8.2%), a combination of consumer behaviour/marketing management (25.2%), or a combination of consumer behaviour/societal marketing (8.2%; $\chi^2 = 49.16$, $p = .01$).

Academics who indicated that global warming was probably happening were more likely to be politically to the centre (24.7%), slightly right (20.0%), right (15.3%), or didn't wish to disclose their political ideology (9.4%; $\chi^2 = 108.24$, $p = .00$), and have research interests in consumer behaviour (5.8%), marketing management (43.0%), or a combination of marketing management/societal marketing/consumer behaviour (10.5%; $\chi^2 = 49.16$, $p = .01$).

There was no significant difference between global warming beliefs and the highest degree obtained, gender, years in academia and industry, academic rank, number of publications, having taught a course on sustainability, religion, and region of residence and highest degree.

To further understand global warming beliefs and attitudes, we next asked respondents about their sustainability beliefs and attitudes.

4.2 Global warming perception differences in sustainability conceptions and attitudes

Table 2 provides the definitions of sustainability as described by the Australian Learning and Teaching Council (2010). The majority (85.6%) of marketing faculty define sustainability as including the three domains of economic, social, and environmental; however, 12.1% still limit their perceptions to environmental concerns only.

< Insert Table 2 about here >

Faculty who believe that global warming is happening were more likely to think that sustainability goes beyond the three domains (economic, social, and environmental; 50.8%; $\chi^2 = 28.00$, $p = .00$). Respondents who believed that sustainability only includes the three broad domains (51.2%), or is understood in terms of the environmental domain of sustainability (20.9%), were more likely to believe that global warming is probably happening.

Marketing faculty have a holistic understanding of sustainability as can be seen in Table 3, which displays the inclusion of social, economic, and environmental elements in the definition of sustainability. Our findings, compared to the Cotton et al. (2007) study (containing only 16% social science and business faculty), show a greater acknowledgement of the holistic (i.e., beyond environmental issues) interpretation of sustainability. Although Cotton et al. (2007) found no significant difference between disciplines and their conceptualisation of sustainability, our findings suggest that marketing faculty see a greater need for the continual exploitation of natural resources and maintaining high and stable levels of economic growth. This may perhaps indicate greater support for a neo-liberal ideology in the sustainability context.

< Insert Table 3 about here >

Those who believed in global warming perceived that sustainability implies maintaining biodiversity in the local environment ($M_{bio} = 1.58$, $F = 7.27$, $p = .00$), and recycling waste products ($M_{rec} = 1.37$, $F = 6.33$, $p = .00$), more so than those who thought global warming is probably happening ($M_{bio} = 1.90$, $M_{rec} = 1.65$).

Attitudes towards sustainability were overwhelmingly high as can be seen in Table 4, with most faculty thinking that it was “a good thing” (74.6%), with nearly a quarter (21.3%) identifying themselves as “passionate advocates.” Similar results were seen in the Cotton et al. (2007) study. Those who identified themselves as passionate advocates were more likely to believe in global warming (26.8%; $\chi^2 = 97.57$, $p = .00$), whereas respondents who stated “I think it is a good thing” (87.2%) were more likely to believe that global warming is probably happening.

< Insert Table 4 about here >

4.3 Demographic differences in sustainability conceptions and attitudes

4.3.1 Gender

Females were more likely to be a passionate advocate for sustainability (48.4%; $\chi^2 = 13.55$, $p = .01$) and believe that sustainability goes beyond the three domains (41.5%; $\chi^2 = 14.55$, $p = .00$). Females believed that sustainability implies maintaining biodiversity in the local environment ($M_{bio} = 1.55$; $F = 1.54$, $p = .01$), recycling waste products ($M_{rec} = 1.36$; $F = 4.84$, $p = .05$), a significant degree of local production and consumption ($M_{loc} = 1.89$; $F = 11.90$, $p = .00$), social progress that recognises the needs of everyone ($M_{soc} = 1.81$; $F = 8.56$, $p = .00$), and with putting the needs of nature before those of humanity ($M_{nat} = 2.91$; $F = 3.10$, $p = .02$), more so than males ($M_{bio} = 1.74$, $M_{rec} = 1.48$, $M_{loc} = 2.23$, $M_{soc} = 2.16$, $M_{nat} = 3.13$).

