HOW 'GREEN' BUYING AFFECTS HOW WE FEEL
A STUDY ON THE IMPACT OF GREEN PURCHASES ON AN INDIVIDUAL'S SUBJECTIVE WELL-BEING

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The current study investigates whether green buying may affect how one feels. The results of a large-scale survey study showed that green purchase behavior is positively related to an individual's subjective well-being. In particular, the study suggests that individuals who are frequently purchasing green products experience higher satisfaction with life, higher self-esteem, more positive emotional experiences and less negative emotional experiences. In addition, this study shows that this positive effect can be partly explained by the fact that green consumption triggers an individual's altruistic behavior which is in turn positively related to well-being.

Note: the corresponding author is a Ph.D. candidate and would like to be nominated for the Best Student Paper Award.

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ABSTRACT

The current study investigates whether green buying may affect how one feels. The results of a large-scale survey study showed that green purchase behavior is positively related to an individual's subjective well-being. In particular, the study suggests that individuals who are frequently purchasing green products experience higher satisfaction with life, higher self-esteem, more positive emotional experiences and less negative emotional experiences. In addition, this study shows that this positive effect can be partly explained by the fact that green consumption triggers an individual's altruistic behavior which is in turn positively related to well-being.

INTRODUCTION

Nowadays, consumers are flooded with an avalanche of green products in many different product categories, and those products sell very well. Recent figures show that the organic food market in Europe, for example, has grown considerably to 19.6 Billion Euro in 2010 (Willer, 2012), while the green building market has grown sevenfold in the 2005 to 2010 time span (Bernstein, 2011). As public concern over the environment increased in recent years (Chang, 2011; Hanas, 2007), much research has focused on profiling the ecologically responsible individual (e.g. Gilg et al., 2005) and on the antecedents of environmentally-friendly behavior (e.g. Barr, 2007). These studies show that concern for the environment is an important motivator for this behavior, suggesting that it can be classified as some kind of prosocial behavior (Bamberg, 2003). Nonetheless, next to antecedents of ecological behavior, it is also primordial to investigate its consequences (Thøgersen, 2011), since they help shape subsequent behavior (DiClemente and Hantula, 2003). Hence, the current study tackles the potential benefits of green behavioral patterns for an individual's well-being.

The notion *'subjective well-being'* refers to how happy and satisfied individuals are with their lives (Diener et al., 1999). It consists of a cognitive aspect of one's satisfaction with life in general or one's satisfaction with specific life domains, and of an affective aspect reflecting an individual's emotional experiences (e.g., Biswas-Diener et al., 2004). Research on the effects on well-being is common for other kinds of prosocial behavior such as volunteering (e.g., Windsor et al., 2008; Borgonovi, 2008), voluntary group membership and attendance (e.g. Rietschlin, 1998; Van Willigen, 1998) and charitable giving (e.g., Harbaugh et al., 2007; Krishna, 2011). Along with other research, these studies have asserted an association between different kinds of prosocial behavior and a whole spectrum of desirable well-being outcomes, including aspects such as happiness, life satisfaction or self-esteem, and diminished feelings of distress and depression. They show that prosocial behavior makes people happy because it makes the prosocial individual feel valued by society, useful and rewarded. This is consistent with Post's (2005) view that other-regarding emotions and activities are associated with greater well-being, health and longevity.

Green purchase behavior, along with other kinds of environmentally friendly behavior such as recycling, is a specific manifestation of prosocial behavior. Green buying is seen as an altruistic or other-regarding act because green products often cost more and are of lower quality compared to non-green products (Griskevicius et al., 2010). As such, someone purchasing green products sacrifices personal interests for the common good, and renounces certain personal benefits in exchange for collective ones (Xiao and Li, 2011), which is exactly

what typifies prosocial deeds. Nevertheless, only one study so far investigated the impact of sustainable consumption on an individual's well-being, and it did not offer any insights into theoretical explanations. A positive relationship between green purchase behavior and positive well-being is presumed for two major reasons. First, it is expected that green purchases affect well-being because prosocial acts may make the benefactor feel valued and useful. Second, engaged and responsible behavior makes people gain confidence and become more self-assured, which in turn may promote higher well-being. Further, the mediating role of altruism will also be investigated. This is presumed because behavior is not only influenced by values. Behavior in turn also influences values because, through the display of behavior, people adopt a certain role-identity that strengthens the respective values.
In sum, the current study will investigate whether (1) green purchase behavior positively affects an individual's well-being, and (2) altruism mediates this relationship. In the following sections, we will provide a theoretical framework and present the results of a large scale survey study to test these relationships.

THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

Green Purchase Behavior

Green products can be found in virtually every product category, ranging from rather low involvement products such as food to high involvement products such as cars. Green consumption is defined as *"the use of goods and services that respond to basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardize the needs of future generations"* (Oslo roundtable, 1994). Hence, in short, 'green purchase behavior' can be defined as the purchase of products that envisage to minimize environmental consequences (Kim et al., 2012).

The Impact of Green Purchase Behavior on Subjective Well-Being

As such, green purchase behavior is at the intersection of consumption and ecologically responsible behavior (ERB). ERB is a notion used to describe a whole range of environmentally conscious behaviors, one of them being green purchase behavior, next to for example water conservation and recycling (Shahn and Holzer, 1990). Both consumption and ERB appear related to well-being. Previous studies on the relationship between consumption and well-being found a very weak or even negative relationship (e.g., Ahuvia, 2008). However, some aspects of consumption appear to contribute to an individual's happiness. In this respect, past research shows that experiential purchases (Nicolao et al., 2009; Zhong and Mitchell, 2010), luxury purchases (Hudders and Pandelaere, 2012) and prosocial spending (Dunn et al., 2008; Krishna, 2011) make individuals feel happy. Concerning the relationship between ERB and well-being, the study of Brown and Kasser (2005) asserted that individuals possessing higher levels of subjective well-being reported more ERB. However, more recent studies show that this effect also goes the other way around, thus that ERB actually contributes to the well-being level of individuals. In this respect, Jacob et al. (2009) found that a significant amount of variance in subjective well-being can be explained by ERB. In addition, the study of Xiao and Li (2011) demonstrated that higher green purchase intention was associated with higher life satisfaction. Based on these studies, we can expect that green purchase behavior, as the junction of ERB and consumption, may also contribute to individuals' happiness. We will draw on multiple theoretical frameworks to substantiate how green purchases may affect subjective well-being.
First, the *social role hypotheses* (Borgonovi, 2008) asserts that people who behave in a benevolent way often take pride in their behavior and feel good about themselves. Moreover,

as such behavior has a salutary influence on the community, the community is often grateful and rewards them with social recognition. This may enhance an individual's self-esteem, because, according to the *sociometer theory*, an individual's self-esteem depends on how one feels valued by others (Leary et al., 1995). For many people, benevolence is an important value, and being able to act in accordance with our values makes us at ease and feel harmonious and happy (Musick and Wilson, 2003). This enhances our sense of self and makes us feel better. The *psychological resources theory* (Midlarsky, as cited in Musick and Wilson, 2003) further asserts that prosocial deeds make the individual more confident and self-assured, which will positively influence self-esteem and well-being. In addition to this, the *self-determination theory* (Ryan and Deci, 2000) argues that individuals who are responsible and engaged and act on other-regarding, community-oriented aspirations show more interest, excitement, and confidence. Such individuals will therefore feel more vital and experience more self-esteem and personal well-being (Kasser and Ryan, 1996), as opposed to indifferent and indolent people. To conclude, green purchase behavior, as an act of benevolence, satisfies the innate psychological needs and make individuals feel valued.
In sum, both the recognition and appreciation that individuals may receive when purchasing green products may positively affect various aspects of their subjective well-being (i.e., satisfaction with life, self-esteem and affective well-being):

H1*: Green purchase behavior positively affects an individual's subjective well-being*

The Mediating Impact of Altruism

Altruism, which is defined by the Merriam Webster online dictionary as "*unselfish regard to or devotion to the welfare of others"*, appears to be an important motivator of prosocial behavior (Bénabou and Tirole, 2006). A study of Carpenter and Myers (2010), for instance, shows that altruism and prosocial behavior (in this case volunteering) are positively correlated, and that altruism increases the supply of prosocial behavior. In addition, a recent study of Thøgersen (2011) shows that universalism values -the pursuit of unselfish life goals- are positively related to green purchasing. A clear parallel can be drawn between these universalism values and an altruistic lifestyle since they share concern for the common good and are both directed towards others instead of the self. As such, the abovementioned studies suggest that altruism may be positively related to green purchase behavior:

H2*: Altruism is positively related to green purchase behavior*

Moreover, behavior is suggested not only to be influenced by certain values, but behavior in turn also influences these values. Values ensure that individuals behave accordingly. It is assumed that the individual subsequently even further internalizes these values because behavior strengthens a certain role-identity (Sparks and Shepherd, 1992). As such, an individual might be incited to display prosocial behavior because of altruistic values, and this behavior might in turn augment the individual's altruism because his/her role-identity as a prosocial member of society is strengthened and must be maintained. As altruism is known to be positively related to well-being (Post, 2005), we expect altruism to mediate the relationship between green purchase behavior and subjective well-being.

