The Role of Beliefs in Purchase Decisions: A Look at Green Purchase Behaviour and Altruism

AUTHOR:

Tanya A. Ryan, Associate Professor of Mass Communication,
Winona State University
Email: TRyan@winona.edu

The marketplace is overripe with choice. Being authentic and building consumer trust have never been more important. Over the past few years, business leaders have been thinking about social problems and how social problems fit into their business models. The phenomenon of "pro-social" or "purpose" marketing has become popular with companies across the nation including Panera Bread Company, Coca-Cola, Toyota, Kashi, Whole Foods Market, and Procter & Gamble to name a few. This type of marketing professes company beliefs and values to entice consumers to explore and experience the product or service being advertised. Finding and making an authentic connection with consumers through value expression is key to building not only a loyal brand community but a community of brand advocates.

According to Erin Nelson, former CMO of Dell, "Purpose isn't just good for the soul, it's actually really good for the bottom line" (Schultz et al., 2010). As a growing number of consumers claim that what a company stands for influences their purchase decision (Elliot, 2013), brands that have authentic meaning have the potential to become quite profitable.

Altruism, the practice of concern for others, is a key value tied to social or purpose marketing. When it comes to building brand communities, how much stronger might a brand community be if altruistic values are inserted into the branding efforts?

This research study is focused on understanding consumer behaviour in relation to social or purpose marketing. Using pro-environmental or "green" marketing as a strategic

research site, this research is unique in that it looks beyond classic cause-related marketing research and explores the impact of underlying altruistic values via the incorporation of social issues into the product advertising space. This research explores what motivates consumers to make purchases that benefit someone or something other than themselves.

Statement of the Problem

Considering that companies are spending millions of dollars launching organic, sustainable and environmentally friendly product lines, while consumers are purchasing more and more of these products, the problem we face is the fact that we don't know why consumers are buying these green products nor if the purchase habits are trend or value based. This research addresses this "why" and strives to develop a better understanding of what type of consumers have positive attitudes toward environmentally friendly products and in turn, why consumers purchase environmentally friendly products. Is it possible that consumers making green purchases have more in common than a simple desire to act in an environmentally friendly manner? Could their purchase behaviour and behavioural intent be tied to an expression of altruistic values or beliefs? This line of inquiry leads to the formal research question posed for this study: When it comes to everyday buying behaviours, such as those for environmentally friendly products, what role does altruism play?

Conceptual and Theoretical Framework

Altruism, as defined by Batson in *Altruism in Humans,* is "a desire to benefit someone else for his or her sake rather than one's own" (2011, p. 3). The term was first used in the early 1800s by French philosopher Auguste Comte to explain a "devotion to the interests of others as an action-guiding principle" (Paul, Miller, & Paul (eds), 1993, p. vii) and is a phenomenon still being researched and studied today.

Overall, altruism has been most frequently conceptualized and defined through the rankings of various value statements, such as "I prefer working toward my own well-being

than toward the well-being of others," or "It is important to me to help others" (Ferguson, Atsma, de Kort & Veldhuizen, 2012). It has also been defined or explained as identified emotions such as empathy (Batson, O'Quin, Fultz, Vanderplas & Isen, 1983). In addition, reasons given for attitudes or behaviours have been cited as helping to study and understand altruism. Reasons include showing concern for those less fortunate, expressing compassion, doing something for a cause that is important to him/her (Briggs, Peterson & Gregory, 2010), as well as considering something a moral obligation (Baron, 1999).

This research aims to not only improve upon these concepts and definitions, as the current definitions of altruism are strictly human-centric, but to venture into newer territory by combining prior value research and knowledge with strongly established behavioural theories. Many of the current persuasive behavioural communication theories and models do not incorporate a value or belief structure into their explanations of attitude and behaviour. Thus, this research will begin to explore the incorporation of values, specifically altruism, into some vested communication theories.

The conceptual model in mind for this research is inspired by the Theory of Reasoned Action (Fishbein & Ajzen, 1975) and the Theory of Planned Behaviour (Ajzen, 1985). The Theory of Reasoned Action (TRA) and the Theory of Planned Behaviour (TPB) are similar in that they both seek to predict the potential for action or behavioural intent. TRA posits that attitudes toward a behaviour along with subjective norms or the influence of people in one's social environment, lead to intention, which, in turn, leads to behaviour (Fishbein & Ajzen, 1975). TPB, developed as a revision to TRA, goes a step further and incorporates behavioural control or one's perceived ease or difficulty in performing a behaviour, as a contributing factor to intention, and eventually behaviour (Ajzen, 1985).