Males were more likely to indicate that sustainability was “a good thing” (65.8%), “it is OK if others want to do it” (85.7%), “I am not really bothered” (87.5%), or “I think it is a waste of time and effort” (100%; $\chi^2 = 13.55$, $p = .01$). Males were also more likely to believe that sustainability is limited to the three broad domains (66.9%), view sustainability in terms of the environmental domain (80.4%), or limited to the idea of “keeping self or business going” (100%; $\chi^2 = 14.55$, $p = .00$).

4.3.2 Experience/expertise

Respondents who had 0 (9.7%), 11–20 (20.4%), 21–30 (15.1%), or 31–40 articles published (6.5%; $\chi^2 = 63.43$, $p = .00$), were an associate professor or equivalent (28.3%; $\chi^2 = 24.27$, $p = .00$), or served 11–20 (36.3%) or 21–30 years in academia (26.4%; $\chi^2 = 34.12$, $p = .01$), were more likely to be a passionate advocate for sustainability. Those who had 1–5 (27.6%), 6–10 (18.4%), 11–20 (20.6%), or 41–50 publications (3.7%), were a postdoc/lecturer/senior lecturer or equivalent (52.9%) or a professor (28.3%), spent 1–10 years (35.3%), 31–40 years (8.7%), or 41+ years in academia (4.0%), were more likely to indicate that sustainability was “a good thing.” In addition, professors (100%) and those who spent 21–30 years in academia (83.3%) were more likely to indicate that sustainability was a waste of time and effort.

Those who had taught a sustainability course believed that sustainability implies helping people avoid starvation ($M_{star} = 1.73$; $F = 6.91$, $p = .00$), social progress that recognises the needs of everyone ($M_{soc} = 1.78$; $F = 4.86$, $p = .01$), and with putting the needs of nature before those of humanity ($M_{nat} = 2.61$; $F = 1.51$, $p = .00$), more than those who had not ($M_{star} = 2.05$, $M_{soc} = 2.07$, $M_{nat} = 3.11$). Respondents who held postdoc/lecturer/senior lecturer or equivalent positions believed that sustainability implies social progress that recognises the needs of everyone ($M_{soc} = 1.93$, $F = 3.55$, $p = .03$) and putting the needs of nature before those of humanity ($M_{nat} = 2.90$; $F = 7.68$, $p = .00$), more so than those of professors ($M_{soc} = 2.23$, $M_{nat} = 3.28$). Those who spent 41+ years in industry had a greater belief that sustainability means helping people avoid starvation and disease ($M_{star} = 1.38$; $F = 3.23$, $p = .02$) than those who had spent 31–40 years in industry ($M_{star} = 2.33$).

Researchers who were interested in societal marketing (5.5%), a combination of societal marketing/marketing management (9.9%), a combination of societal marketing/marketing management/consumer behaviour (12.1%), or a combination of societal marketing/consumer behaviour (13.2%), were more likely to be passionate about sustainability, whereas those who thought it was a “good thing” were more likely to be researching strategy

(4.0%), societal marketing (5.0%), marketing management (38.1%), a combination of consumer behaviour/marketing management (25.7%), a combination of consumer behaviour/strategy or research (4.0%), or marketing strategy or research (3.7%; $\chi^2 = 80.07$, $p = .00$).

4.3.3 Religion

Respondents who identified as Jewish (4.1%), Buddhist or Hindu (9.8%), Muslim (3.6%), or indicated “other” religion (3.1%) were more likely to believe that sustainability goes beyond the three domains ($\chi^2 = 28.88$, $p = .05$). Those who were Christians (44.1%), did not wish to disclose (7.8%), or indicated “other” religion (2.8%), were more likely to believe that sustainability is limited to the three broad domains, whereas atheists, agnostics, or those who indicated “no” religion were more likely to think of sustainability in terms of the environmental domain (59.6%) or keeping business going (50.0%).