H3*: Altruism mediates the relationship between green purchases and subjective well-being.*

METHOD

A large-scale, online survey study was conducted in Belgium to investigate the proposed relationships between green purchase behavior and subjective well-being. Students were asked to address their network and to direct them to the survey link in return for course

credits. Hence, the collection of responses occurred via a convenience sample. As we assumed that minors do not purchase (enough) green products for a relationship to be evident, we instructed students to only address adult respondents. Consequently, the sample was not intended to be representative for the Belgian population.

On the recommendation of Meade and Craig (2012), various methods in order to identify careless responses were incorporated. Two instructed response items were presented throughout the questionnaire (*'Please indicate totally agree/totally disagree'* respectively on a scale from 1-totally disagree to 7-totally agree). Forty-eight respondents who gave the wrong answer to both questions were omitted. Furthermore, a self-report measure of the attention respondents paid when completing the survey was integrated at the end of the questionnaire (*'How much attention did you pay to this survey?'* to be completed on a 4-point scale ranging from 1-hardly any effort to 4-much effort). Twenty-seven respondents who answered in a negative fashion were omitted.

This resulted in a total of 1,515 respondents that completed the survey. Gender was nearly equally distributed in the sample, with 47% males and 53% females, and the average age was 34 years (*SD*= 14.82). The majority of respondents was single (51%) or married/living together (43%), and held a degree of secondary education (43%) or a bachelor's degree (31%). Of all respondents, 53% was employed, while 48% was unemployed, and the division between living in the city and living in the country was exactly 50/50.

Green purchase behavior was measured by asking respondents '*How often do you purchase green products (i.e., products that envisage to minimize environmental consequences)?*' on a 5-point scale (never / rarely / sometimes / often / always). Self-report measures of life satisfaction (cognitive component) and self-esteem and both positive and negative affect (affective component) were used to assess well-being (Tuominen-Soini et al., 2008). Life satisfaction was measured employing the satisfaction with life scale (Diener et al., 1999; Diener et al., 1985). This scale entails five items to be answered on a 7-point Likert-type scale ranging from 'totally disagree' to 'totally agree' (α= .76). Self-esteem was measured using Rosenberg's 10-item self-esteem scale (1965, α= .89). Positive and negative affect are measured by the positive and negative affect schedule (PANAS; Crawford and Henry, 2004; Watson et al., 1988) in which respondents indicate how often they experienced each emotion the past month (ranging from 1-not at all to 5-very much). Finally, altruism was measured using the 20-item self-report altruism scale (Rushton et al., 1981, α= .83) to be answered on a 5-point scale (never / once / more than once / often / very often), along with some socio-demographical variables such as gender, age, marital status, education and occupation.

RESULTS

Overall, results indicate that green purchase behavior was rather low in our sample (*M*= 2.78, *SD*= .73). Of all respondents, 14% labeled themselves frequent buyers, 52% answered to buy green sometimes and 34% said to never or rarely buy green products. As such, our sample corresponds rather well to Europe since 17% of Europeans regularly purchase green products (Maurer, 2008). To test the first hypothesis, a correlation analysis was conducted. This yielded significant but weak positive correlations between green purchase behavior and life satisfaction ($r(1504)= .08$, $p= .002$), self-esteem ($r(1486)= .06$, $p= .03$) and positive affect ($r(1458)= .08$, $p= .003$) and a marginally significant, weak negative correlation between green consumption and negative affect ($r(1458)= -.05$, $p= .06$). Hence, purchasing green products seems to be related to an individual's well-being. These results support the first hypothesis. A correlation analysis was also conducted to test the second hypothesis. Altruism and green purchase behavior are indeed associated in the anticipated direction, since they are positively related to one another ($r(1464)= .29$, $p< .001$).

