Ethically minded consumer behavior: Scale review, development, and validation

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ARTICLE INFO

ABSTRACT

This paper details the development and validation of a new research instrument called the ethically minded consumer behavior (EMCB) scale. The scale conceptualizes ethically minded consumer behavior as a variety of consumption choices pertaining to environmental issues and corporate social responsibility. Developed and extensively tested among consumers ($n = 1278$) in the UK, Germany, Hungary, and Japan, the scale demonstrates reliability, validity, and metric measurement invariance across these diverse nations. The study provides researchers and practitioners with a much-needed and easy-to-administer, valid, and reliable instrument pertaining to ethically minded consumer behavior.

1. Introduction

More businesses realize the need to consider ecological and human welfare implications when adopting sustainable development principles (Chow and Chen, 2012). At the same time, ethical consumer behavior, which incorporates the consideration of ecological and human welfare issues, is increasing dramatically (Fairtrade International, 2013). Spurred partly by the Fairtrade movement that attracts attention from mainstream brands (Low and Davenport, 2007), ethical products are no longer the remit of niche markets in many nations (Carrington, Neville, and Whitwell, 2014; Doherty and Tranchell, 2007). Indeed, increasing numbers of products bear the marks of initiatives such as Fairtrade and Rainforest Alliance, or make a variety of social or environmental claims (Ethical Trading Initiative, 2010). Unsurprisingly, research pertaining to different aspects of ethical business practices is also increasing (Chow and Chen, 2012). Corporate social responsibility (CSR) is now one of the most prominent and important concepts in the literature (Lee, Park, Rapert, and Newman, 2012) with an abundance of recent papers focusing on different aspects of marketing and consuming ethical products (Andorfer and Liebe, 2012; Auger, Burke, Devinney, Louviere, and Burke, 2010; Autio, Heiskanen, and Heinonen, 2009; d'Astous and Legendre, 2008).

Only as recently as the 1990s did research begin to focus more strongly on ethics from a consumer rather than a corporate perspective (Schlegelmilch and Öberseder, 2010), and it seems that measurement scales pertaining to consumer ethical purchases are rare, especially in comparison to the scales available to measure ethics in business decisions. Even when ethical research does focus on consumers, it tends to emphasize environmental issues, with fewer studies incorporating wider social issues (O'Rourke, 2011). Consequently, despite the fact that ethical consumers are no longer classified as fringe (Carrington et al., 2014), and ethical products and services now account for increasing shares of many different markets (Ethical Consumer Markets Report, 2012), it is still relatively unusual to find reliable and validated scales pertaining to ethical consumer behavior that incorporate both ecological and social issues. The need for such a scale is pressing, given the current "burgeoning social movement" (Carrington et al., 2014, p. 2759) that is ethical consumerism. Of course, observational research has an advantage over self-report measures as it analyses what people do rather than what they claim to do. However, while technology is allowing for easier use of observational data in terms of scanner-tracking and Internet purchases (Lee and Broderick, 2007), it is still not possible to collect accurate data for every individual purchase. Consequently, there remains a need for a psychometrically sound, reliable, and validated scale to use as a shorthand method to indicate the levels and types of ethical purchasing claimed by different individuals. Such a scale would enable the collection of valuable and timely information from large numbers of people in relatively short periods and reasonably cost effectively and be useful to businesses, researchers, and policy makers. Businesses need a valid and reliable instrument that is comparatively quick and easy to administer in order to gather quantifiable data

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to analyze and profile different groups, for planning and forecasting purposes and to develop segmentation models to design more accurate targeting and positioning strategies. Researchers need such an instrument to use in future studies to ascertain the different underlying motivations and antecedents for ethical purchasing, and just as importantly uncover and analyze the barriers to such purchasing because as Gleim et al. (2013) recently point out, well-grounded theoretical studies to explain why consumers do not engage in environmentally sustainable behavior are rare. Moreover, a standard scale, particularly one that exhibits measurement invariance, is a potentially valuable research tool for comparative and longitudinal research purposes in a variety of nations in order to create new theories and or test existing hypotheses (Ackroyd and Hughes, 1981). Finally, policy makers need to understand the reasons for not consuming ethically in order to begin to address and change behavior because despite phenomenal increases in recent years, sales of ethical goods and services still remain a small percentage of total sales; thus, sustainable solutions will require policy intervention (Ethical Consumer Markets Report, 2012).

There are, of course, some scales pertaining to ethical consumption already available. However, many of the existing instruments measure attitudes, intentions, or utilize hypothetical scenarios (Trudel and Cotte, 2008), which are problematic because of the well-documented attitude–behavior gap (Carrington et al., 2014). Empirical evidence shows that stated ethical intentions rarely translate into actual ethical consumer choices (Carrigan et al., 2011). Of the few remaining instruments that do pertain to actual behavior, the older instruments tend to focus solely on environmental issues and omit wider social considerations (Schlegelmilch et al., 1996), while more recent ones tend to focus exclusively on a specific aspect of ethical consumption such as Fairtrade (Shaw, Shiu and Clarke, 2000) and do not consider a wide range of issues. A scale that considers both environmental and social issues is important because recently differences in consumer reactions to these different strands of ethical consumption have emerged (Ailawadi, Neslin, Luan, and Taylor, 2014). Yet only one scale, the socially responsible consumer behavior (SRCB) scale (Roberts 1993, 1995), utilizes wording that asks consumers to recall their actual ethical consumption (as opposed to intended, hypothetical, or attitudes toward ethical issues) from both environmental and CSR perspectives.

The SRCB scale is however two decades old, and during these years, the world has changed dramatically. Harrison (2014) charts the rise of ethical consumers from the 1990s – the development period for the SRCB scale – to the present day. He finds that during the 1990s, surveys revealed 20–30% of people professed that they could not be bothered with any form of ethical consumption, while a further 60–75% were sometimes ethical but did not really work very hard to seek out ethical alternatives. He finds that it is not until the latter years of the first decade of this century that ethical consumption becomes truly mainstream in that it crosses cultures, classes, and geographical boundaries. In the UK alone, the sale of ethical goods and services has grown 360% since the turn of the century (Ethical Consumer Markets Report, 2012). Moreover, some of the scale items in the SRCB refer to practices that are now illegal (e.g., discrimination against minorities), while other items are no longer relevant and instead reflect the different political landscape of two decades ago (e.g., I do not buy products from companies that have investments in South Africa). The SRCB scale was clearly ahead of its time when it was developed. However, in its current format, it is no longer valid in a world that has changed so dramatically since its inception. Nevertheless, the SRCB instrument proved invaluable as a starting point to the current scale development study, from which emerges a new instrument called the ethically minded consumer behavior (EMCB) scale. The current study therefore fills a gap in that it develops a scale comprising questions pertaining to actual behavior rather than intentions or hypothetical situations. Of course, any self-report measure that depends on honesty and accuracy from respondents has limitations, but because it asks about actual behavior, it has advantages over those scales that measure ethical attitudes or intentions that are

very poor indicators of what people actually do at the checkout (Cowe and Williams, 2000). The new scale comprises a range of ethically minded consumption choices, better reflecting contemporary ideas of what ethical consumption is.

The study is also relatively unique in that it develops and validates the scale using consumers in 4 diverse nations (UK, Germany, Hungary, and Japan). This paper justifies and validates the new scale. It begins by conceptualizing ethical consumer behavior before reviewing the available instruments that measure it. It then justifies the samples and the chosen nations prior to explaining the development and validation of the new measurement instrument. It concludes with an evaluation of the new scale and discusses its implications for research and practice.

2. Background

This section has three major purposes: (1) to conceptualize ethical consumption from today's perspective in order to identify broad themes that needed to be included in the new scale, (2) to explain the implications of the attitude–behavior gap for scale development, and (3) to review the available instruments pertaining to ethical consumer choices.

2.1. Conceptualizing ethical consumption

Historically, ethical consumption was viewed very much as the behavior of a relatively small group of principled consumers (Shaw, 2007), while ethical brands (e.g., The Body Shop) were easy to identify. However, as the numbers of ethical brands increase in conjunction with ease of access to data pertaining to ethical products (O'Connor, 2014), there is a marked diversity in terms of definitions of ethical consumer behavior, and some terms seem to be more fluid than before. The concept of Fairtrade, for example, has developed from a focus on marginalized producers to incorporate broader social justice issues (Becchetti and Costantino, 2010). Nevertheless, from a starting point that assumes ethical purchasing is conscious and based on a particular ethical or social issue (Ethical Consumerism Report, 2011; Gulyás, 2008) rather than based on taste, color, or design, it was possible to identify several important issues that needed to be included in the new scale.