The two theories taken together aid in the construction of the following conceptual model (Figure 1), which shows that in addition to attitudes, social norms and perceived control, personal values, specifically altruism, lead to beliefs, which affect attitudes,

subjective norms, and perceived behavioural control, which then each contribute to green purchase behavioural intent. Altruism is considered a value, which is something that we think is important, while beliefs are what we think is true. Altruism, then, can lead to beliefs, which in turn, guide actions.
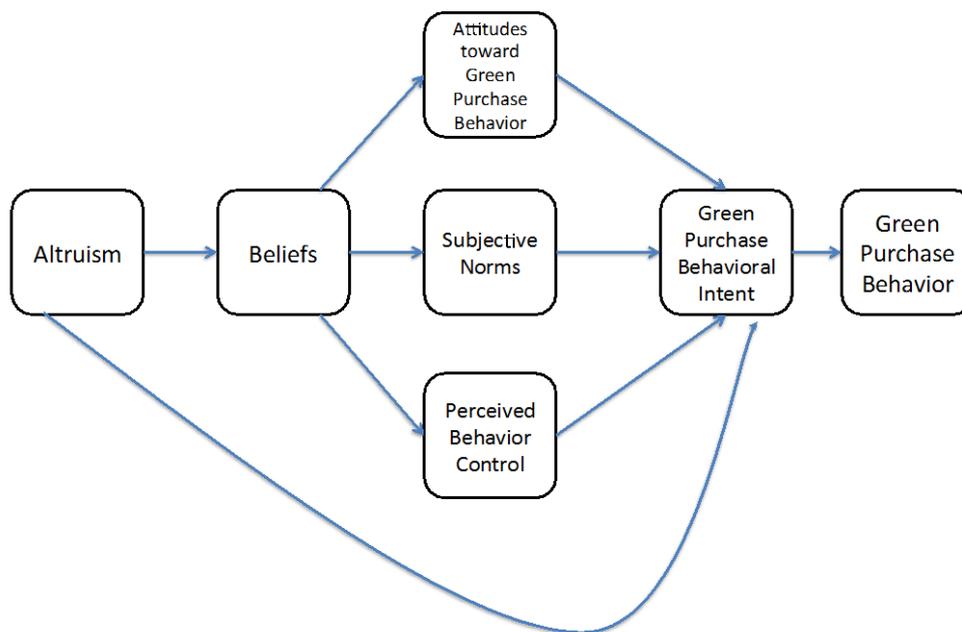

Figure 1. Conceptual Model for Green Purchase Behaviour.

Note in the figure above that altruism has two paths to behavioural intent. First, altruism is shown to indirectly effect green purchase behaviour by leading to beliefs which in turn, influence attitude, subjective norm and perceived control, which finally lead to behavioural intent. This route is the traditional path guided by the Theory of Planned Behaviour. Second, because altruism is considered a value and people often express their values directly through behaviours such as purchases or political action (Baron, 1999), it is possible that altruistic values directly influence green purchase behaviour; Thus, there is a

second path in the conceptual model that displays altruism directly effecting green purchase behavioural intent.

Due to the fact that the purchase of environmentally friendly products benefits others and impacts more than just oneself, the purchase of such products could be considered an act of altruism. Thus, going forward, this conceptual model will be used to seek further understanding of the impacts and interactions of altruistic values and beliefs on behavioural intent related to product advertising that carries a social message, specifically, a message of sustainability. The model considers personal values and beliefs that consumers bring to the green purchasing process, and seeks to explore what motivates consumers to make purchases that benefit something or someone other than themselves.

Contribution to the Field

This study is an exploration of the potential power of consumers to motivate and influence social change through their everyday purchasing behaviour. This contribution is important to society on two dimensions. First, it explores the potential of product advertising to affect behavioural intent related to a social issue: sustainability. Second, it considers the role that values, specifically altruism, play in purchasing decisions such as those related to green consumption.

This study also contributes to advertising and marketing scholarship in two ways. First, it attempts to incorporate a value structure into previously established behavioural theories. The theories of Planned Behaviour and Reasoned Action. Also, because this study is uniquely different from traditional advertising, social marketing, public relations and corporate image research, this study has the potential to advance the scholarship on the green consumer as well as the social effects of advertising. Green advertising has been examined from a variety of perspectives: from consumer receptivity of green messages, to the understanding the effectiveness of green appeals, and even explorations of brands and products and their use of environmental communication.

