

Sustainable Consumption and Life Satisfaction

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Abstract The purpose of this study was to examine the association between sustainable consumption and life satisfaction. One aspect of sustainable consumption focused on in this study is the environment friendly purchase or green purchase. Using data collected from consumers in 14 cities in China, we found that consumers who reported green purchase intention and behavior had higher scores in life satisfaction compared to other consumers after controlling for gender, age, education, and family income. The findings add evidence to the literature that suggests happiness is associated with prosocial spending (Dunn et al., *Science* 319:1687–1688 in 2008).

Keywords Sustainable consumption · Green purchase · Prosocial spending · Life satisfaction · Subjective well-being · China

1 Introduction

Can money buy happiness? The literature of happiness research says yes, to some degree. Happiness is usually labeled as subjective well-being in the literature (Diener 1984). Previous research indicates that subjective well-being is positively associated with income, especially among low and middle income populations (Diener and Biswas-Diener 2002). Research also shows that consumption is positively associated with subjective well-being (Heady et al. 2008). In addition, recent research indicates that prosocial spending; such as, charity donation, contributes to life satisfaction, a common measure of subjective well-being (Dunn et al. 2008). In this study, we investigated the potential effect of another prosocial spending, spending for environment friendly products or green purchase, on life

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satisfaction, using data collected in 14 cities in China. The study contributes to the literature of subjective well-being and sustainable consumption and has implications for policy makers and educators to promote environmental protection and quality of life.

2 Previous Research and Hypothesis

The definition of subjective well-being (SWB) is a broad, multi-faceted domain, which includes both affective and cognitive components (Diener 1984; Sirgy et al. 2006). According to Diener et al. (1999), "... subjective well-being is a broad category of phenomena that includes people's emotional responses, domain satisfactions, and global judgments of life satisfaction" (p. 277). In the last three decades, research on subjective well-being has exploded. Researchers studied the causes and outcomes of SWB from diverse perspectives (Sirgy et al. 2006). Relevant to the current study are two lines of research on SWB, the relationship between SWB and money and the role of behavior on SWB.

The relationship between subjective well-being and money is complicated and depends on contexts and circumstances of the situation. According to a comprehensive review (Diener and Biswas-Diener 2002), income was positively associated with SWB within nations and between nations. Within nations, positive associations between income and SWB were more obvious among low and middle income populations. However, economic growth measured by per capita GDP was not associated with SWB and pursuing a materialistic goal was detrimental to SWB. In addition to income, nondurable consumption was found to be an important factor associated with SWB (Heady et al. 2008). Results from Peru revealed that consumption had a meaning beyond mere basic needs satisfaction. Other factors including status concerns, the reference group, and the pleasure of consuming significantly predicted people's happiness (Guillen-Royo 2008).

Another line of research on SWB attempts to identify broad categories of factors associated with SWB. Lyubomirsky et al. (2005) reviewed the literature of happiness research and summarized three broad factors that influence happiness: (a) set points (50%), (b) circumstances (10%), and (c) intentional activity (40%). They stressed the importance of intentional activity and argued that to develop effective interventions to improve the happiness level, intentional activity or behavior is an important factor to consider. Their own research provided evidence for this argument. Other research on behavior and happiness supports this argument. For example, a study of college students showed that positive financial behaviors contributed to financial satisfaction and life satisfaction (Xiao et al. 2009).

Another study examined the relationship between prosocial spending behavior and life satisfaction and found that spending on others contributed to life satisfaction (Dunn et al. 2008). The researchers developed their research idea based on findings of the above two lines of research and also on a common finding in the SWB literature in which social relationship was positively associated with SWB. If the argument is true that prosocial spending behavior generates more life satisfaction, it should be shown in other prosocial behaviors. In this study, we focused on one of such prosocial behaviors relevant to sustainable consumption. A broad and widely-used definition of sustainable consumption was developed in 1994 at the Oslo Symposium sponsored by the United Nations, which states, sustainable consumption is "... 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). This definition is broad and rich with multiple meanings for multiple sectors of society. First, it refers to activities by both production units and individual consumers. Second, it concerns environmental protection and resource utilization equally. Third, it seeks a balance between well-being of current and future consumer populations. International comparative research indicates that citizens in wealthier nations express greater concern for the global condition of the environment than those in poorer countries (Franzen 2003). Environmental attitudes may also be associated with individual income and education, according to a study conducted in South Africa (Struwig 2010).