First, most definitions of ethical consumption encompass reference to environmental issues (Ethical Consumerism Report, 2011; European Commission, 2011; IGD, 2007; Trudel and Cotte, 2008). Interestingly, while a plethora of studies include a wide range of different environmentally friendly issues and behavior (Abdul-Muhmin, 2007; Gilg, Barr and Ford, 2005; Kim and Choi, 2005; Niva and Timonen, 2001), almost all mention recycling issues specifically (Autio et al., 2009; Laroche, Bergeron, and Barbaro-Forleo, 2001; Straughan and Roberts, 1999; Sudbury-Riley, 2014; Thøgersen, 1999; Vicente and Reis, 2007), perhaps because recycling of household waste is becoming a normal everyday behavior for many people, due in part to various recycling policies and programs in many countries (DEFRA, 2014; EPA, 2014; European Commission, 2014).

Second, most definitions of ethical consumption include social justice and human rights issues (Auger et al., 2010; Ethical Consumerism Report, 2011; European Commission, 2011; Golding, 2009; Trudel and Cotte, 2008; Valor, 2007), often with a particular emphasis on involvement in worker exploitation (Brenton and Hacken, 2006; Eckhardt, Belk, and Devinney, 2010; Valor, 2007). Beyond these mainstream issues, wider-ranging definitions focus on animal welfare (Megicks, Memery and Williams, 2008) and local community initiatives (Carrigan et al., 2011; Grau and Garretsen Folse, 2007; Mattingly and Berman, 2006). Overlapping animal welfare and local community issues is the topic of organic food, and indeed many consumers purchase organic food for animal welfare reasons and/or to support their local communities (McEachern et al., 2007; Schröder and McEachern, 2004).

The third theme pertains to consciously refusing to not buy products (Carrigan et al., 2004), or boycotting. Boycotting is a form of anti-consumption and, inter alia, can be targeted at particular products

because they damage the environment (Papaoikonomou, Valverde, and Ryan, 2012) or because they are made by companies with a lack of corporate social responsibility (Creyer and Ross, 1997; Klein, Smith, and John, 2004; Kozinets and Handelman, 2004). Theoretically, the distinction between choosing an ethical product and refusing to purchase a nonethical product is an important one. Carrigan and Attalla (2001) explain that ethical and unethical actions have an asymmetrical influence on consumers in that many punish unethical behavior (boycott) but do not necessarily reward ethical behavior (purchasing over alternatives). Avoiding products and services deemed to have a negative impact on society or the environment is now a key part of ethical consumerism (IGD, 2007), and Megicks, Memery and Williams (2008) report that the number of consumers who boycott products due to a concern with one or more ethical issue is far greater than those who choose an ethical product over an alternative. Trudel and Cotte (2008) also find consumers to be more willing to reject unethical products than to select products for ethical reasons. Thus, Mattingly and Berman's (2006) contention that positive and negative social action are conceptually distinct constructs that research should not combine is particularly noteworthy.

A fourth constant factor in the literature is price. Many consumers are unwilling to pay a large premium in order to translate their ethical beliefs into purchasing practice (McEachern, Warnaby, Carrigan and Szmigin, 2010; Sudbury and Böltner, 2010). This unwillingness does not necessarily result from an inability to pay a price premium, as ethical consumer behavior is unrelated to income or work status (Laroche, Bergeron, and Barbaro-Forleo, 2001; Loureiro et al., 2002; Pepper, Jackson, and Uzzell, 2009). Thus, an optimum scale would include questions about past behavior that demonstrates a willingness to pay more for an ethical product.

2.2. The attitude–behavior gap

Far more consumers profess to care about ethical issues than actually purchase ethical products (Cowe and Williams, 2000). Indeed, stated ethical intentions are rarely acted upon in terms of actual ethical consumer choices (Carrigan et al., 2011), a phenomenon referred to as the attitude–behavior gap (Auger and Devinney, 2007). To illustrate, recent surveys (Euromonitor, 2013) find between half and two-thirds of consumers across the US profess to care about ethical issues, yet ethical products account for 15% of all sales (Bertini, 2014). This attitude–behavior gap is recognizable across many nations (Eckhardt, Belk, & Devinney, 2010).

Part of the attitude–behavior gap may be due to the type of survey instruments used in consumer research (Auger and Devinney, 2007). Many scales measure future intentions rather than ask questions pertaining to actual behavior (Andorfer and Leibe, 2012). Of course, there are acknowledged potential problems with any scale in that respondents may lie, exaggerate, or misremember actual behaviors, but those that do focus on intentions and attitudes tend to overestimate purchase likelihood due to social desirability reasons (Liebe et al., 2014). While Auger and Devinney (2007) do not go as far as Ulrich and Sarasin's (1995) suggestion that ethical consumption research is inherently unreliable, they do note that weaknesses in some previous survey methodologies cast doubts about the reliability of some results. Drawing attention to research across several disciplines that finds the presentation of survey questions can influence answers; they suggest several areas that need attention, including the issue of wording. Vague wording can lead to erroneous answers; thus, the wording of items is critical. They also suggest context creation, where specific questionnaire items closely resemble the context in which consumers make their decisions, can reduce some of the inherent problems in some previous surveys. In other words, question wording requires high degrees of specificity, an issue that researchers rarely consider when designing general attitudinal questionnaires. Additionally, they recommend cognitive pretests, involving a small number of respondents and focusing

on question interpretation. Finally, the method of administration is important, with self-administration providing a sense of privacy.

The attitude–behavior gap is not unique to ethical consumption. Across a range of non-consumption-related behaviors, it is well established that general attitudes, in a similar vein to broad personality traits, tend to be poor predictors of behavior in specific situations (Ajzen, 1991). However, aggregating a number of different behaviors across a variety of situations can better predict behavioral outcomes. Hence, the theory of planned behavior (Ajzen, 1985, 1987) suggests that attitudes toward the behavior, subjective norm, and perceived behavioral control all impact intentions, which can then predict behavior in a specific context. Attitude toward behavior is the degree to which a person has a favorable or unfavorable evaluation of the behavior. The subjective norm refers to the perceived social pressure to perform or not perform the behavior, and perceived behavioral control refers to the perceived ability in terms of ease or difficulty to perform the behavior across situations (Ajzen, 1991). The theory helps to understand the attitude–behavior gap in ethical consumption. Vermeir and Verbeke (2006, 2008) found that despite positive attitudes toward sustainable food products, intentions to buy such products remained low due to low perceived availability of such products. In other words, although the attitude component was present, attitudes alone failed to translate into behavior because many consumers found availability (the perceived behavior control element of the theory) to be lacking. Similarly, a reported lack of availability in shops, related to perceived behavioral control, was identified in Sparks and Shepherd's (1992) study that focused on purchasing organic vegetables, and in Shaw and Clarke's (1999) study of Fairtrade goods. The theory has been criticized and subsequently extended (Shaw, Shiu and Clarke, 2000; Shaw and Shiu, 2003) but is useful in the current context for two reasons. Methodologically, the theory provides a better insight into why the attitude–behavior gap may exist and points out very clearly that scales designed solely to measure attitudes toward ethical issues may be poor predictors of actual ethical consumption. From a practical perspective, the findings of these studies have implications for marketing practice because it is clear that high price premiums and low availability of ethical products will counteract positive attitudes toward ethical consumption for many consumers, driving home the message that attitudinal scales are not reliable indicators of ethical consumption.

Increasingly, businesses are recognizing the need to "take note not only of what consumers believe in, but equally what they do and choose to act upon" (Fukukawa and Ennew, 2010: 49). A scale that at least asks questions about what people actually do – rather than solely measure attitudes or intentions – is therefore much needed and currently lacking. Indeed, an extensive review of available measures reveals a situation where most are concerned with attitudes and intentions, rather than a focus on recalling actual ethical consumption.

2.3. Measuring ethical consumption

A substantive body of research pertains to ethical issues, but the majority concentrates on the business side of the buyer/seller dyad (Vitell and Muncy, 2005). In contrast, studies that do focus on consumers often utilize the well-known Machiavellianism scale (Christie and Geis, 1970), Forsyth's (1980) Ethics Position Questionnaire (EPQ), the New Environmental Paradigm (NEP) developed by Dunlap and Van Liere in 1978 and modernized by Dunlap, Van Liere, Mertig, and Jones in 2000, or the Consumer Ethics Scale developed by Muncy and Vitell (1992) and modernized by Vitell and Muncy in 2005. The Machiavellianism scale, originally developed to measure an individual's tendency to deceive and manipulate others for personal gain, gives an insight into the ethical beliefs of an individual. Comprising 20 items and utilized in both consumer and psychology research, the Machiavellianism scale is a valid and reliable instrument (Auger and Devinney, 2007; Erffmeyer, Keillor, and LeClair, 1999; Vitell, Lumpkin, and Rawwas, 1991). The EPQ (Forsyth, 1980) measures an individual's moral philosophy in

terms of an inclination toward idealism or relativism. It too comprises 20 items, is valid and reliable, and is a popular scale to measure the ethical stance of consumers (Erffmeyer et al., 1999; Swaidan, Vitell, and Rawwas, 2003; Vitell et al., 1991). The NEP scale (Dunlap et al., 2000), developed to measure the move away from the anti-ecological dominant social paradigm of the late 20th Century toward a fundamentally contrasting pro-ecological new environmental paradigm (NEP) that began to emerge in the 1970s, is a valid measure of the extent of an individual's ecological beliefs and is used in a diverse range of studies (Steg, Dreijerink, and Abrahamse, 2005). Finally, Muncy and Vitell's consumer ethics scale examines the extent to which consumers believe that certain questionable behaviors are ethical or unethical. Comprising 20 situations in which consumers may find themselves (for example, lying about a child's age to get a lower price or getting too much change and not saying anything), it is noteworthy as it is widely used in cross-cultural studies.