Overall, a conclusion that can be drawn after reviewing the previous literature on green advertising is this: Researchers of green marketing and advertising have spent much time and energy exploring the differences between a variety of green claims and a variety of consumer types, as well as consumer responses to a variety of green advertising claims (See Chan, 2000; Fowler & Close, 2012; Hartman & Apaolaza-Ibáñez, 2009; Montoro-Rios, Luque-MartÍnez & RodrÍguez-Molina, 200; Stafford, Stafford and Chowdhury 1996), however, the previous literature has yet to provide empirical evidence of the potential impact of altruism or other-oriented values on the purchase of everyday consumer products.

The literature on altruism presents multiple explorations of human values and beliefs, and how these values and beliefs relate to various behaviours. Altruism within the field of persuasion has been studied previously (See Anghelcev & Eighmey, 2007; Bagozzi & Moore, 1994; Webb & Mohr, 1998; Youn & Kim, 2008), however not within the realm of product advertising.

This current research seeks to combine the two fields of research, altruism and green advertising and asks: When it comes to everyday buying behaviours, what role does altruism play? This paper takes a quantitative approach in an effort to understand the effects of altruism on green purchasing behaviour. A survey that incorporates salient attitudes and beliefs, explores the potential influence of altruism on green purchase behaviour and behavioural intent.

Methodology

Because there is no standard scale established to measure constructs of the Theory of Planned Behaviour, it is recommended to conduct a pilot or "elicitation" study in an effort to identify behavioural, normative and perceived control beliefs related to a particular behaviour prior to developing the main survey instrument for the study. Thus, an elicitation

study administered online to a random sample of adults 18+ in the United States was conducted first in an effort to determine salient beliefs about purchasing environmentally friendly or "green" products. The findings of the elicitation study were translated into belief measures related to attitudes toward green purchase behaviour, as well as social norms and perceived behaviour control relative to green purchase behaviour. Those findings were used in creation of the survey instrument for the main study (see Table 1, Survey Questionnaire).

The main study consisted of a thirty-one question survey, created in an effort to measure how consumers incorporate thoughts on environmental sustainability into their purchasing decisions, and to address the research question regarding the potential impact of altruism on green purchase behaviour.   Overall, the survey included six points of measurement: altruism, beliefs, attitude, subjective norm, perceived behaviour control, and behavioural intent.

Participants: The survey was conducted online using a random sample of 325 adults 18+ in the United States purchased through Survey Monkey. The participants were 51% female and 46% male. Eighty-two percent of the participants identified as white/Caucasian. The majority (60%) of the participants held a bachelor's degree or higher, and 56% of the participants had a household income of $50,000 or higher. Eighteen percent of the participants were aged 18-29, 28% were aged 30-44, 33% were aged 45-60, 21% were over 60 years of age.

All areas of the country were represented in the sample and over half of the sample (57%) was either married or in a domestic partnership.

Research Measures: Theory of Planned Behaviour (TPB) measures were operationalized on the basis of previous research scales and include beliefs related and relevant to attitudes, subjective norms, and perceived behaviour control, altruism levels, and behavioural intent.

To measure levels of altruism, an abbreviated version of the previously tested altruism scale created by Rushton, Chrisjohn and Fekken (1981) was used. A sample of the likert scale measures used to measure altruism levels includes "I would offer my seat on a bus or train for a stranger who was standing," "I would voluntarily look after a neighbor's pets or children without being paid for it," and "I would give money to a charity."

Seven-point semantic differentials were used to measure attitude. The attitude measures included the following two likert scale statements: "My purchasing environmentally friendly products in the next 12 months is…" extremely negative to extremely positive, extremely good to extremely bad and extremely meaningless to extremely worthwhile. As well as, "I find purchasing environmentally friendly products…" extremely pleasant to extremely unpleasant, extremely annoying to extremely enjoyable and extremely unappealing to extremely appealing.

Belief questions, captured from a pilot belief elicitation study, related to the purchase of green products helping the environment, being more expensive than non-green products, and being encouraged by people and groups that are important to the participant, were also included in the survey.

These three main beliefs were selected from the pilot belief elicitation study as the most prominent beliefs under each of the three areas examined (attitude, subjective norm, perceived control). For example, helping the environment was the most common answer given (58%) when asked what was an advantage or good thing about environmentally friendly products (EFPs). Helping the environment also was the most common answer given when asked what one would enjoy about purchasing EFPs (34%). Expense appeared as the top belief twice under attitude, first when asked about disadvantages of green products (60%) and second, what do you hate about EFPs (58%), as well as twice under perceived control what would make it easier, "lower the price" (44%); and what makes it difficult, "too expensive" (69%). The general belief included in the survey stating that purchasing EFPs

would be "encouraged by people and groups that are important to me," was a summation of the variety of people and groups named in the pilot belief elicitation study. Beliefs, like the other variables, were measured on 7-point scales.

