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Sustainability worldviews of marketing academics: A segmentation analysis and implications for professional development

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Abstract

The epistemology of the business school has been argued to be a large barrier towards the integration of sustainability in education and research. This research aims to shed light on the fundamental marketing and consumption assumptions marketing academics hold. In an international online survey of 437 marketing academics, the research found four clusters of sustainability worldviews and key demographic differences (based upon sex and academic rank) in sustainability, consumption and marketing beliefs. This research provides a reflection of the disciplines' theoretical and philosophical beliefs in relation to sustainability. Such reflection has implications for the future of sustainability within the marketing academy, as well as an understanding of the conceptualizations of sustainability graduates receive from their education. Based upon the findings, suggestions are provided about how to encourage sustainability research and teaching within marketing departments and how professional development activities in business schools should integrate sustainability content.

Keywords: beliefs, sustainability, education for sustainability, academics, faculty, business education, sustainability marketing

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1. Introduction

The dominant industrial worldview or Dominant Social Paradigm (DSP) espoused by business schools, government, industry and other institutions since the 1980s, is grounded in a strong belief in economic growth, laissez-faire economics, human rule over nature, and faith in technology to solve environmental problems (Dunlap & Van Liere, 1984; Kilbourne, McDonagh, & Prothero, 2013). However, some scholars argue that society's current scientific and technological success, revolving around consumerism and materialism, which are integral to the DSP, is the root of our current environmental crisis (Dunlap & Van Liere, 1984; Kilbourne et al., 2013; Pirage & Ehrlic, 1974; Varey, 2010), and also serves to frame how the idea of sustainability is interpreted and implemented (Hopwood, Mellor, & O'Brien, 2005). Therefore, scholars and commentators are calling for a change in business schools' worldview to allow faculty to fully engage with and integrate topics such as sustainability and ethics (Giacalone & Thompson, 2006; Painter-Morland, 2015; Springett, 2010).

Pirages and Ehrlich (1974) were one of the first to question the DSP, regarding it as no longer relevant in helping to respond to increasing ecological, energy and social crises. In response, a New Environmental Paradigm (NEP) was advocated that emphasized the interdependency of humans with the environment, and which differed from the DSP with respect to "beliefs about humanity's ability to upset the balance of nature, the existence of limits to growth for human societies, and humanity's right to rule over the rest of nature" (Dunlap, Van Liere, Mertig, & Jones, 2000, p. 427). These paradigms have served to frame

much debate about worldviews and environmental issues, as well as measure environmental belief systems in a range of disciplines (Dunlap, 2008; Dunlap et al., 2000; Pirages & Ehrlich, 1974). However, while the DSP and NEP have been measured with established scales in the student body, including business students (e.g., Kilbourne & Polonsky, 2005; Shephard, Mann, Smith, & Deaker, 2009), there is only one unpublished study which has examined business academics' beliefs (Oelfke, 2013). This is a remarkable oversight given that scholars argue (e.g., Borland & Lindgreen, 2013; Painter-Morland, 2015; Springett, 2010; Varey, 2010) and qualitative research finds (Green, 2015; Toubiana, 2014) that some business faculty struggle with the growth-driven ideology and its effect on their ability to integrate more socially and environmentally oriented topics.

Although business schools have increasingly sought to advance sustainability within their activities, the belief that sustainability education is not applicable to one's own discipline has been given as a primary reason for not engaging with it (Christie, Miller, Cooke, & White, 2015). Given the growing demands on business schools to respond to sustainability issues there is a need to investigate the relevance and interpretation of sustainability in non-traditional sustainability subjects (Reid & Petocz, 2006), such as marketing, which is embedded in the DSP and is often considered the antithesis to sustainability (Kilbourne et al., 2013; Varey, 2010; 2011).

Marketing research has tried to integrate sustainability aspects in various dimensions. Ecological marketing focused on industries with clear environmental hazards, such as pollution (Peattie, 2001), while green marketing addressed the 'green consumer' (Peattie, 2001; van Dam & Apeldoorn, 1996), as well as involvement in cradle-to-cradle design and life-cycle analysis (Kemper & Ballantine, 2019). Further, sustainability marketing addresses the social consequences of marketing and aims to change consumer attitudes and behavior

3

towards adopting sustainable lifestyles and offers more critical perspectives on consumption (Kemper & Ballantine, 2019; Pereira Heath & Chatzidakis, 2012; Varey, 2010).

The objective of this research is to examine the sustainability and related marketing beliefs of marketing academics. In doing so, the study provides a reflection of the disciplines' theoretical and philosophical beliefs in relation to sustainability, especially with regards to marketing responsibility and consequences. These sustainability beliefs, or worldviews, have implications for education and scholarship. For example, social values, rather than economic values, are associated with intention to influence student's values, demonstrating differences in pedagogical approaches (Moosmayer, 2012). Thus, sustainability worldviews impact upon the future of sustainability integration within the marketing academy as well as the business schools within which they are located, while also having potentially wider implications for how marketing and sustainability are understood by graduates.

The paper is structured as follows. The literature review examines business and marketing philosophies and sustainability worldviews are explained. Next, the methodology of the international quantitative study is discussed. Findings are presented based on properties of sustainability worldviews present in the marketing academy and the subscription of each worldview, articulating academic and demographic differences (sex, expertise and geographic). Finally, a discussion is provided, emphasizing the contribution of the study on the future of sustainability scholarship and education in the marketing discipline, and professional development courses and opportunities.

2. Literature review

2.1 Business and marketing philosophies

There are many institutional barriers in place within universities and business schools which prevent sustainability from being successfully integrated in education and research. These institutional barriers include faculty mindsets (Doh & Tashman, 2014) and the underpinning philosophical assumptions present in business studies (Borland & Lindgreen, 2013; Painter-Morland, 2015; Springett, 2010). It is argued that conventional contemporary management and business education promulgates the DSP and sees sustainability as a threat to the paradigm of business centered theory (Springett, 2010), which places business in a central role in society, and focuses on materialism, power and status (Giacalone & Thompson, 2006). As a result, marketing is being challenged to acknowledge its contribution to overconsumption and its negative effects on social and ecological systems (Pereira Heath & Chatzidakis, 2012; Varey, 2011), However, currently, the majority of businesses need a 'business case' and 'green consumers' to implement sustainable products and marketing practices (Kemper, Hall, & Ballantine, 2019). These marketing and business practices are shaped by the worldview it is embedded in, limiting the perception of issues, causes and solutions (De Witt, de Boer, Hedlund, & Osseweijer, 2016; Hopwood et al., 2005) .