While the scales outlined above, and indeed the studies that utilize them, unquestionably extend knowledge pertaining to consumer's ethical and environmental beliefs, none even attempt to reflect behavior as opposed to beliefs, attitudes, or intentions. Indeed, Carrigan et al. (2011, p. 154) note a significant limitation within the ethical consumerism literature in that "researchers have generally failed to consider that intentions are not a reliable proxy for actual behavior." As discussed in the previous section, there are serious disconnections between the issues that consumers claim to care about and their actual purchasing behavior (Auger et al., 2003). Indeed, some attitudinal scales even fail to differentiate between those who actively support social causes and those that do not. The central question in Auger and Devinney's (2007:364) work is "How do responses to survey questions about the importance of ethical issues relate to purchase behavior?" Using Mori poll questions, they found that on several items many respondents who were not actively involved in any social causes claimed to be just as socially conscious as supporters of Amnesty International. In other words, many items failed to differentiate between those who do actively support causes and those that do not. Of course, this finding has important implications for scale development, as an optimal scale would demonstrate the ability to differentiate between these segments. Despite the recognition that firms are beginning to take note of what consumers choose to do, as opposed to solely what consumers believe (Fukukawa and Ennew, 2010), research has not yet filled the need for measurement instruments that question consumers about their actual ethical consumption choices as opposed to their attitudes or intentions. An extensive review of the literature reveals a situation where even when the goal of a previous study is to focus on actual behavior, the available scales tend to be limited to a particular type of ethical behavior. For example, Pieters, Bijmolt, van Raaij, and de Kruijk's (1998) study focuses on motivation, ability, and pro-environmental behavior, with the 7-item scale including questions about energy use, water use, recycling, and the disposal of vegetables, fruits, and waste, with little to measure actual *purchasing* behavior. Shaw, Shiu, and Clarke (2000) measure the likelihood of purchasing a Fairtrade product next time the consumer shops for groceries, but this study is limited to beliefs about Fairtrade rather than overall ethical consumption. Vlosky, Ozanne, and Fontenot's (1999) study contains only three items on actual behavior and is limited to wood products. Pepper et al. (2009) include some questions pertaining to specific Fairtrade products (bananas and tea/coffee) and the ethical reputations of businesses but do not include environmental issues. In contrast, Schlegelmilch et al. (1996) utilize a set of questions pertaining to environmentally friendly purchasing, but their scale does not include social issues.

It seems that few previous studies view ethical consumption from the perspective taken here, which is that ethical consumption pertains to both environmental and social issues. Thus, while all of these studies make very important contributions to knowledge, none contain a research instrument that matches the broad ethical perspective taken here as well as the 26-item socially responsible consumer behavior (SRCB) scale, developed by Roberts and his colleagues (Roberts, 1993, 1995, 1996a 1996b), which clearly asks respondents to reflect upon and report their past and current behavior as opposed to their attitudes or likely future behavior. As Ajzen (1991: 202) observes, the dictum "past behavior is the best predictor of future behavior" is a good one to test the predictive ability of a model. Thus, in order to design a scale that better predicts future ethical consumption, there is a need to ask consumers about their past and current ethical consumption. Importantly, the SRCB scale appeals because it has two factors comprising ecologically conscious consumer behavior (ECCB) and socially conscious consumer behavior (SCCB). Accordingly, the instrument has advantages over alternatives because, as Roberts (1995: 104) candidly notes, "Assessing a person's SRCB on only a social or ecological dimension would be akin to trying to solve a puzzle with half of its pieces." The literature review very clearly demonstrated that two major strands to ethical purchasing are environmentalism and social issues, which are even more important given Ailawadi et al.'s (2014) finding that consumers have different reactions to these different strands of ethical consumption. Finally, testimony of the SRCB scale's usefulness comes from its usefulness in scale development (Webb, Mohr, and. Harris, 2008) and its use across so many different countries.

2.4. Implications for scale development

The preceding sections identified several major implications that need consideration in the design and development of the new scale. First, consciousness is important – questions must be worded in such a way as to ensure that if an ethical product is chosen, the choice is driven by ethical (rather than quality or esthetic) reasons. Second, an optimum scale is one that incorporates the conscious purchasing of products that are environmentally friendly, with a particular emphasis on recycling, as well as contain wider social issues. Additionally, refusal to purchase and price premiums are further important considerations. Third, questions need to be specific and pertain to actual behavior rather than attitudes or intentions and should have the ability to differentiate between groups based on their membership of different causes. Finally, cognitive pretests comprising small numbers of consumers should focus on question interpretation. Given the advantages of the SRCB instrument over many alternatives, the SRCB scale is used a starting point in the current study, which aims to fill a gap by developing a scale to measure proclivity toward a wide range of ethically minded consumption choices. In so doing, the study aims to design a scale that better reflects contemporary ideas, from the consumer perspective, of what conscious ethical consumption is, with advantages over alternative measures as it will not be based on intentions or hypothetical situations, and should demonstrate the ability to differentiate between activists and nonactivists. The study also aims to validate the scale across 4 diverse nations, in order to provide researchers and practitioners with a much-needed measurement instrument that can be used across nations and cultures.

3. Methods

3.1. Nation selection

Ebbinghaus (2005) contends that nation–state formation, international cooperation, and ease of availability of data have resulted in some countries being over (or indeed under) represented in many analyses. Consequently, research conducted in one country (usually the US) is assumed to be relevant to other countries, irrespective of differences in cultural and social forces. The inclusion of disparate nations in the current study is therefore an important contribution to knowledge. The UK is the baseline sample because it leads the way on Fairtrade. For example, one in three bananas purchased in the UK is Fairtrade (Fairtrade Foundation, 2013, 2015).

However, differences in ethical beliefs between consumers across areas of the European Union are apparent, with the UK criticized as Eurosceptic and having more in common with the US than the rest of Europe (Economist, 2012). Thus, Germany is included because it has no Anglo-Saxon roots, has the largest economy in continental Europe, and is more representative of Western Europe compared to the UK. In comparison to the UK, German Fairtrade ethics are less commercialized (Varul and Wilson-Kovacs, 2008), although environmentalism embeds itself in German politics, with a successful Green party and much evidence of lobbying for environmental reasons (Witkowski and Reddy, 2010).

Few previous studies into ethical consumption include countries from the new Europe. Indeed, Andorfer and Liebe's (2012) review of all research pertaining to Fairtrade consumption, which includes 51 journal publications, contains not a single study on a country from the former Eastern Bloc. The current study therefore fills a research gap. Dombos' (2008) ethnographic study of ethical consumption among Hungarian activists and entrepreneurs interprets ethical consumption as a way of expressing "hopes, desires, and frustrations about the seemingly never ending process of post-socialist transition" (p. 123), suggesting that motives for ethical consumption may be very different in Hungary to those found in other countries. Moreover, in 2006 a Fairtrade shop opened in Budapest, there are several ecologically and socially aware food communities directly linking consumers and producers, and Gulyás (2008) reports that around 16% of the Hungarian population joined in 20 recent boycotts. Hungary is therefore an obvious choice for inclusion in the study.

Finally, Ralston and Pearson (2010) note that despite growth in immigration and emigrations resulting in intermingling of cultures, cultural groups still differ substantially in their ethical perspectives. Even though the three European countries selected are very different to each other, the inclusion of an Asian country is still beneficial. While the Japanese Fairtrade market is still comparatively small, its tremendous growth rates in recent years point to a new consumption trend in Japan (Kohlbacher 2013). Moreover, the sample comprises older adults (see below) and Japan has the oldest population in the world (United Nations, 2012). For these reasons, Japan comprises the final sample nation.