Likert scales and semantic differentials were also used to measure subjective norms. Subjective norm questions include "My family thinks that I should purchase environmentally friendly products in the next 12 months" and "My friends and/or partner think that I should purchase environmentally friendly products in the next 12 months," as well as belief reflection, "I believe that my purchasing environmentally friendly products in the next 12 months would be encouraged by people and groups that are important to me."

Perceived behaviour control ("My purchasing environmentally friendly products in the next 12 months is…" and "If I wanted to, I could purchase environmentally friendly products in the next 12 months") was again measured using likert scales and semantic differentials. Questions created as a result of the pilot belief elicitation study such as, "I believe that my purchasing environmentally friendly products in the next 12 months will require me to spend more money than if I were to purchase other non-environmentally friendly products" were also incorporated to measure perceived behaviour control.

Finally, semantic differentials were used to measure behavioural intent ("How likely is it that you will purchase environmentally friendly products in the next 12 months?" and "I intend to purchase environmentally friendly products in the next 12 months").

Table 1 below displays all of the measures and their operational definitions via questions used in the survey.

Table 1. Survey Questionnaire.

Main Survey Questionnaire

Subjective Norm	Most people who are important to me think that... I should (not) purchase environmentally friendly products in the next 12 months
	The people in my life whose opinions I value would... Strongly approve/disapprove of my purchasing environmentally friendly products in the next 12 months
	Most groups or organizations that are important to me think that... I should (not) purchase environmentally friendly products in the next 12 months
Attitude	My purchasing environmentally friendly products in the next 12 months is... Negative/positive
	My purchasing environmentally friendly products in the next 12 months is... Bad/good
	My purchasing environmentally friendly products in the next 12 months is... Meaningless/worthwhile
	I find purchasing environmentally friendly products... Unpleasant/pleasant
	I find purchasing environmentally friendly products... Annoying/enjoyable
	I find purchasing environmentally friendly products... Unappealing/appealing
Perceived Control	My purchasing environmentally friendly products... under my control/not under my control
	For me, purchasing environmentally friendly products in the next 12 months is... Impossible/possible
	For me, purchasing environmentally friendly products in the next 12 months is... Costly/economical
	For me, purchasing environmentally friendly products in the next 12 months is... Convenient/Inconvenient
Beliefs	I believe that my purchasing environmentally friendly products in the next 12 months will help the environment in some way.
	Helping the environment in some way is... Good/Bad
	I believe that my purchasing environmentally friendly products in the next 12 months will require me to spend more money than if I were to purchase other non-environmentally friendly products.
	Spending more of my money to help the environment in some way is... Bad/good
	I believe that my purchasing environmentally friendly products in the next 12 months would be encouraged by people and groups that are important to me.
	Encouragement from people and groups that are important to me is... Essential/nonessential
Altruism	I would offer my seat on a bus or train for a stranger who was standing.
	I would voluntarily look after a neighbor's pets or children without being paid for it.
	I would give money to a charity.
	I would delay an elevator and hold the door for a stranger.
	I would make change for a stranger.
	I would let a neighbor, whom I don't know very well, borrow an item of some value to me (e.g. dish, tools, etc.)
	I would give directions to a stranger.
	I would help an acquaintance move households.
	I would give money to a stranger who needed it (or asked me for it).
	I would help carry a stranger's belongings (e.g. books, parcels, etc.)
Behavioral Intent	How likely is it that you will purchase environmentally friendly products in the next 12 months?
	I intend to purchase environmentally friendly products in the next 12 months

Data for the survey were collected via an online survey link administered through an online survey company. Participants were told that they would be answering questions related to attitudes and beliefs toward environmentally friendly products. Once data for the

survey were collected, the data were exported from the survey company software into JMP Pro 10 for analysis. Pearson's Correlation and Path Analyses were carried out to examine the data.

The data set analyzed in the survey contained responses from 325 subjects on 31 different questions (excluding the demographic survey questions). Each of the 31 questions was a 7-point scaled item. Six new variables were then created by averaging responses to items related to each of these variables: *Altruism, Beliefs, Attitudes toward Green Purchase Behaviour, Subjective Norms, Perceived Behaviour Control, and Green Purchase Behavioural Intent.*

The purpose of this study was to explore the value of altruism and its relationship to green purchase behaviour. The research hypotheses were as follows:

H_1: Altruism predicts beliefs toward green purchase behaviour intent.