2.2 Sustainability worldviews

Inclusive forms of sustainable development encompasses ecological problems, issues of equality, human rights, and poverty alleviation (Hopwood et al., 2005). However, the concept of sustainability raises numerous and often contested ideas about how to implement it. Considering the varying views of sustainability, the use of the term 'sustainability worldviews' demonstrates the importance of identifying and separating individual (and group) beliefs, values and attitudes (De Witt et al., 2016). These worldviews have implications on behaviors such as support for climate change policies, sustainable food and meat consumption, and energy use (De Witt et al., 2016; Hedlund-de Witt, de Boer, &

Boersema, 2014). Thus, given their subsequent impact on education and research, it is important to make distinctions between sustainability beliefs in academics. Overall, a sustainability worldview can be seen as a continuum from stronger to weaker views (Hopwood et al., 2005).

The NEP and DSP provides an overarching worldview from weak to strong sustainability perspectives. On one end of the continuum, there is a weaker sustainability worldview which suggests minor adjustments to the status quo to address social, economic and environmental issues in society (Hopwood et al., 2005; Neumayer, 1999; Thompson & Barton, 1994). This weaker sustainability view adheres to aspects of the DSP which support continued economic growth, laissez-faire economics, and human rule over nature (Dunlap & Van Liere, 1984; Kilbourne, McDonagh, & Prothero, 2013). At the other end of the continuum, there is a stronger sustainability worldview which understands the various and serious nature of environmental, social and economic sustainability issues in society and demands change in existing social structures (Borland & Lindgreen, 2013; Hopwood et al., 2005; Kilbourne et al., 2013; Varey, 2011). Here, the NEP is conceptualized as acknowledging the (i) existence of ecological limits to growth, (ii) importance of maintaining the balance of nature, (iii) rejection of anthropocentricism (nature is valued for human use), (iv) rejection of exemptionalism, and (v) belief in the likelihood of an eco-crisis (Dunlap & Van Liere, 1984). While the NEP has implications for individuals, government and business actions and operations, it focuses mainly on the environment and somewhat on the economic aspects of sustainability, and it was not initially designed to relate specifically to marketing related concepts.

Therefore, based on previous research (Hopwood et al., 2005; Kemper & Ballantine, 2019; Kilbourne et al., 2013; Pereira Heath & Chatzidakis, 2012; Varey, 2010; 2011), it is

6

suggested that a denial of marketing responsibility for environmental and/or social problems could contribute to a worldview which is more resistant to notions of sustainability that require substantial changes to the business system, and thus, a weaker sustainability worldview. Thus, it is important to examine marketing and consumption issues as social/economic dimensions of sustainability. In contrast, a stronger sustainability worldview would perceive the negative effects of marketing on the environment, take responsibility for the impact of marketing on the social and natural environment, and reflect upon the current overconsumption of Western society (Hopwood et al., 2005; Kemper & Ballantine, 2019; Kilbourne et al., 2013; Pereira Heath & Chatzidakis, 2012; Varey, 2010; 2011). Figure 1 presents the conceptual framework guiding the research and displays the combined environmental, economic, social, consumption and marketing views of sustainability. However, the authors acknowledge that Figure 1 presents a simplified view but utilize the framework for visualization and clarification purposes.

< Insert Figure 1 about here >

The worldviews of sustainability differ between individuals, dependent on socio-demographic and contextual factors. For example, environmental concern, and the importance of ethics and social responsibility differ between age, gender, education and culture (Dunlap et al., 2000; Hawcroft & Milfont, 2010; Marta, Singhapakdi, Rallapalli, & Joseph, 2000). More specifically in the context of academia and management education, Moosmayer (2011) found that academics' economic and social values and intention to influence student values were associated with business discipline and national culture. While studies have examined the sustainability perceptions of academics across disciplines (i.e., definitions, integration within curriculum) (e.g., Christie et al., 2015; Cotton, Warren, Maiboroda, & Bailey, 2007; Reid & Petocz, 2006), little research has examined the

sustainability worldviews of business academics, let alone marketing faculty, especially those who do not publish in the area of sustainability. For example, scholars have published on their ideas to integrate sustainability within marketing education (e.g., Bridges & Wilhelm, 2008) and theory (e.g., Kemper & Ballantine, 2019). But, what do the majority of researchers who do not publish in sustainability think? An holistic examination of all types of researchers provides an opportunity to better understand scholars who suggest that marketing (and business) faculty are ingrained in an environmentally and socially destructive worldview (e.g., Borland & Lindgreen, 2013; Doherty, Meehan, & Richards, 2015; Giacalone & Thompson, 2006; Painter-Morland, 2015; Springett, 2010; Toubiana, 2014).

A quantitative study of 417 marketing academics from various countries is presented next. The study focuses on the properties of sustainability worldviews present in the academy and the subscription of each worldview. The research utilizes a survey-design to capture beliefs about NEP dimensions (ecological limits to growth, balance of nature, rejection of the anthropocentric and exemptionalism, and belief in likelihood of an eco-crisis) and marketing and consumption issues (i.e., denial of marketing responsibility for environmental and/or social problems). These dimensions provide an overarching means to assess the economic, environmental, social, consumption and marketing beliefs which make up the holistic sustainability worldview (see Figure 1).