4.3.4 Political ideology

Politically, respondents who were very left (8.6%), left (32.3%), or slightly left (28.0%), were more likely to identify as passionate advocates for sustainability ($\chi^2 = 110.10$, $p = .00$), whereas those who identified as centre (21.6%), slightly right (12.7%), right (7.7%), or didn't wish to disclose political ideology (7.7%), were more likely to indicate that sustainability was “a good thing.” Those who identified as very left (7.7%), left (27.7%), or slightly left (25.1%), were more likely to think that sustainability goes beyond the three domains, whereas those who were slightly left (25.8%), centre (25.3%), or slightly right (12.9%), were more likely to believe that sustainability is limited to the three broad domains ($\chi^2 = 40.77$, $p = .01$). Participants who held a political ideology that was left (23.1%), centre (21.2%), or right (17.3%), were also more likely to think of sustainability in terms of the environmental domain.

Those who identified themselves as very left believed that sustainability involved a significant degree of local production and consumption ($M_{loc} = 1.67$, $F = 5.61$, $p = .00$), more

so than those identifying as slightly right ($M_{loc} = 2.44$) or right ($M_{loc} = 2.70$), as well as those identifying as left ($M_{loc} = 1.79$) compared to those as centre ($M_{loc} = 2.23$), as slightly right ($M_{loc} = 2.44$), or as right ($M_{loc} = 2.70$). Politically left respondents believed that sustainability implied social progress that recognises the needs of everyone ($M_{soc} = 1.74$; $F = 3.80$, $p = .00$), more so than those who were centrist ($M_{soc} = 2.17$) or slightly right ($M_{soc} = 2.38$). Those identifying as very right believed that sustainability implied exploiting natural resources for human benefit while maintaining critical natural capital ($M_{exp} = 4.25$; $F = 4.27$, $p = .00$), more so than those on the left ($M_{exp} = 3.02$) and centre ($M_{exp} = 2.97$). Additionally, those who identified as politically right had a greater belief that sustainability included maintaining high and stable levels of economic growth ($M_{grow} = 3.70$) than those who were slightly right ($M_{grow} = 2.96$; $F = 2.69$, $p = .02$). Lastly, very left respondents believed that sustainability implied helping people avoid starvation and disease ($M_{star} = 1.43$; $F = 3.13$, $p = .00$), more so than those who were slightly right ($M_{star} = 2.44$).

4.3.5 Region of residence and obtained highest degree

Marketing faculty who thought that sustainability goes beyond the three domains were more likely have earned their highest degree in Australia or New Zealand (22.3%), UK or Ireland (17.9%), or “other” countries (Asia, Eastern Europe, Africa, South America; 7.1%; $\chi^2 = 27.51$, $p = .01$), as well as those who resided in Australia or New Zealand (28.4%), UK or Ireland (14.4%), or in “other” countries (Asia, Eastern Europe, Africa, South America; 7.2%; $\chi^2 = 21.82$, $p = .04$). Respondents who earned their highest degree in Australia or New Zealand (23.0%), or North America (54.5%), were more likely to believe that sustainability was defined as the three broad domains, as well as those who currently resided in North America (53.4%). Lastly, those who earned their highest degree in North America (63.8%), as well those who resided in Western Europe (17.0%) or North America (50.9%), were more likely to think that sustainability is understood in terms of the environmental domain.

In addition, those who resided in Asia, Eastern Europe, Africa, or South America believed that sustainability included putting the needs of nature before humanity ($M_{nat} = 2.32$), more so than those residing in Australia or New Zealand ($M_{nat} = 3.03$), or North America ($M_{nat} = 3.19$; $F = 4.62$, $p = .01$). Those who earned their highest degree in Western Europe had a greater belief that sustainability included recycling ($M_{rec} = 1.27$) than those in the UK or Ireland ($M_{rec} = 1.70$; $F = 2.78$, $p = .03$).

