



# Should environmentalists be concerned about materialism? An analysis of attitudes, behaviours and greenhouse gas emissions



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## ARTICLE INFO

### Article history:

Received 26 May 2014

Received in revised form

7 August 2016

Accepted 21 August 2016

Available online 21 August 2016

### Keywords:

Materialistic values

Greenhouse gas emissions

Consumption patterns

Air travel

Sustainable consumption

## ABSTRACT

This study analyses the relationships between materialistic values, environmental concerns, and greenhouse gas (GHG) emissions in a sample of 1004 Swedish residents. The previously established material values scale (MVS) is employed along with detailed measurements of the respondents' GHG emissions from travel behaviour, residential energy use, diet, and other consumption. The developed structural model reveals a weak but significant association between high MVS scores on the one hand and low environmental concern and high GHG emissions on the other hand. In further analysis, however, the correlation between high MVS scores and high GHG emissions is shown to be traceable to the domain of air travel in the first place, with no correlation found, for example, between MVS scores and size of accommodation and spending on cars, both traditional status commodities. Instead of possessions, the status-oriented materialists in the sample thus appeared to focus more on other aspects of their lifestyle.

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## 1. Introduction

Research suggests Western societies to have grown increasingly materialistic over the last few decades, with signs of a similar trend visible in also other parts of the world (Ger & Belk, 1996; Podoshen, Li, & Zhang, 2011; Rahn & Transue, 1998; Schaefer, Hermans, & Parker, 2004; Twenge & Kasser, 2013; Twenge, Campbell, & Freeman, 2012).<sup>1</sup> Studies indicate, furthermore, that individuals with materialistic values care less about the environment than others, and that their lifestyles are more harmful to the environment (Banarjee & McKeage, 1994; Brown & Kasser, 2005; Hurst, Dittmar, Bond, & Kasser, 2013; Kilbourne & Pickett, 2008; Kilbourne, Grünhagen, & Foley, 2005), and results from Kasser (2011) indicates that countries with more materialistic cultures contribute more to greenhouse gas (GHG) emissions than countries with less materialistic cultures. Accordingly, an increasingly materialistic orientation in society may be expected to only further complicate the transition toward a more sustainable future, by undermining public support for more stringent environmental

policies and by reinforcing unsustainable consumer practices.

Nevertheless, there also exist several factors that complicates the assumed relationship between a materialistic value orientation and environmental impacts and that has been omitted in previous research. To begin with, previous research on this relationship has predominantly relied on “soft” indicators to measure environmental impacts, such as recycling, buying environmentally friendly products, and other similar self-stated activities (e.g., Brown & Kasser, 2005; Richins, 1994). This is problematic, since it may lead to overstating the importance of motivational factors relative to structural ones (Nässén, Andersson, Larsson, & Holmberg, 2014; Tabi, 2013). The need for more reliable environmental indicators in research has also been emphasized by Gatersleben, Steg, & Vlek, 2002.

Secondly, the expected linkages between materialism and environmental impact through consumer behaviours may not be as straightforward as typically assumed. If materialists “place more value on becoming wealthy, owning possessions and conveying status with possessions” (Gatersleben, 2011, p. 139), the increased emissions to which their activities contribute can be traced back to both their inclination to earn and consume more in general and the composition of what they consume. While it has been rather well established that households with high overall incomes and expenditures typically generate more GHG emissions than others (Lenzen et al., 2006; Nässén et al. 2014), the effect of the focus on

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<sup>1</sup> This article proceeds from Richins and Dawson's (1992) definition of materialism as “a set of centrally held beliefs about the importance of possessions in one's life”.

“possessions” as such is in comparison more ambiguous. Although these durable goods are typically more GHG intensive than services (they generate more emissions per monetary unit), they are less GHG intensive than the consumption of food, transport, and residential energy; in most cases, their GHG intensity is also lower than that of consumers' average consumption basket (Nässén, 2014). In Sweden, for instance, the large increase in consumption of durable goods over the last 25 years actually led to a more moderate increase of GHG emissions, compared to if the increased spending had been spread proportionately across all sectors (Nässén, 2014). This would suggest that if materialists spend a greater proportion of their disposable income on products such as luxury cars, haute couture, designer furniture, and other luxury goods, their consumption might actually cause less GHG emissions than their less materialistic peers'. The actual relationship between materialism and environmental impacts therefore requires a more detailed analysis of actual consumer behaviours.