3. Method

This research utilized an international online survey to obtain a large generalizable sample of sustainability beliefs. The survey was live on Qualtrics from October 17, 2016, to February 12, 2017. To recruit participants, public postings were made on several Listservs and an academic marketing Facebook group. Second, personal emails were sent to email addresses listed in the proceedings of two generalist marketing conferences held in 2015, and

8

one in 2016. 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. As faculty are time poor, incentives (Amazon vouchers and a conference registration) were used to encourage more participants to complete the survey. The response rate is unable to be calculated due to the unknown number of initial faculty who viewed/received the survey. However, the response rate was 15.6% for personal emails. This compares well with previous research on marketing faculty ranging from a response rate of 10.1% to 19.3% (Bailey, Hair, Hermanson, & Crittenden, 2012). The statistical software SPSS 23.0 was used to analyze the data. Specifically, multi-variate analyses are used to examine sustainability belief differences between academic and demographic characteristics (sex, expertise, geographic), while cluster analysis is used to group and describe the sustainability worldviews present in the sample.

3.1 Measures

3.1.1 New Environmental Paradigm scale

Created in the late 1970s, the NEP scale has been widely used to measure environmental concern, values, attitudes and worldviews (Dunlap, 2008; Dunlap & Van Liere, 1984; Dunlap et al., 2000). The scale was revised in 2000, consisting of 15 items (Dunlap, 2008; Dunlap et al., 2000), and has been frequently used and validated in the literature (Dunlap, 2008; Hawcroft & Milfont, 2010). The items measure five dimensions: existence of ecological limits to growth, importance of maintaining the balance of nature, rejection of the anthropocentric, rejection of exemptionalism, and belief in the likelihood of an eco-crisis. Seven items (even numbered), if agreed to by a respondent, reflect endorsement of the DSP; while eight items (odd numbered), if agreed to by a respondent, reflect

endorsement of the NEP (Dunlap et al., 2000). In this study, the NEP was measured using a five-point Likert scale anchored 1 = Strongly Disagree to 5 = Strongly Agree. The Cronbach Alpha for the NEP scale was 0.86. The items used to measure the NEP scale can be found in Table 2.

3.1.2 Marketing and consumption scale

Based on political economy, the DSP represents a weak version of sustainability (Neumayer, 2003) "which privileges private business and the principles of the free market over the role of the state in economic, social and environmental spheres; whereas more radical thinkers see the state as responsible for protecting society and the environment from unregulated business" (Davidson, 2014, p.5). Extending this line of thinking to marketing and consumption activities specifically, the DSP (in relation to marketing and consumption) would not acknowledge the negative effects of marketing on the environment, take responsibility for the impact of marketing on the social and natural environment, or believe there is overconsumption in Western society (Hopwood et al., 2005; Kemper & Ballantine, 2019; Kilbourne et al., 2013; Pereira Heath & Chatzidakis, 2012; Varey, 2010; 2011). However, previous marketing attitudes scales (e.g., Andrews, 1989; Barksdale & Darden, 1972) have not addressed the impact and effect of marketing on society. Consequently, an entirely new scale measuring marketing and consumption beliefs was created to address marketing and its impact on the environment. Specifically, in relation to our conceptual framework presented in Figure 1, the items aimed to measure consumption and marketing issues. This scale consisted of twelve items which were either adapted or created from the extant literature relevant to this study. The items cover beliefs related to marketing impact (artificial wants, promoting unsustainable consumption, contributes negatively to social and environmental problems), marketing beliefs (ignorance about the limits of the planet,

marketing needs to change) and consumption (reduced consumption needed, change what we consume and ways of living, too wasteful of natural resources). Item 2 measures the belief in the impact of society in creating artificial wants and Item 11 measures consumption beliefs about the wastefulness of resources; these items were adapted from Cotgrove (1982). Item 9 measures consumptions beliefs about reduced consumption, and was adapted from Dunlap and Van Liere (1984), while Item 1, measuring the belief in the impact of marketing (artificial wants), was inspired by O'Brien and Ingels (1987). Items 3, 4, and 5 were adapted from Hossain and Marinova (2013) and measure marketing impact on promoting unsustainable consumption and contributing negatively to social and environmental problems, and Item 12 from Kagawa (2007) measures consumption and the need to change our way of living. Additional items were created to represent marketing beliefs referring to the ignorance about the limits of the planet (Item 7), that marketing needs to change (Item 8) and that marketers should/not concerned about the environmental consequences of their marketing activities (Item 6), as well as consumption beliefs about the need to change what is consumed (such as switching to sustainable or green products) (Item 10). The items were subjected to three pre-tests, using a cumulative sample size of 97 student respondents. Due to a revision of the scale after the first pre-test, half the items were added to both pre-test 2 and 3 (the scale used in the first pre-test included only six items). All items were measured on a five-point Likert scale anchored 1 = Strongly Disagree to 5 = Strongly Agree. Principle Components Analysis and Varimax rotation was performed to assess the underlying structure of this scale. A two factor solution was found which explained 63.84% of the total variance, with one item deleted (Item 6) due to low communality (<0.3). The first factor, 'the need for change', contained six items (Items 7-12) and explained 49.84% of the variance with a Cronbach Alpha of 0.88, while the second factor 'critique of the status quo' contained five

items (Items 1-5) and explained 14.0% of the variance with a Cronbach Alpha of 0.85. The items included in the two factors can be found in Table 3.

3.2 Sample

A total of 437 faculty completed the survey. The demographics of the sample are recorded in Table 1. The sample contained 63.0% males and 35.8% females (1.2% did not identify their sex). This is representative of the sex faculty divide at Association to Advance Collegiate Schools of Business (AACSB) business schools in marketing departments (62.7% males and 37.3% females) (AACSB, 2016). While not all respondents were from AACSB institutions, these figures give an indication of sex representation. North America was the most represented region with 45.3%, followed by 24.6% from Australia or New Zealand, 12.4% from the UK or Ireland, 13.3% from Western Europe, and 4.4% from other countries (Eastern Europe, Asia, Africa, and South America).

< Insert Table 1 about here>

The spread of academic ranks is similar to those seen in Australian universities (Broadbent, Troup, & Strachan, 2013). Emerging scholars might be slightly underrepresented with 50.6% (instead of 54% male and 70% female emerging scholars in Australian universities), and Professors slightly overrepresented in the sample (28.3% in the sample instead of 22% male and 11% female Professors in the Australian study).