In this study, we focused on one aspect of sustainable consumption, environment friendly purchase or green purchase. Previous research suggests environment friendly behavior may be associated with subjective well-being. A study of ecological sustainability found that ecologically *sustainable* behavior independently explained statistically significant amounts of variance in subjective well-being (Jacob et al. 2009). Another research study based on two samples (an adolescent and an adult one) reported results that individuals higher in subjective well-being reported more ecologically responsible behavior (Brown and Kasser 2005). We propose the following hypothesis:

Consumers who tend to purchase environment friendly products should score higher in life satisfaction than consumers who do not.

3 Method

3.1 Data

Data were collected in 14 cities in China during 2004 and 2006. These cities are Beijing, Chengde, Chongqing, Fuxin, Guangzhou, Guiyang, Kaili, Luanping, Shanghai, Shenyang, Shijiazhuang, Suozhou, Tianjin, and Wuhan, which include both large and small cities from all regions in China. Data collections were conducted by government statistical bureaus in the surveyed cities. The survey language was Chinese. The total sample size was 3,372. In this study, after removing observations with missing values in the focused variables, the number of observations used was 3,221.

3.2 Variables

3.2.1 Life Satisfaction

One item was used to measure life satisfaction with the wording “Are you satisfied with your life: 1—very satisfied, 2—satisfied, 3—neither satisfied nor unsatisfied, 4—unsatisfied, 5—very unsatisfied.” The value was reverse coded in data analyses.

3.2.2 Green Lifestyle Intention

Three variables were used to measure tendency of green purchase. One item was used to measure green consumption lifestyle with the wording “In developed countries, the popularity of cars resulted in serious air pollution and high consumption caused trash disposal as a major socioeconomic issue. Then what lifestyle should we adopt: 1—to avoid environment pollution, do not adopt the lifestyle of high consumption, 2—no matter what

environment pollution would be, if having money, want to buy cars and live a life of high consumption.” In data analyses, 2 was recoded as 0.

3.2.3 Green Purchase Intention

This variable was measured with one item with the wording: “‘Green products’ are expensive, non green products are less expensive, usually which do you choose: 1—Choose ‘green products’ even they are expensive, 2—Choose those less expensive and don’t care if they are green or not.” In data analyses, 2 was recoded as 0.

3.2.4 Green Purchase Behavior

This variable was measured with one item with the wording “Purchase green products, 1—always, 2—sometimes, 3—never.” In data analyses, the variable was recoded as “2—always, 1—sometimes, 0—never”.

3.2.5 Demographic Variables

Four demographic variables were used as control variables, gender, age, education and family income. In data analyses, male was coded as 1 and female as 0. Age had 10 categories, 1—younger than 20, 2—20 to 24, ..., 9—55 to 59, 10—60 or older. Education had 6 categories, 1—elementary school, 2—middle school, 3—high school, 4—vocational school, 5—college, 6—graduate school. Annual family income had 16 categories, 1—less than 10,000 yuan, 2—10,000 to 12,000 yuan, ..., 15—36,000 to 38,000 yuan, 16—more than 38,000.

4 Results

Both bivariate and multivariate analyses were used to examine associations between green purchase variables and the life satisfaction variable. Figure 1 presents results of ANOVA. Consumers who indicated green purchase intention and green purchase behavior scored higher in life satisfaction than those who did not. Consumers who said they intend to purchase more expensive green products scored 3.49 on a scale of life satisfaction ranged