H_2: Beliefs predict attitudes toward green purchase behaviour intent.

H_3: Beliefs predict subjective norms regarding green purchase behaviour intent.

H_4: Beliefs predict perceived behaviour control regarding green purchase behaviour intent.

H_5: Attitudes toward green purchase behaviour predict behavioural intent to purchase environmentally friendly products.

H_6: Subjective norms regarding green purchase behaviour predict behavioural intent to purchase environmentally friendly products.

H_7: Perceived behaviour control regarding green purchase behaviour predicts behavioural intent to purchase environmentally friendly products.

H_8: Altruism predicts green purchase behaviour intent.

The following conceptual model (figure 2) was explained previously and visually displays how the hypotheses are grounded in the Theory of Planned Behaviour.
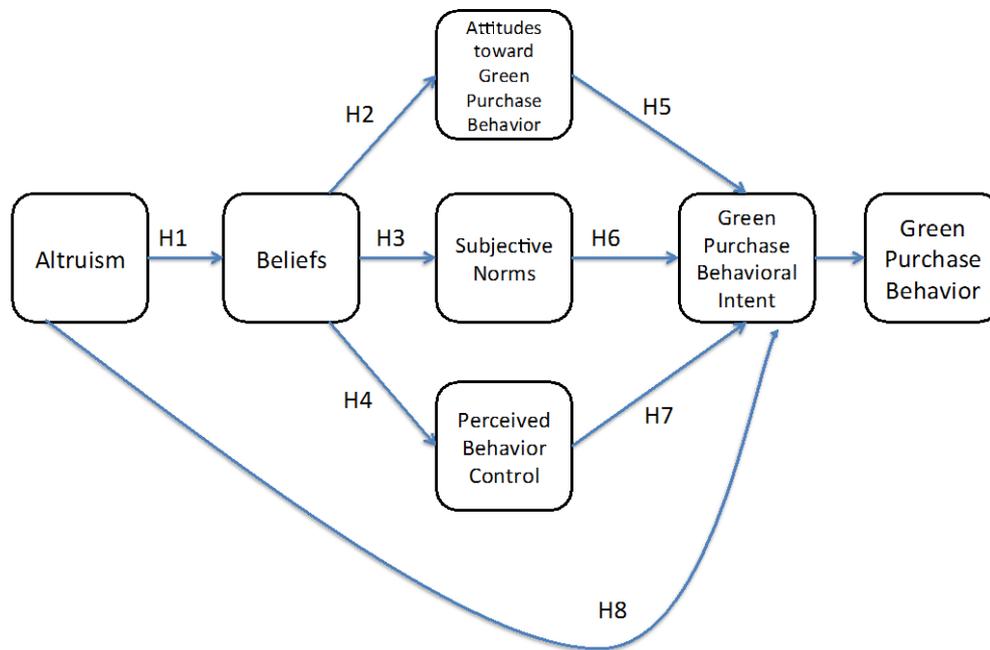
Figure 2. Conceptual Model for Green Purchase Behaviour with Hypotheses.

Findings

Pearson's correlation coefficients were calculated in an effort to investigate potential relationships between the six study variables. The following table (Table 2) contains Pearson's correlation coefficients. As you will see in Table 2, all correlation coefficients were significantly different from zero, which indicates the relationships between each pair of study variables are statistically significant; however, some of the correlation coefficients are fairly small in magnitude, which indicates that these relationships aren't particularly strong (e.g., Pearson's correlation between *Altruism* and *Subjective Norms* is only .1563).

All correlation coefficients are positive, which indicates a positive association between all variables; that is, when one variable increases, the others tend to increase as well.

Table 2. Pearson's Correlation Coefficients between Study Variables.

	Altruism	Beliefs	Attitudes	Subjective Norms	Perceived Control	Behavioural Intent
Altruism	___					
Beliefs	.2037**	___				
Attitudes	.2485**	.7471**	___			
Subjective Norms	.1563**	.5370**	.6426**	___		
Behaviour Control	.2607**	.5155**	.6347**	.4384**		
Behavioural Intent	.2557**	.6574**	.8418**	.6524**	.6574**	___

*** p < .01*

The relationship between *Behavioural Intent* and *Attitude* is the strongest relationship (+.8418), followed by the relationship between *Attitude* and *Beliefs* (+.7471). The relationships between *Altruism* and each of the other study variables are positive, but weak, even though they do display statistical significance.

Path analysis is a statistical technique that can be used to examine the comparative strength of direct and indirect relationships among measured variables. The path analysis was selected as the most appropriate statistical test for this study because it allows both direct and indirect relationships to be examined, which coincides with the theory and model under study.