4. Findings

4.1 New Environmental Paradigm

The NEP score is calculated by averaging the mean of the scores of the individual items. The NEP score for marketing academics was $M_{NEP} = 3.59$, with the item means being provided in Table 2. The key demographics of interest were sex, expertise (i.e., position rank)

and geographic variations.

< Insert Table 2 about here >

Females were significantly more environmentally concerned (M_{NEP} = 3.78) than males (M_{NEP} = 3.50) (t = -4.71, p = 0.00). Conducting independent sample t-tests on each individual NEP item, we also found specific environmental belief differences between sexes. These can be seen in Table 2, where 12 of the 15 items were statistically different between females and males.

One-way ANOVA analyses showed that academic rank affected total NEP scores. Overall, Postdocs, Lecturers and Senior Lecturers (M_{NEP} = 3.65) had a greater NEP score than Professors (M_{NEP} = 3.46) (F = 4.30, p = 0.01). Conducting ANOVA tests on each individual item, some items differed between these two groups, specifically the belief that the so-called "ecological crisis" facing humankind has been greatly exaggerated (Item 10) (M_{lect} = 4.04, M_{prof} = 3.71, F = 3.94, p = 0.02), the earth is like a spaceship with very limited room and resources (Item 11) (M_{lect} = 3.62, M_{prof} = 3.44, F = 3.18, p = 0.05), and if things continue on their present course, we will soon experience a major ecological catastrophe (Item 15) (M_{lect} = 3.85, M_{prof} = 3.50, F = 4.93, p = 0.01).

Regional differences were not found to be significant for total NEP scores. However, conducting ANOVA tests on each individual item showed some significant differences. The belief that the earth has plenty of natural resources if we just learn how to develop them (Item 6) was found to have greater agreement amongst North Americans (M_{res} = 3.03) than Non-English speaking Western Europe (M_{res} = 2.52) (F = 4.46, p = 0.00), and the belief that humans will eventually learn enough about how nature works to be able to control it (Item 14) had lesser agreement amongst 'other nations' (M_{hum} = 2.47) compared to Australia/New Zealand (M_{hum} = 3.84), North America (M_{hum} = 3.59) and UK/Ireland (M_{hum} = 3.48) (F =

13

5.60, $p = 0.00$). The belief that the earth is like a spaceship with very limited room and resources (Item 11) was found to have greater agreement amongst Australia/New Zealand ($M_{space} = 3.45$) academics compared to those in UK/Ireland ($M_{space} = 3.19$) ($F = 2.99$, $p = 0.02$). Finally, North Americans had a lesser belief that plants and animals have as much right as humans to exist (Item 7) ($M_{plant} = 3.65$) than those in 'other nations' ($M_{plant} = 4.37$) ($F = 4.49$, $p = 0.00$).

4.2 Consumption and marketing issues in sustainability

Sex differences were also found for marketing and consumption beliefs (see Table 3). Sex differences were only observed for the objective of marketing (Item 6) and the belief that there are 'forces' at work in society which stimulate artificial wants (Item 2), with females more concerned about marketing's objective and impact. There were sex differences within all of the consumption-focused items (Items 9-12), with males consistently less concerned or critical about consumption patterns.

< Insert Table 3 about here >

Using ANOVA, Postdoctoral students, Lecturers, and Senior Lecturers had a greater belief that the marketing of consumer goods and services contributes negatively to current social problems (Item 4) ($M_{social} = 3.08$) ($F = 4.06$, $p = 0.02$), and that we need to reduce our level of consumption to combat growing environmental problems (Item 9) ($M_{reduce} = 3.73$) ($F = 3.30$, $p = 0.04$) than Professors ($M_{social} = 2.76$, $M_{reduce} = 3.39$). In addition, Professors had a lesser belief that we should drastically change our way of living to combat growing environmental problems (Item 12) ($M_{change} = 3.60$) than Postdocs, Lecturers and Senior Lecturers ($M_{change} = 3.95$) and Associate Professors ($M_{change} = 3.99$) ($F = 4.60$, $p = 0.01$). Overall, less experienced academics had more critical views of marketing's impact on social

issues and the need for reduction in consumption levels and a dramatic change in our way of living.

Similar regional differences were found for the consumption and marketing items. Australia/New Zealand academics had a greater belief in modern forces stimulating demand (Item 2) (M_{force} = 4.01) than non-English speaking Western Europe (M_{force} = 3.60) (F = 3.06, p = 0.02). Similarly, North American respondents had a lesser belief that marketing contributed to social problems (Item 4) (M_{social} = 2.83) (F = 2.63, p = 0.04) than respondents in Australia/New Zealand (M_{social} = 3.26).

4.3 Cluster analysis

Cluster analysis is performed to group similar cases, thereby placing individuals in groups with those people who answered questions in a similar manner (Everitt, Landau, Leese, & Stahl, 2011). As such, the analysis reveals the worldviews present in academics by groups, allowing characteristics (i.e., demographics) to be linked to specific environmental, marketing and consumption beliefs. Groupings were identified following a two-step procedure (Hair, Anderson, Babin, & Black, 2010). Firstly, hierarchical cluster analysis using Ward's method was applied to the mean item scores of the NEP scale and the two factors which comprised the marketing and consumption scale. Adopting the 'stopping rule' (e.g., Hair et al., 2010), the changes in the within-cluster sum of squares suggested four clusters as an initial solution. Second, K-means cluster analysis was then used to refine the clusters assuming four groups. The mean item scores for each factor for each of these four groups are provided in Table 4, along with the results of cross tabulations using Pearson's Chi-Square to examine the demographic differences between clusters.

< Insert Table 4 about here >

The cluster analysis suggested that there are four key groups of academics. There was no significant difference in country of residence or academic rank between the four groups. However, there was a significant difference between the groups for gender ($\chi^2 = 11.06$, $p = 0.01$) and time spent in academia ($\chi^2 = 23.39$, $p = 0.03$).