Finally, to test hypothesis 3, the Preacher and Hayes (2008) Bootstrap test to estimate indirect effects in simple mediation models was used. The results show that altruism (partially) mediates the relationship between green purchase behavior and the various subjective well-being measures. First, results show that altruism partially mediates the relationship between green purchase behavior and an individual's satisfaction with life. Although there appears to be a positive indirect effect of green purchase behavior on life satisfaction via altruism (*ab*= .03, *SE*= .01, 95% LLCI= .01, ULCI= .06), the direct effect also remains significant (*c'*= .08, *SE*= .04, *t*= 2.07, *p*= .04). Second, altruism fully mediates the relationship between green purchase behavior and self-esteem and positive affect. The Bootstrap analysis indicated a significant indirect effect of green purchase behavior on both self-esteem (*ab*= .03, *SE*= .01, 95% LLCI= .01, ULCI= .05) and positive affect (*ab*= .07, *SE*= .01, 95% LLCI= .05, ULCI= .09) through altruism. The direct effect of green purchase behavior on self-esteem (*c'*= .02, *SE*= .03, *t*= .77, *p*= .44) and positive affect (*c'*= -.002, *SE*= .02, *t*= -.09, *p*= .93) was no longer significant when altruism was entered as mediator in the models. Finally, altruism appeared to have no significant impact on negative affect. Hence, the indirect effect is not significant and thus it is not a matter of mediation in this case (*ab*= .005, *SE*= .01, 95% LLCI= -.01, ULCI= .02). In sum, these results confirm the third hypothesis (see figure 1).

INSERT FIGURE 1 ABOUT HERE

DISCUSSIONS, CONCLUSIONS, FURTHER RESEARCH

The current study provides additional insights in the relatively new research field of environmentally responsible behavior and its effects on subjective well-being. It complements existing research on the relationship between different kinds of prosocial behavior and well-being by uncovering specific relationships. This study focused on how a specific form of environmentally friendly behavior, namely green purchase behavior, affects the purchaser's cognitive as well as affective evaluations of well-being.

Results indicate that green purchasing, as a specific manifestation of prosocial behavior, is indeed positively related to subjective well-being. This is in line with a wealth of studies exploring the link between other kinds of prosocial behavior such as ecologically responsible behavior in general (e.g. Jacob et al., 2009) or volunteering (e.g. Borgonovi, 2008; Windsor et al., 2008) and well-being. Green purchasing may enhance well-being. Likewise, it is conceivable that well-being fuels green purchasing or that well-being and green purchasing mutually influence each other. It remains for experimental research to assess the direction of these effects. The results of this study also provide evidence on the important mediating role of altruism in the relation between green purchase behavior and subjective well-being. While altruistic personalities are assumed to display more prosocial behavior (Carpenter and Myers, 2010), this relation also goes the other way around. People who buy green also view themselves as altruistic personalities and green buying maintains and strengthens this altruistic role-identity, which in turn relates to higher positive well-being.

Alongside this study's contributions, it also has some limitations. For example, self-report measures of altruism and well-being may be guided by a respondent's desire to 'make a good impression' and hence might be confounded by a social desirability bias. Therefore, future studies could employ other measures, such as implicit measures for constructs such as altruism and even to assess well-being (Post, 2005). Moreover, as differences between green product categories might be expected due to variation in involvement, for example, future research could yield useful insights by studying different product categories and different consumption situations and by investigating how they affect subjective well-being.

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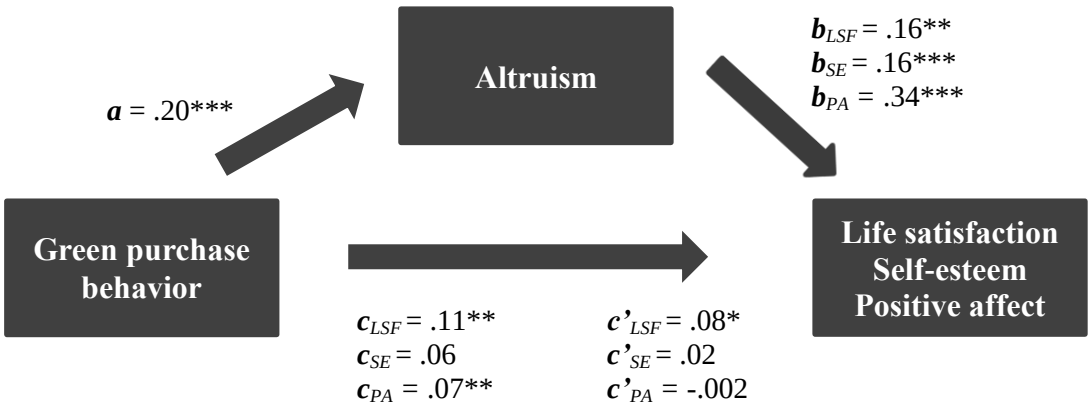

* p <.05 **p <.01 ***p <.001 other coefficients not significant
c: total effect c': direct effect ab: indirect effect
LSF: life satisfaction SE: self-esteem PA: positive affect

Figure 1: Mediation model