To begin, a path diagram was created to represent the conceptual model. The bidirectional arrows have been included to account for the fact that *Attitude*, *Subjective Norms*, and *Perceived Behaviour Control* are all correlated with one another. The unidirectional arrows indicate the paths of interest in the conceptual model.
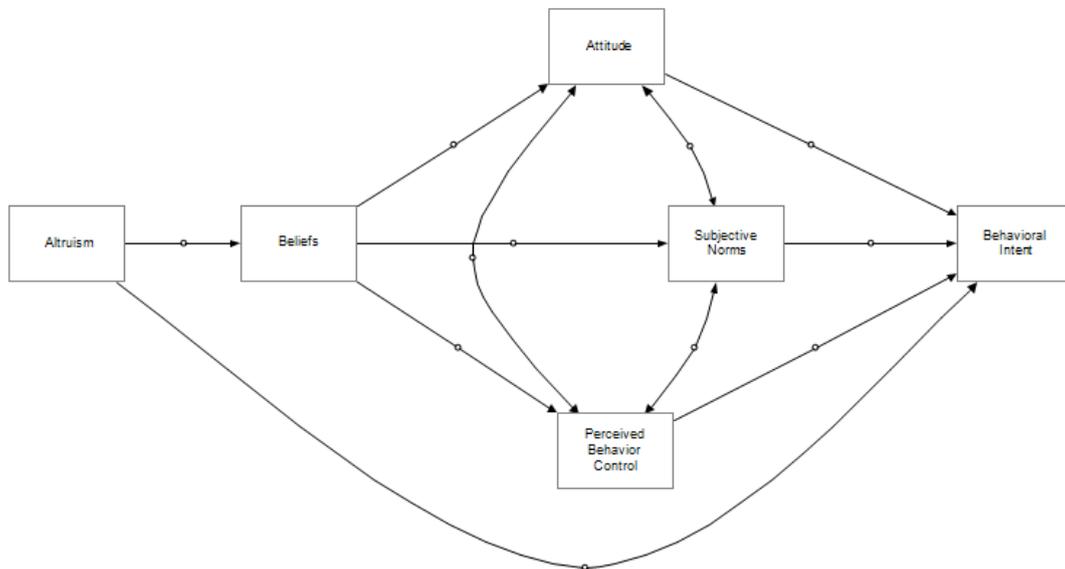
Figure 3. Path Diagram of Conceptual Model for Green Purchase Behaviour.

A total of 311 observations were used in the path analysis, since observations with missing values for any variables in the analysis are omitted from the computations. First, to investigate model fit, the following fit statistics were examined. Most fit statistics indicate that the model is a good fit.

Table 3. Table of Fit Statistics for Path Analysis.

Fit Statistic	Value	Implication
Chi-square	17.44 (p = .0016)	A significant result indicates a poor model fit; however, a significant result often occurs with large sample sizes.
Standardized Root Mean Square Residual	.0472	A good model fit results in values less than .05.
Adjusted Goodness of Fit Index (GFI)	.9044	A good model fit results in values above .90.
Root Mean Square Error of Approximation (RMSEA)	.1041 90% CI: (.0573, .1564)	Values above .10 indicate a poor model fit.
Bentler Comparative Fit Index	.9868	A good model fit results in values above .95.

Three of the five fit statistics (standardized root mean square residual, adjusted goodness of fit index, Bentler comparative fit index) indicate a good model fit. The Chi-square fit statistic shows a significant value, however the sample under study is large, and as noted, the large sample size is most likely the reason that the statistic is significant. Thus, after reviewing the fit statistics, the conclusion was made that the model was a good fit for the path analysis.

Next, to investigate scale reliability and internal consistency for the six variables under study, Cronbach's alpha was calculated. The rule of thumb for Cronbach's alpha is directly below (Table 4), while the calculated values for this study follow further down.

Table 4. Cronbach's Alpha "Rule of Thumb"

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.7 \leq \alpha < 0.9$	Good
$0.6 \leq \alpha < 0.7$	Acceptable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

Table 5. Calculated Cronbach's Alpha for Current Study

Variable	Cronbach's Alpha
subjective norm	0.80
attitude	0.97
perceived control	0.58
beliefs	0.72
altruism	0.86
behavioural intent	0.89

As you can see from the tables above, five of the six variables fall in the good to excellent rating, while perceived control (0.58) is considered (by rule of thumb) poor to acceptable. Because the survey questions used to measure perceived control in this study are consistent with the style of perceived control measures tested and used in previous behavioural research (My purchasing environmentally friendly products in the next 12 months is… under my control/not under my control; impossible/possible; costly/economical; convenient/inconvenient), the scale reliability for all variables in this study will be considered acceptable.