The Weak sustainability view cluster, representing 34.10% of the sample, exhibited low average environmental concern and did not believe in the need for change in marketing and consumption activities. In fact, this group had the lowest scores on all of the scales used in this analysis. This group was also overrepresented with males in their mid to late careers. 6.64% of the sample had a Strong sustainability view, exhibiting the highest level of environmental concern, and were critical of marketing and consumption activities and believed in the need for change in this area. This group had the highest scores on all of the scales used in this analysis and was also dominated by emerging female scholars.

35.24% of the sample, and overrepresented by late career scholars, fell into the Strong-Moderate worldview category. This group believed in the need for change in marketing and consumption, had slightly below average environmental concern, but were more critical of the status quo. Conversely, the Moderate-Status Quo cluster (comprising 24.03% of the sample), while also believing in the need for change, had a less critical view of current marketing practices. However, respondents in this group had a greater level of environmental concern than those falling in the Strong-Moderate cluster.

5. Discussion

The research objective of this study was to examine marketing academic sustainability worldviews in order to investigate the research problem of how philosophical and theoretical barriers may restrict integrating sustainability in marketing. The subsequent research findings addressed how academics conceptualize sustainability by identifying

16

different sustainability worldview clusters and their implications for teaching and research. Sustainability conceptualizations have an impact on the future of sustainability within the marketing academy, as well marketing graduates' conceptualizations and their subsequent business practices. Overall, this research finds several beliefs within marketing academia, particularly that they may be less critical of marketing's' own practices in contributing towards negative social and environmental impacts and are more skeptical about the need for consumption reduction, which will influence their teaching and research on these topics. The following paragraphs will discuss these findings and implications in greater detail.

5.1 Environmental beliefs and concerns

Respondents appear to have lower environmental concern than other studies based on their profession and education. A meta-analysis of NEP studies finds white collar workers (i.e., scientists) have on average high environmental concern (average M_{NEP} = 3.94) (Hawcroft & Milfont, 2010). Other research also demonstrates higher education to be associated with greater environmental concern (Dunlap et al., 2000; Diamantopoulos et al., 2003). As such, compared to previous research, the present study had a lower average environment concern (given level of education - PhD trained) (M_{NEP} = 3.58). Such lower environmental concern may present a personal philosophical barrier towards integration of a stronger view of sustainability.

At the social or macro level, the consequences of lower environmental concern and adoption of the DSP is attributed to the rise of environmental problems because ecological limits are not recognized (Dunlap & Van Liere, 1984), while a stronger ecological worldview (NEP) is associated with the cultural values of harmony, collectivism, and intellectual and affective autonomy (Milfont et al., 2008). At the individual or micro level, lower environmental concern and adoption of the DSP has been identified as supporting practices

17

and policy which cause environmental degradation (Dunlap & Van Liere, 1984; Rauwald & Moore, 2002) and unsustainable behaviors (i.e., non-green purchasing) (e.g., Casey & Scott, 2007; Hurst et al., 2013; Lee at al., 2014). Consquently, such beliefs and lack of environmental concern may be passed onto students through teaching (Moosmayer, 2010, 2011) and may be reflected in the lack of research on the topic (i.e., 2% of the top marketing journals have been dedicated to sustainability topics and less than 1% to climate change) (Hall, 2018; Purani et al., 2014).

Overall, the lower NEP scores compared to other studies (Hawcroft & Milfont, 2010) demonstrate that it may be the business discipline, and its assumptions associated with the DSP, that enable lower environmental concern (Dunlap & Van Liere, 1984; Kilbourne et al., 2013; Pirage & Ehrlic, 1974; Varey, 2010), despite their high education. Potential support of this notion is found in the lower level of environmental concerns of business students, with greater environmental concern present in students in other disciplines. Similarly, Lang (2011) found that business students scored lower on the NEP scale, on average, than non-business students when controlling for political ideology, gender, and financial security. Other studies have also shown similar differences between business and science majors (Hodgkinson & Innes, 2001; Sherburn & Devlin, 2004).

5.2 Consumption beliefs and concerns

Stronger sustainability beliefs are seen in a greater conviction about the need for change. Particularly, in the wastefulness of society, as well as the realization that consumption of products and lifestyles needs to change. The need to reduce consumption levels is viewed with more scepticism. In this case, continuous consumption (albeit with green products), rather than consumption reduction, is regarded as central to a continually growing economy and central to marketing ethos (Pereira Heath & Chatzidakis, 2012; Varey,

2010). Yet, research indicates that growth in consumption can outpace efficiency improvements in products; in other words, green products may have rebound effects resulting in greater absolute consumption and resource use (Dahmus, 2014). Nevertheless, product design and technology (Cooper, 2005), with special emphasis on cradle-to-cradle design and product longevity, has a roll to play in producing environmentally friendly products. The path towards sustainable consumption remains debated and likely includes both efficiency and behavioral change approaches (Hall, 2016; Kemper & Ballantine, 2019). Such a combination view is also seen in international bodies, such as the Intergovernmental Panel on Climate Change (IPCC) and the United Nations (i.e., the Sustainable Development Goals), which emphasize the need for sustainable consumption.

Again, these beliefs in relation to consumption reduction may influence how sustainability topics are taught in marketing curriculum and which topics are addressed in research. For example, research illustrated that most textbooks prescribed in business sustainability courses espouse a weak sustainability worldview with a 'business case' (i.e., cost saving, reputation, profitability) as the primary rationale for adopting sustainability rather than ethical arguments or ecological limits to growth (Landrum & Ohsowski, 2017). Additionally, most academic work on sustainability marketing focuses on integrating sustainability within the marketing mix but not addressing consumer lifestyles or behavior change (Kemper & Ballantine, 2019).