5. DISCUSSION AND CONCLUSION

Despite the large number of marketing faculty who believe in global warming, there are still nearly 20% who have some doubt that global warming is occurring. This statistic is still lower than previous research on the general public, indicating that marketing faculty have a greater consensus about the occurrence of global warming (Leiserowitz et al., 2015).

Marketing faculty have a good understanding of sustainability, possibly more so than what Cotton et al. (2007) found. However, marketing faculty see a greater need for the continual exploitation of natural resources and maintaining high and stable levels of economic growth. Such positive, supportive, holistic, and broad conceptions of sustainability by marketing faculty may indicate that a supportive environment exists for sustainability in marketing education and research.

We found a significant effect of political ideology and focal research area on global warming beliefs. We also found significant effects or associations between gender, political ideology, religion, expertise, region residence, and conferred highest degree on sustainability beliefs (definition, conception, and attitude). These findings are consistent with the literature.

According to Zelezny, Chua, and Aldrich (2000), most studies conducted between 1988 and 1998 found that college female students had greater environmental concern than males; however, only the gender difference in the USA was statistically significant. Hornsey, Harris,

Bain, and Fielding (2016) also found only a very small effect of gender on climate change beliefs. In this study, we also found gender effects with females more likely to have a holistic and broader perspective of sustainability, and to be more passionate about sustainability.

Dunlap, Xiao, and McCright (2001) observe that many studies have found that politically, liberal individuals have higher degrees of environmental concern than those who are politically conservative. Political ideology has also been found to be related to climate change beliefs (Hornsey et al., 2016). We also found some effect of political ideology on beliefs about global warming and sustainability. Specifically, researchers who identified as “left” were usually more likely to be convinced about the occurrence of global warming, passionate about sustainability, and hold a more holistic and broad perspective about sustainability (i.e., beyond the environment) than those identifying as “centre-right.” Interestingly, some respondents who identified as politically left leaning thought that sustainability was limited to only the environmental domain, possibly suggesting that a proportion of liberals are more concerned and focused on the environment than other social and economic issues.

Past research has shown that experience, such as older age and higher education, is related to environmental concern (Dunlap, Van Liere, Mertig, & Jones, 2000; Wiernik, Ones, & Dilchert, 2013) as well as climate change beliefs (Hornsey et al., 2016). Conversely, this study finds that indicators of experience (and thus age) show a mixed effect. No effect was found for experience on global warming beliefs. Instead, experience seemed to affect attitude somewhat, with those respondents indicating that they were passionate being more likely to be mid-range academics and researching societal marketing issues, whereas both entry level and experienced academics were more likely to indicate “it is a good thing.” Conversely, broader conceptualisations of sustainability (i.e., putting the needs of nature before those of humanity) were observed for younger academics and for those who had experience in teaching a sustainability course. Additionally, not all those studying societal marketing indicated that they

were passionate about sustainability, suggesting that some in this research field are involved not because of their personal values and attitudes, but possibly due to other reasons.

Religion has also been shown to affect climate change beliefs. Research has found that evangelical Christians are generally overrepresented in groups that deny the existence of climate change or disbelieve that it is due to human activities (Roser-Renouf, Maibach, Leiserowitz, Feinberg, & Rosenthal, 2016), and Buddhists are more likely to accept that climate change is occurring than Christians (Morrison, Duncan, & Parton, 2015). We did not find any significant effects of religion on global warming beliefs. However, we did find that those who subscribe to the Jewish, Buddhism, Hinduism, or Islam faith were more likely to believe that sustainability goes beyond the three domains, whereas Christians, atheists, agnostics, or those identifying as no religion were more likely to believe that sustainability is limited to the three broad domains or the environment only.