3.2. Samples

"One of the greatest social, economic, and political transformations of our time" is how the United Nations (2012) describes the changing demographic make-up of the world due to rapid population aging and a steady increase in human longevity. Moreover, in addition to typically holding more financial assets than younger generations across a large number of countries (Sudbury-Riley et al., 2012), research suggests that older consumers are "increasingly likely to be among the ranks of the ethically motivated and adventurous" (Szmigin, Maddock, and Carrigan, 2003: 548) and feel less cynical and more positive about the impact of their ethical purchasing compared to younger adults (Carrigan et al., 2004). De Pelsmacker, Janssens, Sterckx, and Mielants (2006, p. 134) lend support to these findings when they state, "Inclination to action, concern and buying behavior increased with age ... and older people appeared to be more positive about the price level of Fairtrade products." When age differences are considered in larger studies, older adults are found to be more environmentally concerned (Sandahl and Robertson, 1989), have stronger ethical beliefs (Dodge, Edwards, and Fullerton, 1996; Kim and Choi, 2003; Pan and Sparkes, 2012; Swaidan et al., 2003; Vitell, Singh, and Paolillo, 2007), demonstrate a stronger moral orientation (Pratt, Golding, and Hunter, 1983), and consume more ethical products (Trendbüro, 2009) than their younger counterparts. Indeed, Carrigan, Szmigin, and Wright, (2004: 412–413) conclude that "older consumers are a significant force within the consumer resistance movement ... they are inherently diverse in nature, yet present some consistency in their attitudes toward certain aspects of

ethical purchasing." Consequently, Bray, Johns, and Kilburn (2011) call for age to be included in future models of ethical consumption. Yet a widespread literature review fails to uncover a single large-scale study that focuses on the actual ethical purchasing behavior of older consumers. Additionally, scales are often developed using mainly young samples (Brunk, 2012; Kim, Lee, and Park, 2010). Thus, an older (50+) sample is the focus of the current study.

Purchased lists of randomly selected people ages 50+ comprise the samples in each country. In the UK, Germany, and Japan, the questionnaire was administered via a postal survey, but piloting in Hungary demonstrated difficulties of self-completion among many rural Hungarian adults. Hungary has successfully moved to a fully transitioned market-based economy from a centrally planned economy. It is a member of the OECD, NATO, and the European Union, enjoys a strategic location, and has a highly skilled and educated workforce. All of these things make it an attractive market for overseas firms (US Commercial Service, 2014). Thus, it was felt that Hungary was too important to drop from the study. Consequently, the data collection method was adjusted. The sample list, which is representative in terms of gender, region, work status, income, and age, was purchased from the Hungarian Central Statistic Büro, and a professional market research company conducted interviews face to face. This different administration method is viewed as a strength of the study rather than a weakness because the study uses the optimum method for each country, taking into consideration social and cultural factors. Face-to-face methods would have been prohibitively expensive in the more advanced countries. Moreover, social desirability bias tends to be higher when respondents talk to researchers directly, so a postal survey is preferable to interviews or a telephone survey where possible. Further, it was felt that nonresponse bias may be higher in interviews or telephone surveys due again for reasons pertaining to the ethical questions. Of course, the consideration of a trade-off between social desirability concerns and the feasibility of the study had to be made in the case of Hungary. However, as the analysis will show, social desirability bias did not emerge as a major concern.

Response rates were 9.2% in UK, 3.8% in Germany, and 42% in Japan. Some of these response rates are lower than many attained in other consumer behavior studies, but surveys comprising older adults tend to be lower than average, in part because some older people are afraid of scams and junk-mail (Sudbury and Simcock, 2010) while survey response rates are declining overall (Tourangeau, 2004). Moreover, the survey also contained questions of a personal and ethical nature; thus, low response rates were expected. Research shows that surveys with relatively low response rates can be just as accurate as surveys with high response rates (Cook, Heath and Thompson, 2000). Reminders were sent out, and comparisons were made of early versus late respondents (i.e., before and after reminder letter). Armstrong and Overton's (1977) classic review of methods to measure nonresponse bias include a review of extrapolation methods, which are based on the assumption that respondents who answer later or only after prodding are more like nonrespondents. Analysis of the socio-demographic profiles of early (before reminder letters) and later (after reminder) respondents revealed differences in terms of education and work status. In common with many postal surveys (Armstrong and Overton, 1977), better educated respondents tended to reply early. For this reason, education and work status were not included in any further data analysis. Less than 1.5% of all cases contained missing data, which were deleted (Byrne, 2010), resulting in a usable sample of 1278 respondents; details are provided in Table 1.

3.3. Pilot testing and scale modification

Diamantopoulos, Reynolds, and Schlegelmilch (1994) recommend a pre-pilot stage, which involved a review of the original 26-item SRCB scale by 2 British academic colleagues experienced in ethical research but not involved in the current study. The appendix provides the original SRCB scale. It became clear that the world has changed significantly

Table 1
Sample characteristics by nationality.

		UK	Germany	Hungary	Japan	Overall
	N	452	213	200	413	1278
Gender (%)	Male	47.9	61.6	45.0	48.8	50.0
	Female	52.1	38.4	55.0	51.3	50.0
Age-group (%)	50–59	22.1	36.6	58.0	32.0	33.1
	60–69	45.4	37.6	42.0	40.9	41.9
	70 +	32.5	25.8	0.0	27.1	25.0
Work status (%)	Working	28.2	37.5	41.5	44.9	37.3
	Housewife/ unemployed	3.5	8.5	6.0	19.3	9.6
	Retired	68.3	54.0	52.5	35.8	53.1
SES (%)	AB	10.7	6.5	23.9	34.1	19.3
	C1	21.5	26.5	60.9	27.1	30.8
	C2	32.4	51.9	13.7	20.0	28.5
	DE	35.4	15.1	1.5	18.8	21.4

in the twenty years since Roberts first developed the instrument. Consequently, several items referring to discrimination of women and minorities (items 19, 20, and 22) now outlawed, and an outdated item referring to South Africa (item 21), were removed. A further item was removed because it describes maven-related behavior (item 11), and another (item 6), although important to ethical/environmental beliefs, did not relate to *consumption-related* behavior. In total, 6 items were removed. No additions were made at this stage because it was felt that additions should come from feedback at the full piloting stage rather than from the academics involved in the pre-pilot stage. Teams in Germany, Hungary, and Japan then translated and back translated the remaining 20-item scale prior to piloting among respondents in each of the 4 nations.

Fink (1995) considers 10 population members to be sufficient to trial such an instrument; however, piloting utilized 22 consumers from the UK, 14 from Germany, 25 from Hungary, and 30 from Japan. The piloting exercise only stopped when saturation was reached (i.e., no new issues were emerging). The debriefing method (Webb, 2002) is an important stage in scale development and modification, and its use in the redesign of the CPS (Current Population Survey) has led to great improvements to the quality of that research instrument (DeMaio, Rothgeb, and Hess, 2002). Thus, researchers in each country delivered the questionnaire to respondents and explained it was a pre-testing exercise, and therefore in addition to completing the questionnaire, they were to be critical and note any ambiguities, layout or order issues, or any other improvements they wished to suggest (Fowler, 1995). Respondents also noted the length of time taken to complete the questionnaire. Personal interviews then took place to debrief respondents. The members of each pilot test sample were representative of the final sample and included extreme respondents (Webb, 2002) in terms of age and location because research in Hungary has shown vast differences between rural and urban consumers (Hofmeister Toth and Neulinger, 2011). Consequently, each piloting sample included a wide range of ages and in the case of Hungary, comprised people from small towns as well as from Budapest.

The piloting exercise uncovered a range of important issues, many of which emerged multiple times across different nations. Debriefings discovered unnecessary questions, revealed confusion or concern with several existing items, and revealed the need for additional items to better operationalize the concept (DeMaio et al., 2002) of ethical consumer behavior. First, item 6 was removed because many participants perceived it as failing to relating directly to actual consumer purchasing behavior, expressing the belief that if they do drive their cars at little as possible, it is for a variety of reasons, including saving money. Across all nations, feedback revealed perceptions of too much similarity between several groups of items relating to general recycling (items 5 and 8) and paper products (items 3, 14, 16), so these were merged into two new questions. Additionally, a large proportion of respondents wondered why there were questions relating to detergent and aerosols

(items 10 and 13) when there is such a wide choice of environmentally friendly products available. Thus, reference to these items were dropped on the basis that environmentally friendly products are now widespread and more freely available than in the 1990s when the SRCB scale was first developed. The removal of item 23 was due to large numbers of respondents complaining that they do not always know which companies use deceptive advertising. Likewise, the removal of item 26 was due to the emergence of much skepticism about charitable donations, with many expressing the feeling that sometimes such donations are to cover up wrongdoing by corporations, while others felt that so many firms claim to help charities now that it is too difficult to be aware of all of them. High levels of agreement pertaining to far too much overlap between items relating to conscious choices (items 1, 2, 4, 7, 17) and brand switching (items 10 and 18) led to 7 original statements being merged into 2 new items.