5.3 Marketing beliefs and concerns

In the present research, respondents were somewhat ambivalent about the impact marketing had on society, the environment, and contribution to creating artificial wants, demonstrating a weaker sustainability perspective. While marketing was seen to be at least partially responsible for promoting unsustainable consumption, there was a reluctance for

19

respondents to *acknowledge* the impact of marketing on the natural and social environment, especially in the Moderate-Status Quo and Weak sustainability cluster (over 58% of the sample was represented by these two clusters). This finding demonstrates the more optimistic view marketing academics may have of business and social impact, as seen in business faculty more generally compared to other disciplines (Sylvestre, Wright, & Sherren, 2013). This view suggests some respondents may see the positive role of business on society rather than negative consequences and externalities (i.e., environmental degradation, equality, greed) as has been represented, for example, in the 2008 Financial Crisis and environmental scandals (i.e., BMWs emissions cheating, BP Deep Horizon oil spill, Exxon-Valdez oil disaster), and the revelation that 100 fossil fuel corporations are responsible for approximately 70% of all global carbon emissions since 1988 (Griffin, 2017). Business ethics scholars have long sought to integrate moral philosophies and reasoning into curriculum (Williams, & Dewett, 2005). Similarly, the subdisciplines of societal marketing, which accounts for societal-based considerations in marketing decisions (Crane & Desmond, 2002), and critical marketing, which challenges marketing concepts and ideas (Tadajewski 2011), have tried to introduce responsibility in marketing. Subsequently, for Moderate-Status Quo and Weak sustainability clusters, such considerations and perspectives may not be incorporated into teaching and research.

5.4 Demographic differences

This study also found some key demographic differences in sustainability, consumption and marketing beliefs. Namely, the research finds younger, female academics more likely to subscribe to stronger sustainability views. Findings from previous research demonstrate similar trends. Females have been found to be more critical of marketing (Dubinsky & Hensel, 1984), more supportive of CSR (Elias, 2004), and have greater

environmental concern (Shephard, Mann, Smith, & Deaker, 2009; Harraway et al. 2012; Zelezny, Chua, & Aldrich, 2000). Past research has also shown that age is negatively related to environmental concern, so older individuals are more environmentally concerned (Dunlap et al., 2000; Hawcroft & Milfont, 2010), but this relationship has been shown to be negligibly small in a meta-analysis (Wiernik, Ones & Dilchert, 2013). However, a large attitude-behavior gap exists with respect to sustainable behaviors, so even those who are more environmentally concerned may not act in environmentally friendly ways (Moraes, Carrigan & Szmigin, 2012). For example, Lambrechts et al. (2018) found first year management and marketing students were overrepresented in their cluster of "Moderate problem solvers", who were interested in sustainability issues but did not undertake initiatives to behave more sustainably. Therefore, younger scholars interested in sustainability may face opposition and barriers in terms of feeling isolated and unsupported from their colleagues (Kemper, Ballantine & Hall, 2020) which may be exacerbated due to their early career status which brings its own set of challenges (i.e., publish or perish, precarious employment) (Nicholas et al., 2017).

Overall, this study finds key areas for knowledge improvement in the marketing body. The research assessed aspects of sustainability competencies present in the marketing faculty on the assumption that such sustainability knowledge and attitudes allows faculty to engage in research and teaching. Indeed, sustainability attitudes, skills (i.e., communication, problem solving) and knowledge (i.e., ecological concepts) are critical components of sustainability education (Stubbs, 2013). Consequently, professional development courses need to not only address knowledge, skill and attitude gaps, but also willingness to self-reflect.

5.5 Professional development

While many scholars have suggested the need for professional development (e.g., Barth & Rieckmann, 2012; Lambrechts, Verhulst, & Rymenams, 2017), this research helps to understand what needs to be addressed in such courses given to marketing academics. Professional development can be used to increase awareness, engagement and capacity to deliver sustainability education (Holdsworth, Wyborn, Bekessy, & Thomas, 2008). Although the complex nature of sustainability means that any quest for consensus around sustainability will likely remain fruitless (Sylvestre et al., 2013), exposure to different sustainability perspectives can broaden individual perceptions and allow for critical self-reflection.

It is extremely important to examine the content needed to increase competence and knowledge in professional development courses. Such educational courses must take on board the complex task of addressing key assumptions and objectives in the business discipline (Springett, 2010; Stubbs & Cocklin, 2008). Courses may start from the broad picture of sustainability, then to the context of business, and finally to marketing (discipline) specific areas (Lambrechts et al., 2017). Based on the research findings presented here, educational courses should focus on the fundamental relationships between nature, the economy and humans (Dunlap et al., 2000), and marketing's impact on society and its responsibility to acknowledge and address its impact (Borland & Lindgreen, 2013; Pereira Heath & Chatzidakis, 2012; Varey, 2010, 2011). However, changing worldviews is hard, especially considering its embeddedness in business schools (Giacalone 2004; Giacalone & Thompson, 2006). Thus, sustainability education must learn from the experiences of university courses which aim to create change agents (Hesselbarth & Schaltegger, 2014; Lozano, Ceulemans & Seatter, 2015), and from pedagogical practices which aim to change beliefs and attitudes, and question assumptions. These may include transformational education (Sterling, 2010) and social learning (Wals, 2009) practices, or even those that work within the dominant paradigm to affect change (Lourenço, 2013).

Much research on professional development is about becoming better educators, not researchers. Thus, much more support and encouragement are needed for sustainability research within business schools. As such, while communities of practice (Warr Pedersen, 2017), networks, workshops and conferences within institutions can be established, the same initiatives are needed at national and international levels. There is a need for encouragement of new and emerging sustainability scholars (i.e., funding for undergraduate summer research projects, doctoral scholarships and postdoctoral positions). Lastly, support and encouragement are needed for faculty who have the sustainability competencies but not the motivation to conduct sustainability research. Regardless of sustainability competencies, staff also need the ability, will and vision to implement change for sustainability in their research and teaching. Here, issues of empowerment (Lambrechts et al., 2017) and self-determination in conjunction with internal organizational barriers may create tensions.