Results of the Path Analysis

The following diagram (Figure 4) summarizes the results of the path analysis. Each estimated path coefficient is displayed on the path from one variable to another (the unidirectional arrows). Any estimates that are significantly different from zero (based on a t-test) are marked by two asterisks to indicate p < .01 and by one asterisk to indicate p < .05.
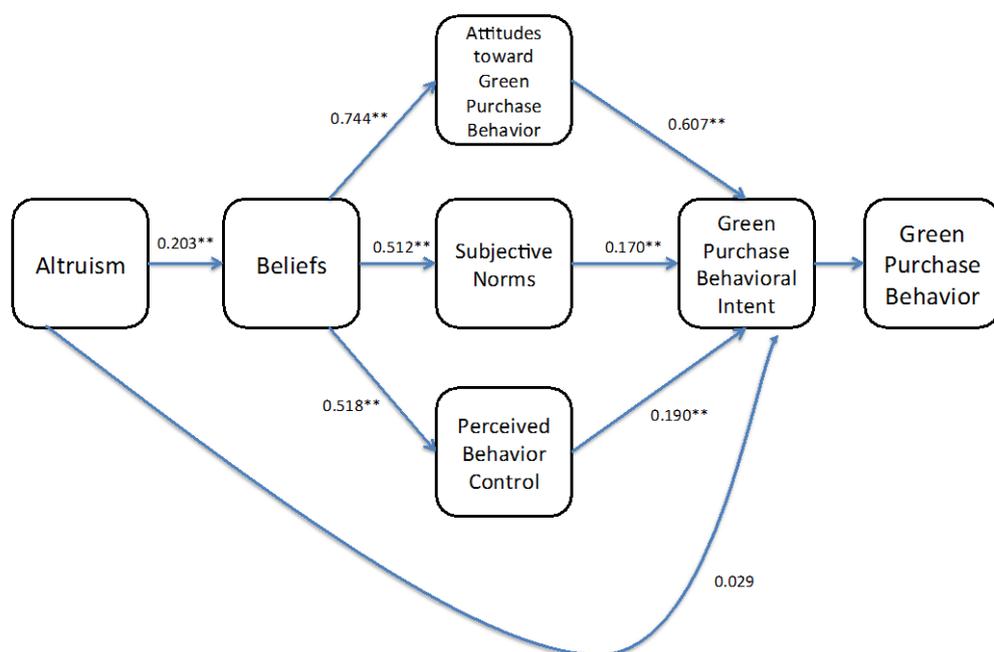
Figure 4. Results of the Path Analysis.

Note that all path coefficients are statistically significant at the p < .01 level, except for the path connecting *Altruism* to *Behavioural Intent* directly. For those path coefficients that are statistically significant, the results indicate that the paths represent significant relationships between the variables. Moreover, the path parameters are all positive, indicating that higher values of each predictor are associated with higher values of the outcome.

The magnitude of the coefficients refers to how many standard deviations the outcome variable is expected to change per standard deviation increase in the predictor variable. For example, the standard deviations of *Belief, Attitude, and Perceived Behaviour Control* scores were about 1, 1.5, and 1, respectively.

The path coefficient of .744 indicates that if *Belief* scores were to increase by one standard deviation (which is a 1 point increase), we expect *Attitude* scores to increase by about .744 standard deviations (which is about .744*1.5 = 1.1 points). On the other hand, if *Belief* scores were to increase by one standard deviation (about 1 point), we expect *Perceived Behaviour Control* scores to increase by .518 standard deviations (which is about .518*1 = .518 points). In general, the larger the magnitude of the path coefficient, the stronger the effect of the predictor on the outcome variable.

The squared multiple correlations for each outcome variable are shown in Table 6 below. These values can be interpreted as follows: About 75% of the variation in *Behavioural Intent*, for example, can be explained by all of the other predictors (R-square = .7499). Similarly, about 55% of the variation in *Attitude* can be explained by its predictors in the model, *Beliefs* and *Altruism* (R-square = .5533). The other R-Square values, however, are lower (R-square = .2685, .2617). This indicates that *Beliefs* and *Altruism* are not as clear of predictors for *Perceived Behaviour Control* nor *Subjective Norms*. The final R-square value (.0412) indicates that *Altruism* is not a clear predictor of *Beliefs*.

Table 6. R-Square Values for Study Variables.