Lastly, studies about sustainability and corporate social responsibility seem to point to a divide between European perspectives and the rest of the world. For example, the European Union compared to the USA and the rest of the world is usually the most progressive region in adopting corporate social responsibility reporting and other social business practices (Harris, 2010). Marketing faculty who thought that sustainability goes beyond the three domains were more likely to reside or have earned their highest degree in Australia, New Zealand, UK, Ireland, Asia, Eastern Europe, Africa, or South America, whereas those who reside in North America or Western Europe were also more likely to think that sustainability can be understood in terms of the environmental domain. These findings suggest that a sustainability split between Europe and the rest of the world may not be as easy to define.

Our findings demonstrate that the demographics of marketing faculty can affect their global warming and sustainability beliefs and attitudes. Researchers who are female and identify as “left” are more likely to have a holistic and broader perspective of sustainability

and be passionate about sustainability. However, although younger academics seemed to have a better grasp of sustainability, they were not necessarily more passionate. Additionally, those who had studied or resided in Australia, New Zealand, UK, or Ireland were more likely to have greater understandings of sustainability. We also highlighted the demographics that are more associated with lower or negative perceptions of sustainability: those who obtained their degree in North America, were male, right-wing, or were Christian, atheist, agnostic, or subscribed to no religion. Therefore, we suggest that professional development education may be needed for mid- to long-term academics building up skills about what sustainability involves, whereas younger faculty/PhD students may need guidance about why sustainability is needed in research and teaching, rather than what it involves. Moreover, this may mean a reconsideration of the reward and tenure/promotion systems present in business schools in relation to teaching and research on sustainability issues.

Our findings show that the marketing academy holds supportive views and attitudes of climate change and sustainability. Therefore, future research must delve deeper into understanding why only limited research and teaching has been done on the intersection between marketing and sustainability. Consequently, future research may focus on specific institutional barriers in business schools. Similarly, research could examine the success of sustainability marketing academics (i.e., rank, publications). Another area of study may be to understand the link between academic faculty values, beliefs, and attitudes, and their marketing research and teaching interests. Future research could also examine other beliefs and values that may affect sustainability and global warming research and teaching, such as adherence to the free market ideology and (un)sustainable consumption perceptions.

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Do you think that global warming is happening?	N	%
Definitely yes	321	73.5
Probably yes	86	19.7
Probably not	9	2.1
Definitely not	3	0.7
Declined to answer	18	4.1

Table 1. Belief in global warming in marketing faculty

Which sustainability conception is most consistent with your own beliefs?	N	%
Sustainability is limited to the idea of 'keeping self or business going'.	10	2.3
Sustainability is understood in terms of the environmental domain of sustainability.	53	12.1
The three broad domains of economic, social and environmental are discerned and generational responsibility is acknowledged.	179	41.0
Sustainability goes beyond the three domains, critically recognizing the relevance of external authorities, societal rules and organizational agendas.	195	44.6

Table 2. Sustainability definitions adopted by marketing faculty

Sustainability implies ...	% strongly agree	% agree	% SA/A (N = 622)	% Cotton et al. (N = 328)
Developing new technologies to reduce the impact of harmful by-products of production	42.1	49.2	91.3	84
Maintaining biodiversity in the local environment	42.1	50.6	92.7	83
Recycling waste products	60.2	37.1	97.3	81
A significant degree of local production and consumption	28.6	43.7	72.3	57
Helping people to avoid starvation and disease	33.6	42.6	76.2	53
Social progress which recognises the needs of everyone	32.0	45.1	77.1	51
Exploiting natural resources for human benefit while maintaining critical natural capital	13.5	37.3	50.8	46
Maintaining high and stable levels of economic growth	6.9	30.7	37.9	23
Putting the needs of nature before those of humanity	4.6	19.5	24.1	21

Table 3. Belief in key elements of sustainability

How would you describe your attitude towards sustainability?	N	%
I think it is a waste of time and effort	6	1.4
I am not really bothered	6	1.4
It is OK if others want to do it	6	1.4
I think it is a good thing	326	74.6
I am a passionate advocate	93	21.3

Table 4. Sustainability attitudes of marketing faculty