As such, individuals need to feel empowered through authority (i.e., ambassadorship), resources (i.e., hand-guides), and self-determination (Lambrechts et al., 2017). Here, academics can also utilize and leverage the popularity of journal, subject and university rankings, external funding (Teelken, 2012), and accreditation agencies (Doherty et al., 2015), to voice their support for sustainability integration. These are external institutional forces which can offer legitimacy to sustainability research and teaching (Alajoutsijarvi, Juusola, & Siltaoja, 2015). In turn, such actions may have spillover effects into organizational culture (Elliott & Goh, 2013). Such change agents have been identified in previous research in academia (Kemper, Ballantine & Hall, 2020; Wood et al., 2016) and organizations (Visser & Crane, 2010).

6. Conclusion

Academic conceptualizations of sustainability are vital to understanding underlying taken-for-granted assumptions in the marketing academy. This research found positive and

supportive conceptions about marketing's role in sustainability. Respondents had an average concern for the environment and believed in a need for change in the consumption of products and lifestyles. While respondents believed that marketing was at least partially responsible for promoting unsustainable consumption, there was some hesitancy to acknowledge the impact of marketing on the natural and social environment and need for consumption reduction. Consequently, professional development courses need to address the impact of marketing on the macro-environment and limits to growth to encompass a stronger sustainability perspective.

While all research has its limitations, future research is suggested to build upon the findings presented here. Nonresponse bias may be a possibility, as the survey was self-selected and not every marketing academic was reached. However, the sample had an almost representative sample of females and males in marketing departments and a similar spread of rankings as seen in Australian universities. This study sought to go further than previous sustainability studies and include more fundamental beliefs about marketing and consumption practices in relation to the NEP and DSP literature. As such, new items were adapted and developed. It would have been beneficial to have more established scales available to allow the ability to directly compare to other studies. However, items from previous studies were included where possible, and future research may wish to use the scales developed in this research which would provide additional validity to the scales. Moreover, research and teaching are not value free (Rayland, 1998). The researchers acknowledge their support of strong sustainability efforts which critique the status quo and thus, reflections on the research findings may reflect such beliefs.

Future research could investigate further why business academics may hold strong personal beliefs in sustainability but do not pursue this in their research and teaching. Is this

difference between espoused sustainability attitudes and beliefs an effect of social desirability? Alternatively, are these positive and holistic perceptions of sustainability in academics an example that professional hurdles are too strong to overcome? Future quantitative research, preferably longitudinal to assess change over time and events (i.e., future business scandals, economic crises), and qualitative studies are encouraged to understand the beliefs of the business school and its impact on teaching (i.e., integration into the curriculum, creating new courses), research (i.e., funding, publication success), personal life, institutional change and, of course, sustainability.

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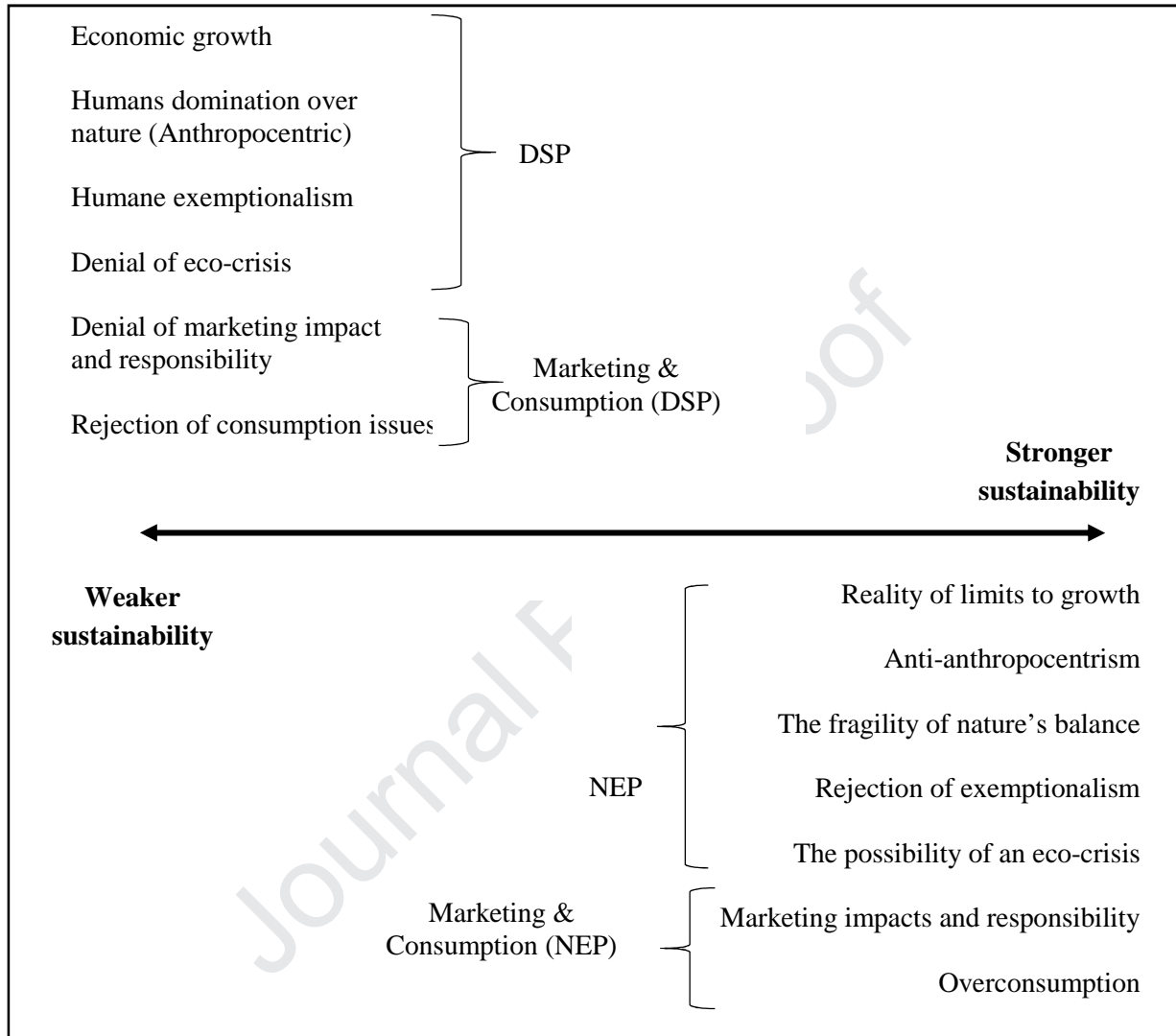
Figure 1. Economic, social and environment sustainability views (Cotgrove, 1982; Dunlap & Van Liere, 1984; Kilbourne et al., 2013; Pirage & Ehrlic, 1974)