Thirdly, the question of the relationship between materialism and environmental impacts also raises the broader issue of what materialism, as a lifestyle orientation, is ultimately all about. Several definitions share the notion that it involves acquiring possessions for the purpose of increasing one's status (for an overview of the different uses of the concept, see Ahuvia & Wong, 2002). However, Shrum et al. (2012, p. 1180) have proposed that materialism rather denotes “the extent to which individuals attempt to engage in the construction and maintenance of the self through the acquisition and use of products, services, experiences, or relationships that are perceived to provide desirable symbolic value.” Although this attempt to redefine the concept of materialism is itself open to criticism for being overly broad, as it encompasses all sorts of status-driven consumption, it also has some merit over previous definitions in that it suggests that materialism can be boiled down to a tendency to take a shortcut through consumption to be able to signal different desired traits. This way of understanding materialism will then further complicate the analysis of the relationship between materialism and environmental impacts, as what materialists seek need not be things, but can be anything that provides the desired symbolic value, such as, for example, an opportunity to travel to an exotic travel destination if that improves one's social standing.

These points and considerations then call for expanded research on the relationship between materialism and environmental impacts. More reliable indicators of the latter are needed, first of all, to avoid overstating the importance of motivational factors. Furthermore, a good coverage of all or most different GHG-relevant consumer behaviours is necessary in order to improve our understanding of the actual linkages between materialism and environmental impacts. In addition, the analysis needs, at least in some way, be able to capture the symbolic dimension of consumption, if it is to shed light on the underlying reasons for materialists' differences in consumption.

In this article, an attempt is made to build on this understanding in the context of the climate issue, in examining the relationships between materialism, environmental concern, and GHG emissions based on individuals' measured emissions from travel, residential energy use, diet, and other consumption as derived from a combination of register-based information and self-reported behaviours. The analysis, moreover, also includes detailed data on vehicles owned as well as housing type and location of residence, to enable a better understanding of the symbolic meaning of consumption in these regards. Towards this end, a confirmatory factor analysis was performed to develop the latent variables ‘materialism’ and ‘environmental concern’, and the data analysis itself was performed using structural equation modelling techniques. The main questions guiding the examination were whether materialism

is associated with lower levels of environmental concern when relevant background factors are controlled for, and whether materialism can be related to greater environmental impact when an individuals' total GHG emissions is estimated.

## 2. Materials and methods

This section describes the data collection process for the study carried out (section 2.1), the establishment of measures for materialism, environmental concern, and GHG emissions for it (2.2.), as well as the analytical approach employed (2.3.).

### 2.1. Survey participants

A postal survey was sent out in May 2012 to a random sample of 2500 individuals aged 20 to 65 and living in the region of Västra Götaland in the south-west of Sweden. The net response rate was 40.1% (1004 individuals to be exact). The obtained sample differed somewhat from the total population in the region, in that it included a larger share of women (55%) and had a slightly (5%) higher level of mean income (SEK 25,700 per month, compared to SEK 24,400 per month in the region) and a significantly higher level of education (60% of the respondents had completed a college or university programme, compared to 39% of those similarly aged in the region).

Given that the survey was explicitly focussed on environmental issues, there was a possibility of a non-response bias, in that attitude towards, or interest in, environmental issues may have influenced willingness to participate in the survey. To test for such a “pro-environmental” bias in the sample, a question was included in the survey about the respondents' general interest in environmental issues. This question was taken from an earlier, nation-wide survey about the attitudes of adult Swedish residents (SOM Institute, 2012), and the responses to it showed no notable difference in this regard.

### 2.2. Measures

#### 2.2.1. Material values scale

For this study, Richins and Dawson's (1992) conceptualization of material values was drawn upon to examine materialism as a factor influencing consumer behaviour. Their proposed material values scale (MVS) covers the following three dimensions of materialism: the use of possessions to judge the *success* of others and oneself; the *centrality* of possessions in a person's life; and the belief that possessions and their acquisition lead to *happiness* and life satisfaction (Richins & Dawson, 1992, p. 210; emphases added).

The scale has been shown to have satisfactory psychometric properties and avoid at least some of the response bias problems associated with other scales (Mick, 1996). For the actual measurements, the short form of the MVS (Richins, 2004) was used (translated into Swedish), with question items consisting of nine statements requiring a response on a 10-point Likert scale (from “strongly disagree” [1] to “strongly agree” [10]). Table 1 gives these statements with the relevant dimension of the MVS indicated for each statement. Note that statement 4 was reverse-worded and therefore also reverse coded.

#### 2.2.2. Environmental concern scale

An environmental concern scale (ECS) was constructed that included four items with a response scale of 1–7, where scale labels are indicated by italics. These queried about the respondents' self-rated (1) level of *interest* in environmental issues ( $M: 4.7, SD: 1.4$ ); (2) level of *personal worry* about the future effects of climate change ( $M: 4.9, SD: 1.5$ ); (3) preference for an “environmentally

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