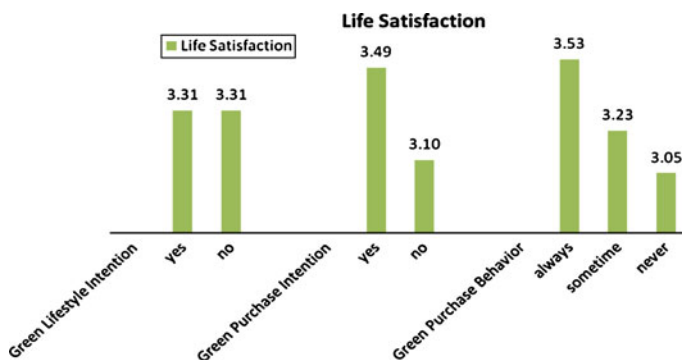


Fig. 1 ANOVA results

Table 1 Results of regressions on life satisfaction ($N = 3,221$)

Variable	Model 1		Model 2	
	Parameter estimate	Pr > t	Parameter estimate	Pr > t
Intercept	2.96443	<.0001	2.61855	<.0001
Green lifestyle intention	-0.0017	0.9639	0.0573	0.1211
Green purchase intention	0.2976	<.0001	0.2652	<0.0001
Green purchase behavior	0.1538	<.0001	0.1029	0.0005
Male (vs. female)			-0.0054	0.8767
Age			0.0049	0.4972
Education			0.0348	0.0002
Family income			0.0442	<0.0001
<i>F</i>	48.47		51.41	
<i>p</i>	<.0001		<.0001	
<i>R</i> ²	0.0432		0.1007	

from 1 to 5 compared to 3.10, the mean score of those who intended to purchase less expensive, non green products ($F = 121.77$, $p < 0.0001$).

Consumers who reported always buying green products scored 3.53, and those sometimes buying green products scored 3.23 compared with 3.05, the mean score of life satisfaction of those who never buy green products. However, green lifestyle intention did not show differences in life satisfaction.

Two sets of linear regression models were used to examine associations between green consumption variables and life satisfaction (Table 1). The first model used only three green consumption variables as independent variables, and the second model used additional demographic variables as control variables. Both models showed that green purchase intention and green purchase behavior were positively associated with life satisfaction. It seems that the intention variable has greater potential effects on life satisfaction than the behavior variable. In model 1 without the control variables, the intention's coefficient estimate was about two times larger than that of the behavior variable. In model 2 after the control variables were used, the intention's estimate was about triple that of the behavior variable. In addition, education and income showed positive associations with life satisfaction.

5 Discussion

This study examined the relationship between green purchase and life satisfaction using data collected from 14 cities in China. The findings indicate that consumers who intend to purchase environment friendly products and report having done so score higher on life satisfaction than other consumers after controlling several demographic factors; such as, gender, age, education, and family income. The findings add evidence to the literature suggesting prosocial spending behavior contributes to life satisfaction (Dunn et al. 2008).

Because of the limitation of the cross-section data used in this study, this study only documents associations between green purchase behavior and life satisfaction. Whether or not this is a causal relationship needs more research. In addition, the theoretical

explanations between prosocial spending behavior and life satisfaction are unclear and also need future research.

In spite of the limitation of the study, the findings are still helpful for policy makers and educators when they promote sustainable consumption behaviors to consumers. Choosing to purchase more expensive but greener products indicates sacrificing personal interests for collective benefits and short-term losses for long-term gains, which should be praised and promoted. Because of emerging threats to human beings caused by environmental pollution and resource waste, green purchases should be encouraged and promoted. These purchases not only contribute to the welfare of society but also increase life satisfaction at the individual level as suggested by the findings of this study. Findings reported in this study would help policy makers and educators better understand human behavior when they make comprehensive social, economic and environmental indicators to measure positive social changes (Michalos 1997).

The findings have special implications for Chinese consumers. Because of the economic reform in the last 30 decades, the Chinese economy has developed rapidly, and China is entering a *mass consumption society* (Li 2004). Chinese consumers, especially those in urban areas, are starting to enjoy the lifestyle of their counterparts in developed countries. However, some evidence indicates that rapid economic growth does not increase life satisfaction of Chinese consumers (Kahneman and Krueger 2006). In addition, environmental protection and resource reservation are growing challenges faced by all sectors of China (Xiao and Ying 2008). Encouraging Chinese consumers to engage in sustainable consumption not only contributes to the welfare of China but also to the world, and not only to societal well-being but also to individual life satisfaction.

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