Table 1. Demographics of marketing faculty

Demographic Variables	Category	N	%
Country of residence	Australia/New Zealand	107	24.6
	Western Europe	58	13.3
	North America	197	45.3
	UK/Ireland	54	12.4
	Other	19	4.4
Academic rank	Postdoc/Lecturer/Senior Lecturer/Assistant Professor	220	50.6
	Associate Professor	92	21.1
	Professor	123	28.3
Years in industry	1-10	255	60.7
	11-20	79	18.8
	21-30	48	11.4
	31-40	30	7.1
	41+	8	1.9
Years in academia	1-10	143	33.1
	11-20	142	32.9
	21-30	96	22.2
	31-40	34	7.9
	41+	17	3.9

Table 1. Demographics of marketing faculty

Table 2. NEP items

	Percentage of agreement	Mean		Independent Samples t-Test	
	SA/A%	Female	Male	t	Sig.
(1) We are approaching the limit of the number of people the earth can support	50.6	3.61	3.28	-3.04	0.00
(2) Humans have the right to modify the natural environment to suit their needs	36.2	3.39	2.86	-5.11	0.00
(3) When humans interfere with nature it often produces disastrous consequences	64.8	3.81	3.56	-2.67	0.01
(4) Human ingenuity will ensure that we do not make the earth unlivable	32.3	3.18	2.94	-2.40	0.02
(5) Humans are severely abusing the environment	79.6	4.12	3.90	-2.28	0.02
(6) The earth has plenty of natural resources if we just learn how to develop them	42.1	2.80	3.08	2.72	0.01
(7) Plants and animals have as much right as humans to exist	72.1	4.19	3.66	-5.53	0.00
(8) The balance of nature is strong enough to cope with the impacts of modern industrial nations	12.4	3.65	3.85	2.03	0.04
(9) Despite our special abilities, humans are still subject to the laws of nature	94.5	4.39	4.40	0.10	0.92
(10) The so-called "ecological crisis" facing humankind has been greatly exaggerated	9.8	4.17	3.83	-3.46	0.00
(11) The earth is like a spaceship with very limited room and resources	61.8	3.72	3.56	-1.59	0.11
(12) Humans were meant to rule over the rest of nature	15.8	3.89	3.56	-3.21	0.00
(13) The balance of nature is very delicate and easily upset	64.8	3.88	3.58	-3.04	0.00
(14) Humans will eventually learn enough about how nature works to be able to control it	20.6	3.49	3.24	-2.71	0.01
(15) If things continue on their present course, we will soon experience a major ecological catastrophe	70.0	3.85	3.70	-1.59	0.11

Table 3. Marketing and consumption items

	Percentage of agreement	Mean		Independent Samples t-Test	
	SA/A%	Female	Male	t	Sig.
(1) Marketing creates artificial wants, leading people to buy things they do not actually need	43.9%	3.12	3.00	-0.98	0.33
(2) There are forces at work in modern societies which stimulate a lot of artificial wants for things we do not really need	74.2%	3.93	3.73	-2.00	0.05
(3) The marketing profession is at least partially responsible for promoting unsustainable consumption	86.1%	3.73	3.60	-1.26	0.21
(4) The marketing of consumer goods and services contributes negatively to current social problems	35.7%	3.14	2.92	-2.13	0.34
(5) The marketing of consumer goods and services contributes negatively to current environmental problems	49.2%	3.40	3.22	-1.67	0.95
(6) The only concern of marketers should be the profitability of their products/services, not the environmental consequences of their marketing activities*	4.3%	1.56	1.92	4.43	0.00
(7) There seems to be an ignorance about the limits of the planet (in terms of natural resources) in marketing	47.4%	3.30	3.30	0.16	0.99
(8) Marketing needs to change for it to be able to successfully integrate the concept of environmental sustainability	63.3%	3.72	3.59	-1.16	0.25
(9) The Western world is going to have to drastically reduce their level of consumption to combat growing environmental problems	63.7%	3.93	3.47	-4.45	0.00
(10) The Western world is going to have to change what they consume, such as switching to sustainable or green products, to combat growing environmental problems	83.3%	4.19	3.94	-2.72	0.01
(11) Our present way of life is much too wasteful of natural resources	88.5%	4.43	4.13	-3.25	0.00
(12) We, as a society, should drastically change our way of living to combat growing environmental problems	72.8%	4.08	3.74	-3.44	0.00

*deleted due to low communality value

39

Table 4. Means and chi-square results of clustering variables

	Sustainability View Cluster				
	Weak	**Moderate-Status Quo**	**Strong-Moderate**	**Strong**	**Overall Mean**
N	149	105	154	29	437
NEP	2.41	3.57[a]	3.43[a]	4.00	3.59
Need for change	1.81	3.59[a]	3.56[a]	4.54	3.78
Critique of the status quo	1.99	2.44	3.49	4.11	3.35
Gender	Male	Equal	Equal	Female	
Experience	21-30 years 31-40 years 41+ years	11-20 years 31-40 years 41+ years	31-40 years	1-10 years	

Note: An identical superscript means no significant difference ($p > .05$) based upon post-hoc tests.

Sustainability worldviews of marketing academics: A segmentation analysis and

implications for professional development

Highlights:

- Four groups of sustainability worldviews were found

- Over one third of the sample hold a weak sustainability worldview

- The majority of respondents hold a strong- to moderate sustainability worldview

- Professional development should focus on the consequences of marketing activity

Declaration of interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.