Feedback also uncovered a range of missing topics. Many respondents enquired about pricing issues when asked to select between alternatives; thus, 2 items relating to price were included. Clearly, these are important because the piloting exercise reinforced findings from the literature review pertaining to the fact that some consumers are unwilling to pay a price premium for an ethical product. At the same time, respondents pointed to an omission regarding other socially irresponsible behavior, and mentioned practices such as child labor and sweatshops, querying if these things came under the remit of general poor working conditions. Such practices have received increasing media attention in recent years (Sudbury and Böltner, 2010); thus, an item pertaining to such CSR practices was included. Few respondents mentioned local issues or organic produce, although, interestingly, UK consumers also mentioned oppressive regimes, freedom food, and animal testing. However, their Japanese counterparts complained that they do not always know which companies are investing in oppressive regimes; they did not understand the concept of freedom food, while they were rather mystified as to why using animals in testing is considered unethical. Overall, then, while there was a great deal of consistency across nations, some cultural differences also emerged. Noteworthy is the fact that many more respondents mentioned refusing to buy a product based on social irresponsibility (anti-consumption) as opposed to choosing a product produced by a company with a good CSR reputation over alternatives.

Finally, feedback suggested the need for amendments to some terminology. Consequently, environmental damage replaces pollution and environmental replaces ecological. These noteworthy changes appear to go beyond mere semantics or language preferences, with respondents viewing the term environmental as more encompassing and ecological as too specific and narrow. Both Roberts (1995) and later Webb et al. (2008) note that socially responsible consumption needs continual refinements of its measurement due to its dynamic nature and the fact that consumers knowledge of CSR and environmental issues is changing substantially.

The resulting short (10-item) scale is shown in Table 2. In terms of construct definition, the sheer number of quite severe modifications is perhaps indicative of the ways in which the concept of ethical consumption has evolved over the years since Roberts' work. The suggested name for the scale in its current 10-item form is the ethically minded consumer behavior (EMCB) scale in order to differentiate it from the original from which it evolved. The scale uses Roberts' original scoring method comprising 1 = never true, 2 = rarely true, 3 = sometimes true, 4 = mostly true, and 5 = always true. A higher score is indicative of a greater level of reported ethically minded consumer behavior.

3.4. Further measures

Bearing in mind Auger and Devinney's (2007) criticism that some scales fail to differentiate between social activists and nonactivists, the instrument contained questions relating to whether or not respondents take action (such as participate in demonstrations, write to an

Table 2
EMCB scale.

1   When there is a choice, I always choose the product that contributes to the least amount of environmental damage.
2   I have switched products for environmental reasons.
3   If I understand the potential damage to the environment that some products can cause, I do not purchase those products.
4   I do not buy household products that harm the environment.
5   Whenever possible, I buy products packaged in reusable or recyclable containers.
6   I make every effort to buy paper products (toilet paper, tissues, etc.) made from recycled paper.
7   I will not buy a product if I know that the company that sells it is socially irresponsible.
8   I do not buy products from companies that I know use sweatshop labor, child labor, or other poor working conditions.
9   I have paid more for environmentally friendly products when there is a cheaper alternative.
10 I have paid more for socially responsible products when there is a cheaper alternative.

organization, use an Internet forum, or attend events, etc.) about any ethical, environmental, or conservation issue they feel strongly about. Additionally, the instrument asked respondents whether or not they (a) are members of any environmental group or cause or (b) regularly donate to any environmental charities. Finally, questionnaires also contained the short version (Strahan and Gerbasi, 1972) of the Marlowe–Crowne social desirability scale (Crowne and Marlowe, 1960).

4. Results

4.1. Preliminary analyses

Across all single items in all 4 nations, responses ranged from a minimum of 1 to a maximum of 5, suggesting that ethical consumers are best viewed as a continuum. Clearly, there is a group of consumers in every country that always makes every effort to make a conscious ethical choice, and at the same time, there is a group that never makes a conscious ethical choice. In between lay other consumers who sometimes make ethical choices to varying degrees. Table 3 presents normative information such as item means, which may be useful to future researchers who wish to use the scale. This information is also useful when discussing the issue of measurement invariance across disparate nations, as Table 3 demonstrates some differences between countries. The scale measures propensity to demonstrate ethically minded consumer behavior by summing the 10 remaining items, with higher scores indicative of a greater propensity. Table 3 also shows the results of reliability analysis using Cronbach's alpha, and all alpha scores are acceptable. Moreover, corrected item-total correlations are all above .4 and in most cases even above .6.

By comparing genders within each sample, known groups validity is tested. A body of empirical research suggests females are more likely to

engage in EMCB than are their male counterparts (Laroche et al., 2001; Loureiro et al., 2002; Roberts, 1996b). As expected, independent t-tests show females score higher than males on the EMCB scale in all countries, although these differences only reached statistical significance in the UK ($t = -5.5$, df $= 417.5$, $p < .001$) and Germany ($t = 2.9$, df $= 206.3$, $p < .01$).

A preliminary analysis of construct validity comes from measuring the relationship between the scale and behaviors relating to environmentalism. Theoretically, those people who take action (such as take part in a demonstration, write to an organization, use an Internet forum, or attend events, etc.) about any ethical, environmental, or conservation issue that they feel strongly about should demonstrate higher EMCB than do those who have never taken any action. This predicted outcome emerges in all countries, and t-tests reveal these differences to be significant in the UK ($t = 6.2$, df $= 401.1$, $p < .001$), Germany ($t = 3.4$, df $= 208$, $p < .001$), and Hungary ($t = 2.0$, df $= 198$, $p < .05$). Significant differences in EMCB are also found between members and nonmembers of ethical or environmental/conservation groups or causes (UK: $t = 3.8$, df $= 92.7$, $p < .001$; Germany: $t = 3.2$, df $= 210$, $p < .001$; Japan: $t = 3.1$, df $= 409$, $p < .01$; Hungary: $t = 4.0$, df $= 30.5$, $p < .001$) and between those who regularly donate to environmental or conservation charities and those who do not (UK: $t = 6.8$, df $= 323.1$, $p < .001$; Germany: $t = 4.3$, df $= 208$, $p < .001$; Japan: $t = 3.6$, df $= 410$, $p < .001$; Hungary: $t = 2.7$, df $= 198$, $p < .01$).

4.2. Measurement invariance tests of validity

Confirmatory factor analysis, using the UK data and AMOS version 20, checked the dimensionality and factorial validity of the new scale.

Fig. 1 depicts the hypothesized model. The model comprises 5 latent constructs, all of which are based on the literature review and later confirmed during pilot testing. Recall that the literature identifies 5 major strands of EMCB:

1. The deliberate selection of environmentally friendly products over their less friendly alternatives (cf. Autio et al. 2009), comprising items 1 and 2 and labeled ECOBUY
2. Specific recycling issues (cf. Sudbury-Riley, 2014) comprising items 5 and 6 and labeled RECYCLE
3. Refusal to purchase a product based on environmental issues (cf. Klein et al. 2004), comprising items 3 and 4 and labeled ECOBOYCOTT
4. Refusal to purchase a product based on social issues (cf. Pepper et al., 2009), comprising items 7 and 8 and labeled CSRBOYCOTT
5. A willingness to pay more for an ethical product comprising items 9 and 10 and labeled PAYMORE

Because SEM explicitly takes into account measurement error and hence reliability, it is permissible to have latent constructs, comprising two items (Xie, Bagozzi, & Østli, 2012).

As Kline (2005) advises, the first step in testing for discriminant validity of a model structure with multiple latent factors is to reject the possibility of a single factor structure. For this reason, the model was tested against an alternative with a single factor structure. Table 4 details the CFA results. The data do not fit the one-dimensional model well. In addition to a significant chi-square value ($\chi^2 = 474.8$, df $= 35$, $p < .05$), the RMSEA value of .167 is outside the guidelines (Browne and Cudeck, 1993; MacCallum, Browne, and Sugawara, 1996) that propose values less than .05 indicate good fit, values ranging from .05 to .08 reflect reasonable fit, values between .08 and .10 indicate mediocre fit, while values greater than .10 reflect poor fit. Likewise, the comparative fit index (CFI), the normed fit index (NFI), and the Tucker–Lewis index (TLI), all of which should be close to .95 (Hu and Bentler, 1999), fall well below the cutoff points suggested for these indices. Finally, the relative fit index (RFI) and the incremental fit index (IFI) are below the recommended values of close to .95 (Byrne, 2010). The AIC and the CAIC are reported in Table 4 in order to compare the

Table 3
Mean EMCB item scores by country.

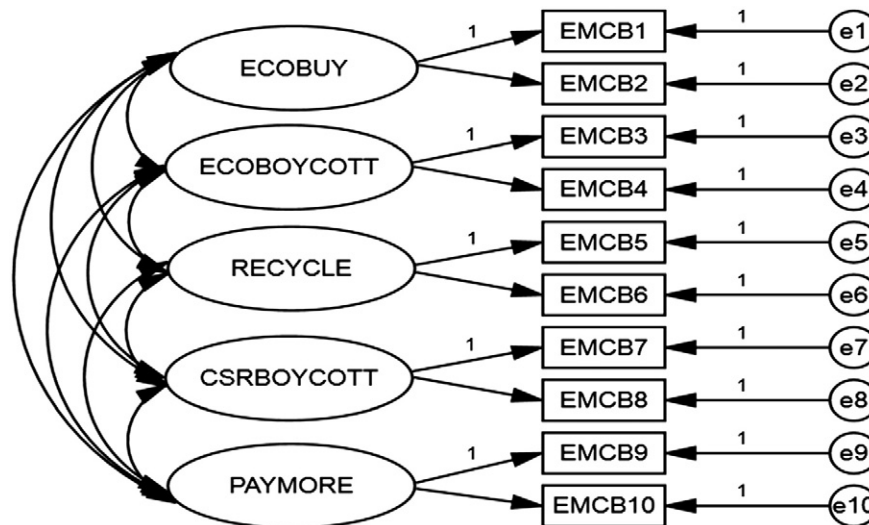| Item	UK		Germany		Hungary		Japan	
	M	SD	M	SD	M	SD	M	SD
1	3.17	.92	3.58	.95	3.47	1.09	3.51	.72
2	2.86	1.03	3.20	1.11	3.10	1.13	3.17	.77
3	3.47	1.06	3.96	1.15	3.52	1.11	3.90	.93
4	3.25	1.02	3.60	1.01	3.22	1.19	3.79	.94
5	3.48	1.07	3.85	.95	3.38	1.04	3.61	.89
6	3.22	1.17	3.56	1.07	3.26	1.13	3.67	1.00
7	3.54	1.17	3.83	1.07	3.15	1.17	3.64	.94
8	3.59	1.23	4.28	1.01	3.34	1.29	3.75	1.05
9	3.08	1.07	3.53	1.01	2.96	1.16	3.18	.93
10	3.07	1.07	3.42	.96	2.89	1.15	3.04	.93
Cronbach's α	.93		.90		.93		.86	

Fig. 1. Five-factor solution.

subsequent model, with smaller values representing better fit (Hu and Bentler, 1995). Clearly, ethically minded consumer behavior is not one-dimensional.

In contrast, using the guidelines outlined above, all the goodness of fit indices shown in Table 4 suggest the hypothesized 5-factor model to be a good fit, with the AIC and the CAIC figures showing dramatic improvement on the previous models. Moreover, the RMSEA closeness of fit (PCLOSE = .813) far exceeds the *p*-value of at least .50 recommended by Jöreskog and Sörbom (1996), and examination of Hoelter's critical *N* at both the .05 and .01 CN values were greater than 200 (408 and 480, respectively). Examination of the standardized residuals reveals none to exceed the threshold of 2.58 (Jöreskog and Sörbom, 1987); indeed, the highest standardized residual is −.804 between EMCB2 and EMCB6, with other standardized residuals typically falling below .5. In sum, the hypothesized 5-factor model fits the UK data well.

For the scale to be useful in multinational research, measurement equivalence is needed; without evidence of invariance conclusions based on the scale "are at best ambiguous and at worst erroneous" (Steenkamp and Baumgartner, 1998: 78). The next goal, then, is to examine the basic meaning and structure of the construct cross-nationally in order to establish whether or not the new scale can be conceptualized in the same way across countries. Before moving to analysis of multinational invariance, however, Byrne (2010) recommends testing the model separately in each group as the first step toward multigroup confirmatory factor analysis. Table 5 gives the goodness of fit indices for each nation (including the UK data for comparative purposes). All samples demonstrate all indices falling within the boundaries outlined above and RMSEA values of .065, .087, and .037 for Germany, Hungary, and Japan, respectively. Therefore, the model fit is acceptable for all countries.

Steenkamp and Baumgartner (1998) contend that multigroup confirmatory factor analysis (CFA) is the most powerful and versatile approach to testing for cross-national invariance in consumer research and offer a sequential testing procedure for doing so. Consequently, a multigroup measurement model (based on the hypothesized 5-factor

model) is constructed and tested first for configural invariance, which provides a baseline model for comparisons of subsequent tests for invariance. Testing the pattern of salient (nonzero) and nonsalient (zero or near zero) loadings defines the structure of the measurement instrument (Steenkamp and Baumgartner, 1998). Table 6 shows the results of this and subsequent analyses. The fit indices of the configural model ($\chi^2 = 190.7$, df = 100, p = .000), RMSEA = .027, CFI = .988, indicate that the model cannot be rejected, which leads to the conclusion that the specification of the items that index the 5 factors of EMCB are configurally invariant for the 4 nations under study.

Configural invariance does not however mean that the respondents in the 4 different nations are reacting to the scale items in the same way. In order to compare item scores meaningfully across nations, and thus have confidence in observed item differences being indicative of cross-national differences in the underlying construct, Steenkamp and Baumgartner (1998) explain that metric invariance is required. The results of the metric invariance analysis, when all factor loadings are constrained equal across all 4 groups, are presented in Table 6. Despite the fact that metric invariance is often difficult to achieve (Chen and Tang, 2006), based on the chi-square change between the configural and the metric model, it can be seen that evidence of equivalence emerges. Indeed, both the "excessively stringent" (Byrne, 2010: 220) test of invariance resulting in a significant value in the change in χ^2 (13.2, Δdf = 15, p = .585) and the ΔCFI of zero are well below the .01 cutoff point proposed by Cheung and Rensvold (2002). This means that the scale is ready to use, with a degree of confidence, in the different countries under study.

In practice, most researchers focus on the two preceding and most fundamental steps, which are tests of configural and metric invariance (Chen and Tang, 2006). Indeed, the scale is now ready for exploring and testing structural relationships, which is the most important application for most researchers. Of lesser concern is the need to make direct comparisons of means scores of both the observed and the latent variables across nations. There may be some projects, however, where researchers want to compare means and in order to do this the scale

Table 4
Dimensionality of ethically minded consumer behavior: model fit.

Model	χ^2	df	p	RMSEA	CFI	TFI	NFI	IFI	RFI	AIC	CAIC
Five dimensional (hypothesized)	41.711	25	.019	.038	.995	.990	.987	.995	.976	101.711	255.121
Single dimension	474.813	35	.000	.167	.856	.815	.847	.856	.803	514.813	617.087

(*N* = 452, UK Sample only).

Table 5
Five-factor model by nation.

Nation	N	χ^2	df	p	RMSEA	CFI	TLI	NFI	IFI	RFI
UK	452	41.711	25	.019	.038	.995	.990	.987	.995	.976
Germany	213	47.674	25	.004	.065	.980	.965	.960	.981	.929
Hungary	200	62.324	25	.000	.087	.973	.951	.956	.973	.921
Japan	413	38.959	25	.037	.037	.992	.985	.977	.992	.959

Table 7
Standardized regression weights.

			UK	Germany	Hungary	Japan
EMCB1	←	Ecobuy	.848	.765	.798	.690
EMCB2	←	Ecobuy	.833	.803	.799	.738
EMCB3	←	Ecoboycott	.850	.759	.879	.819
EMCB4	←	Ecoboycott	.834	.815	.817	.869
EMCB5	←	Recycle	.810	.797	.846	.836
EMCB6	←	Recycle	.783	.662	.855	.705
EMCB7	←	CSRboycott	.825	.849	.844	.816
EMCB8	←	CSRboycott	.814	.791	.836	.703
EMCB9	←	Paymore	.928	.930	.902	.905
EMCB10	←	Paymore	.942	.909	.932	.804

needs to exhibit scalar invariance. Scalar invariance implies that cross-national differences in the means of the observed items are due to differences in the means of the underlying constructs (Hu and Cheung, 2008; Steenkamp and Baumgartner, 1998). As Table 6 demonstrates, the scale does not exhibit scalar invariance; thus, the analysis omits direct comparisons of mean scores. Both the change in χ^2 and the change in CFI are outside the thresholds that demonstrate equivalence, suggesting that social and/or cultural differences affect the scale. Nevertheless, the establishment of configural and metric invariance are sufficient for confident use of the scale in most research projects. Indeed, several research studies across different nations used the original SRCB scale without this level of confidence.

Noteworthy is the fact that the data indicate no departure from normality, as evidenced by no rescaled β2 values exceeding 7 (West, Finch, and Curran, 1995). However, there is some suggestion of multivariate kurtosis. Consequently, bootstrapping using 2000 bootstrap samples, none of which was unused, reveals only very small differences between the maximum likelihood-based estimates and the bootstrap-based estimates, and the bias is very low. Moreover, no confidence intervals include zero. Thus, there are no substantial discrepancies between the results of the bootstrap analysis and the original analysis, and the interpretation of the results presented earlier is without fear that departure from multivariate normality has biased the calculation of parameters (Garson, 2012).

A simple regression analysis, using the scores for the EMCB scale as the outcome variable and the Marlowe–Crowne scores as the predictor variable, reveals the effects of social desirability to be very small, accounting for only 1.2% of the variance in the British sample, 4.3% in the German sample, 6.3% in the Japanese sample, and 8.2% in the Hungarian sample. The Hungarian result, although theoretically expected to be higher given the administration method used (Reed, Vidaver-Cohen, and Colwell, 2011), nevertheless suggests that social desirability effects are minimal.

Finally, convergent validity was tested. First, inspection of the factor loadings presented in Table 7 reveals that all exceed the ideal of .7, with the exception of EMCB1←ECOBUY for Japan, which is .69 and is therefore well above the minimum of .5. Moreover, all factor loadings are positive and significant. Additionally, Table 8 presents the average variance extracted (AVE) and the construct reliability (CR) results for each nation. All AVEs exceed the cutoff of .5 (Ping, 2004), indicating convergent validity and all CRs exceed .7, again indicating good reliability. Taken together, the evidence provides support for the convergent validity of the 5-construct EMCB measurement model. Finally, discriminant validity was tested and fulfilled because the square root of AVE of each latent variable exceeds the correlation between this and all other latent variables (Fornell and Larcker, 1981).

5. Discussion

The finding that EMCB comprises 5 distinct factors is a novel and important one. Few previous studies investigate the factorial properties of ethical consumption, but interestingly a decade after Roberts (1993, 1995) identified 2 factors (CSR and environmental) Webb et al. (2008) discovered a third factor comprising recycling items. The current study adds two further factors to this knowledge, with one dimension pertaining to paying a price premium for ethical products and another relating to boycotting for ethical reasons. By identifying propensity to pay a price premium for ethical products, the new scale incorporates an important dimension to ethically minded consumer behavior, which is often cited as one of the explanations for the attitude–behavior gap (Loureiro et al., 2002; McEachern et al., 2010 Sudbury and Böltner, 2010); thus, the inclusion of this important dimension is a strength of the new scale. Second, the new scale highlights the fact that refusal to purchase a product or service based on social irresponsibility or the potential to cause environmental damage (boycotting) is distinct from choosing one product over alternatives for ethical reasons. Indeed, Carrigan and Atalla (2001) suggest many consumers punish firms for unethical behavior via temporary boycotts or longer term anti-consumption behavior, but fewer will reward ethical behavior by purchasing an ethical brand over alternatives. This behavior has come to the forefront in the design of the new EMCB scale.

A third very important finding is the scale's ability to differentiate statistically between (1) members and nonmembers of an environmental group or cause and (2) those who regularly donate to environmental charities and those who do not. This finding not only demonstrates construct validity but also responds to Auger and Devinney's (2007) important question pertaining to how responses to surveys about ethical issues relate to actual behavior. This question is of central importance given the attitude–behavior gap. While no scale can claim to measure actual behavior, its demonstrable ability to differentiate between these different groups gives confidence to researchers in the ability of the EMCB scale to segment different behavioral clusters.

Based on a comprehensive analysis of 131 relevant international studies, Diamantopoulos, Schlegelmilch, Sinkovics, and Bohlen (2003) conclude that insufficient tests of dimensionality, reliability, and validity mar many past research studies. Robinson, Shaver, and Wrightsman (1991) provide comprehensive criteria for scale evaluation, which, they suggest, should cover three criteria: scale construction, response set, and psychometrics. In terms of scale construction, the EMCB scale is based on a review exercise comprising extensive pilot testing using

Table 6
Measurement invariance of ethically minded consumer behavior constructs.

Model	χ^2	df	RMSEA	Δ X²	Δdf	p	CFI	ΔCFI
Configural invariance	190.667	100	.027	–	–	.000	.988	–
Metric invariance (factor loadings constrained equal across all 4 countries)	203.889	115	.025	13.222	15	.585	.988	.000
Scalar invariance (equivalence of latent means)	489.357	145	.043	285.468	30	.000	.953	.035

Table 8
Average variances extracted (AVE) and construct reliability (CR).

	UK		Germany		Hungary		Japan	
	AVE	CR	AVE	CR	AVE	CR	AVE	CR
Ecobuy	.707	.899	.615	.851	.638	.864	.510	.781
Ecoboycott	.709	.900	.620	.853	.700	.904	.713	.901
Recycle	.635	.862	.537	.797	.723	.906	.598	.838
CSRboycott	.672	.882	.673	.882	.706	.898	.580	.827
Paymore	.874	.964	.846	.955	.841	.953	.733	.909

Note: The AVE and the CR are not provided by AMOS software so they were calculated using the following formulae:

$$VE = \frac{\sum_{i=1}^{n} \lambda_i^2}{n}, \text{ where } \lambda \text{ represents the standardized factor loading and } i \text{ is the number of items}$$

$$CE = \frac{\left(\sum_{i=1}^{n} \lambda_i\right)^2}{\left(\sum_{i=1}^{n} \lambda_i\right)^2 + \left(\sum_{i=1}^{n} \delta_i\right)}, \text{ where } (\delta) \text{ represents error variance terms (delta).}$$

debriefing interviews in 4 different nations, giving it an advantage over scales developed in single nations. The simplicity of item wording is also an important feature of the EMCB scale. Robinson et al. (1991) note that early instruments comprise question wording that is far more complex and esoteric than contemporary measures, and the extensive piloting and feedback, resulting in elimination, revision, and addition of so many items, suggests the scale is now easy to understand and administer. The extensive interviews that took place in each country ensure that the wording and the context, which are so crucial in such scales (Auger and Devinney, 2007), are clear and meaningful to respondents. Moreover, the terminology preferred by respondents (for example, the preference for environmental over ecological) is utilized. This modernized terminology lends a major advantage to the scale because phrases come in and out of fashion, and to use the terms preferred by respondents when constructing items will ensure clear understanding by future respondents (Robinson et al., 1991).

Response set occurs due to fatigue and/or noncooperation (Bearden and Netemeyer, 1999), which is likely to increase if the instrument is perceived as dull or unpleasant (DeMaio et al., 2002; Robinson et al., 1991). Reduction of the scale from 26 to 10 items provides a parsimonious scale that greatly reduces the chances of boredom. Consideration of acquiescence led to different wording of items (e.g., items 4, 7, and 8 refer to behavior avoidance while other items refer to actions that are accomplished). No scale can guarantee to measure actual purchase behavior. Instead, scales rely on accurate recollection and reporting on the part of the consumer. The fact that that scale is able to differentiate between activists and nonactivists suggests that the new EMCB scale does at least overcome some of the limitations found in attitudinal measures. Moreover, Nederhof (1985) clarifies that social desirability can originate from either self-deception or other-deception and explains that if, as is the case here, its effects are found to be small, a potential source of bias can actually be considered to be eliminated.

The first of Robinson et al.'s (1991) psychometric criteria against which to judge a scale is the sample of respondents. All the samples used here are random, and samples are from four disparate nations. All too often, marketing and consumer behavior scales are developed using college students in the first instance (Bearden and Netemyer, 1999); thus, the choice of an older sample is seen as an advantage that can be justified on three major grounds. First, older adults have been shown to be more ethical than their younger counterparts (Pan and Sparkes, 2012). Second, older adults are less cynical of ethical purchasing (Carrigan et al., 2004). Finally, older adults are more willing to pay the higher price tag that comes with some ethical products (De Pelsmacker et al., 2006). Noteworthy is the fact that across every nation and indeed every individual item as well as the EMCB scale as whole,

responses ranged from the minimum to the maximum possible scores. In other words, the scale is able to differentiate between consumers even using samples that have been shown to be relatively more ethically minded that younger samples. From a practical perspective, this finding suggests the scale has potential for segmentation purposes. Moreover, the use of a different data collection method in Hungary is an advantage because it is the correct method for that country. Based on the original pilot study in Hungary, obdurately adhering to a self-report methodology would likely have produced a host of problems with missing data.

Cronbach's alpha scores and the corrected item-total correlations reported here are "exemplary" (Robinson et al. 1991: 13). Particularly noteworthy are the alpha scores because as Robinson et al. (1991) assert, internal consistency is relatively easy to achieve by including individual items that mean the same thing and writing them in much the same way. The fact that the new scale actually merges many of the original items and still achieves these high results across all 4 countries lends support to its internal consistency. Further, several measures of validity have also been utilized, all of which give confidence in the new EMCB scale.

Steenkamp and Baumgartner (1998: 82) note, "When the purpose of the study is to relate the focal construct to other constructs in a nomological net, full or partial metric invariance has to be satisfied." Clearly, the level of measurement invariance required for the purposes of investigating ethical consumer behavior in a variety of disparate nations is established. Moreover, further structural equation modeling can use the scale confidently to identify the antecedents of EMCB – in other words, the scale results are now ready for inclusion in a nomological net by future researchers. Furthermore, even partial metric invariance allows for valid comparisons of relationships between samples (Lopez, Babin and Chung, 2009). Consequently, because results assure full metric invariance, an increase of one unit in the latent variable would have the same meaning for all samples being compared (Freitag and Bauer, 2013); thus, the scale is ready for use across nations.

The scale does not, however, exhibit scalar invariance, and Finney and Davis (2003) suggest several possible underlying reasons why this may be the case. First, there may be group differences in the levels of extreme response styles (ERS). ERS is the tendency to use the extreme points on a scale (very high and very low). While there was no clear evidence of this when examining the data, the psychological mid-point on a scale may differ across cultures (McDonald, 2000), and there is a tendency for Japanese respondents to give average or non-committal answers (Dore, 1973), which may explain the smaller standard deviation found in the Japanese sample. Second is the possibility of acquiescence response styles (ARS), which is the tendency for one group to systematically give higher or lower responses on a scale than another group (Cheung and Rensvold, 2000). The German sample gave systematically higher scores than both British and Hungarian respondents, although this is not the case in comparison to Japanese respondents. Whether this is because German consumers are more ethically minded than the others, or whether it is a trait in German response styles, remains an unanswered question. Certainly, the standard deviation for the German sample is not as large as for the UK and Hungary. One final potential reason pertains to the relevance of the items to the construct. One group may endorse an item as much higher than another group because it "is more salient as a marker" (Chan, 2000: 77). In other words, social and cultural differences may account for the salience of different items across the samples, thus making scalar invariance impossible. What is ethical varies from one society to another (Forsyth, O'Boyle, and McDaniel, 2008), cultural differences affect decision making (Kim and Johnson 2013), and nationality has been found to explain more variation in unethical consumer behavior than have socio-demographic variables (Babakus, Cornwell, Mitchell, and Schlegelmilch, 2004). In other words, ethically minded consumer behavior does not happen in a vacuum, it takes place in social and cultural environments governed by complex and different sets laws, policies,

rules and regulations, values, and norms (Scholtens and Dam (2007). As Schwarz (2003: 588) notes, "any observed difference between … cultures may therefore reflect a meaningful difference in attitudes and behaviors, a difference in the response process, or an unknown mix of both."

6. Conclusions and implications

Robinson et al. (1991) argue that if a scale covers a construct for which instruments are already available, the new scale should demonstrate sound improvements over previous measures. The new EMCB scale does indeed exhibit many advantages over alternative self-report measures and therefore fills a gap for such instruments. While the current scale does not claim to be able to measure actual behavior in the same way as observation can, it does at least ask questions relating to actual behavior rather than intentions or attitudes, which is a common problem with many currently available scales. Further, the EMCB scale has demonstrated its ability to differentiate between people based on their group membership and charitable donations, giving the scale an added advantage of some existing measures. Other advantages of the EMBC scale include its brevity, ease of administration, and proven validly across nations.

All self-report measures do of course suffer with a number of mutual limitations. Due to social desirability bias, individuals may lie or exaggerate. There may be genuine errors made by some respondents due to memory lapses or inattention to detail (Kolb, 2008), or due to the fact that questions can only ask about purchases in a generalized manner rather than scrutinize each individual purchase situation. Specific limitations to the research include the fact that scalar measurement invariance is not established. Thus, the new scale may not be suitable for research projects where there is a need to compare mean scores across nations or cultures. Future research needs to utilize the scale in the same nations as the ones used here, and in different countries. Future research should also attempt to establish scalar invariance. Finally, the scale emerged from an existing instrument, rather than the traditional scale development model that would utilize qualitative research as the foundation for the study. Ethnography in the form of accompanying people while they make consumption choices, or in-depth interviews pertaining to what is perceived as important from an environmental and ethical perspective, may well have uncovered additional items or issues that the current scale has missed. The new scale incorporates choosing a product over alternatives for environmental reasons (eco buy) but is limited in that the only reference to purchasing for CSR reasons is encompassed in the pay more factor: perhaps an explicit item referring solely to choosing on the basis of CSR reasons – as well as boycotting on the basis of environmental reasons – would strengthen the scale. If the scale had been developed using solely UK respondents, then it may have incorporated items pertaining to food (organic, freedom foods) and an animal welfare dimension. Reference to animal welfare, dropped because Japanese respondents did not understand the need for such a dimension, should perhaps have remained because interesting cultural differences would have emerged – although of course this would have compromised measurement invariance. Certainly, there is a need for further research into the societal concern for animal welfare (McEachern et al., 2007). Finally, the scale does not incorporate any economic dimensions in terms of buying locally produced goods, which is of great importance from an ethical perspective (McEachern et al., 2010). Perhaps if the scale had utilized qualitative research as its foundation and been developed from scratch rather than using an existing scale, these issues would have emerged. Conversely, however, it should be noted that studying organic food purchases purely from an ethical perspective is problematic because many people purchase organic food because they perceive it to be healthier, safer, or to taste better (Davies, Titterington, and Cochrane, 1995; Shaw Hughner et al.,

2007). Clearly, researchers in different nations will still need additional measures in order to encompass a wider range of issues specific to different cultures and countries. Hopefully, other important facets to ethical consumer behavior, such as ethical logos and food miles, are incorporated implicitly in the scale, although perhaps explicit and direct items pertaining to such dimensions would further strengthen it. Nevertheless, previous studies have already acknowledged that ethical consumption needs continual refinements due to its dynamic nature (Roberts, 1995; Webb et al., 2008) and increasing importance (Ethical Consumerism Report, 2011), and this study has taken steps to refine and modernize ethically minded consumer behavior. Future research should utilize a qualitative phase of research in order to ensure that any future improvements or iterations of the scale are as comprehensive as possible.

These limitations notwithstanding, the new scale does fill an important gap in that it provides future researchers with a measurement instrument ready to use in a variety of nations and in studies with a variety of research objectives, including the modeling of complex relationships among variables. Previously, researchers needed to use a variety of different scales to cover different facets of ethical consumption or to adapt existing scales such as the SRCB scale, which was no longer fully applicable in today's environment. The new EMCB scale is valid, reliable, easy to understand, and easy to administer. The scale is contemporary, and it views ethical consumption from a wide perspective. The choices of nations and the demographic of the samples therein are also strengths of the study: all too often scales development comprises young (often student and often US) samples. The scale demonstrated the maximum possible ranges across all nations; thus, it is assumed that as it can differentiate between consumers drawn from "the ranks of the ethically motivated" (Szmigin et al., 2003: 548). There is no obvious reason why the scale is not suitable for use with younger consumers, although further testing of the scale to ensure its use is appropriate with all ages is a recommendation for future research. Certainly, the wide range of scores found within every nation suggests that further investigation of the scale in order to identify its usefulness for segmentation purposes could be a productive research avenue. Moreover, studies often use scales developed in a different country or culture without checking that the measure is equivalent. This paper has demonstrated that the EMCB scale can be used with confidence across a variety of nations and cultures, providing future researchers and practitioners with a scale that measures the degree to which an individual perceives themselves as ethically minded when making consumption choices. Of course, as is the case with any consumer behavior scale, the instrument relies on the ability of respondents recollect their behavior and to tell the truth about that behavior. This caveat notwithstanding, the scale has advantages over many alternatives because it does at least ask questions about actual purchasing habits as opposed to attitudes and intentions, which is important given that ethical intentions rarely translate into actual purchasing behavior (Carrington et al., 2014). Looking ahead, ethical consumption may have the potential to become a mass-market phenomenon (Devinney et al., 2010). If a propensity toward ethically minded consumer behavior is to be considered a major asset for marketing and indeed for a society, it becomes absolutely necessary to have a valid measure for it. The EMCB provides researchers and practitioners from diverse countries with such a measure.

Appendix 1. Original SRCB scale (Roberts, 1993, 1995, 1996a 1996b)

Factor 1: ecologically conscious consumer behavior (ECCB)

1. I have purchased products because they cause less pollution.
2. When I purchase products, I always make a conscious effort to buy those products that are low in pollutants.
3. I make every effort to buy paper products made from recycled paper.
4. When I have a choice between 2 equal products, I always purchase the one which is less harmful to the environment.
5. I try only to buy products that can be recycled.
6. I use a recycling centre or in some way recycle some of my household trash.
7. When there is a choice, I always choose the product which contributes to the least amount of pollution.
8. Whenever possible, I buy products packaged in reusable containers.
9. If I understand the potential damage to the environment that some products can cause, I do not purchase them.
10. I use a low-phosphate detergent or soap for my laundry.
11. I have convinced members of my family or friends not to buy some products which are harmful to the environment.
12. I do not buy household products that harm the environment.
13. I do not buy products in aerosol containers.
14. I buy paper towels made from recycled paper.
15. To reduce our reliance on foreign oil, I drive my car as little as possible.
16. I buy toilet paper made from recycled paper.
17. I normally make a conscious effort to limit my use of products that are made or use scarce resources.
18. I have switched products for ecological reasons.

Factor 2: socially conscious consumer behavior (SCCB)

19. I do not buy products which use advertising that depicts minority groups in a negative way.
20. I do not buy products from companies who discriminate against minorities .
21. I do not buy products from companies who have investments in South Africa.
22. In the past, I have not purchased a product because its advertising depicted women in a negative way.
23. I will not buy a product that uses deceptive advertising.
24. I do not buy products from companies involved in a labor dispute.
25. I do not buy table grapes because of the conditions under which the workers who pick them must live.
26. I try to purchase products from companies who make donations to charity.

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