Study Variable	R-Square
Behavioural Intent	.7499
Attitude	.5533
Perceived Behaviour Control	.2685
Subjective Norms	.2617
Beliefs	.0412

Next, the total, direct, and indirect effects of the predictors on *Behavioural Intent* were examined in more detail. The results are shown in Table 7 below.

Table 7. Summary of Effects on Behavioural Intent (Effect / Standard Error / t-value / p-value).

	Total Effect	Direct Effect	Indirect Effect
Attitude	.6084	.6084	0
	.04	.04	
	15.22	15.22	
	<.0001	**<.0001**	
Beliefs	.6382	0	.6382
	.0277		.0277
	23.08		23.08
	<.0001		**<.0001**
Perceived Behaviour Control	.1904	.1904	0
	.0369	.0369	
	5.16	5.16	
	<.0001	**<.0001**	
Subjective Norms	.1703	.1703	0
	.0369	.0369	
	4.62	4.62	
	<.0001	**<.0001**	
Altruism	.1585	.0290	.1295
	.0452	.0288	.0355
	3.51	1.01	3.65
	.0005	**.3126**	**.0003**

Note that the direct effect of *Altruism* on *Behavioural Intent* was not statistically significant (p = .3126); however, the indirect effect of *Altruism* on *Behavioural Intent* was significant (p = .0003). The direct and indirect effects of all other variables were shown to be statistically significant at p < .0001.

The correlation analysis and path analysis together indicate support for the original research hypotheses H1-H7.

H_1: Altruism predicts beliefs toward green purchase behaviour intent.

H_2: Beliefs predict attitudes toward green purchase behaviour intent.

H$_3$: Beliefs predict subjective norms regarding green purchase behaviour intent.

H$_4$: Beliefs predict perceived behaviour control regarding green purchase behaviour intent.

H$_5$: Attitudes toward green purchase behaviour predict behavioural intent to purchase environmentally friendly products.

H$_6$: Subjective norms regarding green purchase behaviour predict behavioural intent to purchase environmentally friendly products.

H$_7$: Perceived behaviour control regarding green purchase behaviour predicts behavioural intent to purchase environmentally friendly products.

Hypothesis 8, Altruism predicts green purchase behaviour intent, was partially supported. As indicated by the path analysis, the direct effect of *Altruism* on *Behavioural Intent* was not found to be statistically significant (p = .3126)*;* However, the indirect effect of *Altruism* on *Behavioural Intent* through the other predictor variables was found to be statistically significant (p = .003). This tells us that when it comes to green consumption, the value of altruism does play a role.

Further Belief Investigation

To explore the belief variable even further, supplementary analyses were conducted. First, correlations were reviewed to investigate potential relationships between the individual belief variables (*belief that environmentally friendly products, EFPs, help the environment in some way, belief that EFPs are more expensive than other products, and belief that EFP purchases are encouraged by those people and groups that are important*) and the other five variables (*Altruism, Attitude, Subjective Norm, Perceived Control, Behavioural Intent*).

Pearson's correlation coefficients were calculated to explore these relationships. As you will see in the below table, most, but not all of the correlation coefficients were significantly different from zero, which indicates the relationships between each pair of variables is statistically significant. However, similar to the original set of correlations

discussed earlier in this paper, some of the correlations coefficients are fairly small in magnitude—indicating that these relationships are not particularly strong.

Table 8. Pearson's Correlation Coefficients between Study Variables (Individual Beliefs).

	Altruism	Belief	Attitudes	Subjective Norms	Perceived Control	Behavioural Intent
Belief: Help Environ	.1432*	_____	.6586**	.3984**	.4668**	.6137**
Belief: Expensive	.1528**	_____	.0516	.0133	-.1408*	.0023
Belief: Encouraged	.1194*	_____	.5977**	.5459**	.4756**	.6166**

** p < .01   * p<.05

The relationship between the *belief that EFPs help the environment in some way* and *attitudes* is the strongest (+.6586), followed by the relationship between *belief that EFP purchases are encouraged by those people and groups that are important* and *behavioural intent* (+.6166). It is interesting to note that all relationships are positive but one. The relationship between *belief that EFPs are more expensive than other products* and *perceived control* is negative *(-.1408),* this indicates that as one's belief that EFPs are expensive goes up, one's perceived control related to purchasing EFPs goes down. This relationship, although statistically significant, is, however, weak.

Next, new path diagrams were created in JMP to represent the conceptual models with three individual belief items (belief that EFPs help the environment in some way, belief that EFPs are more expensive than other products, and belief that EFP purchases are encouraged by those people and groups that are important) rather than using the variable created by averaging responses related to the belief variables in general. The model follows:
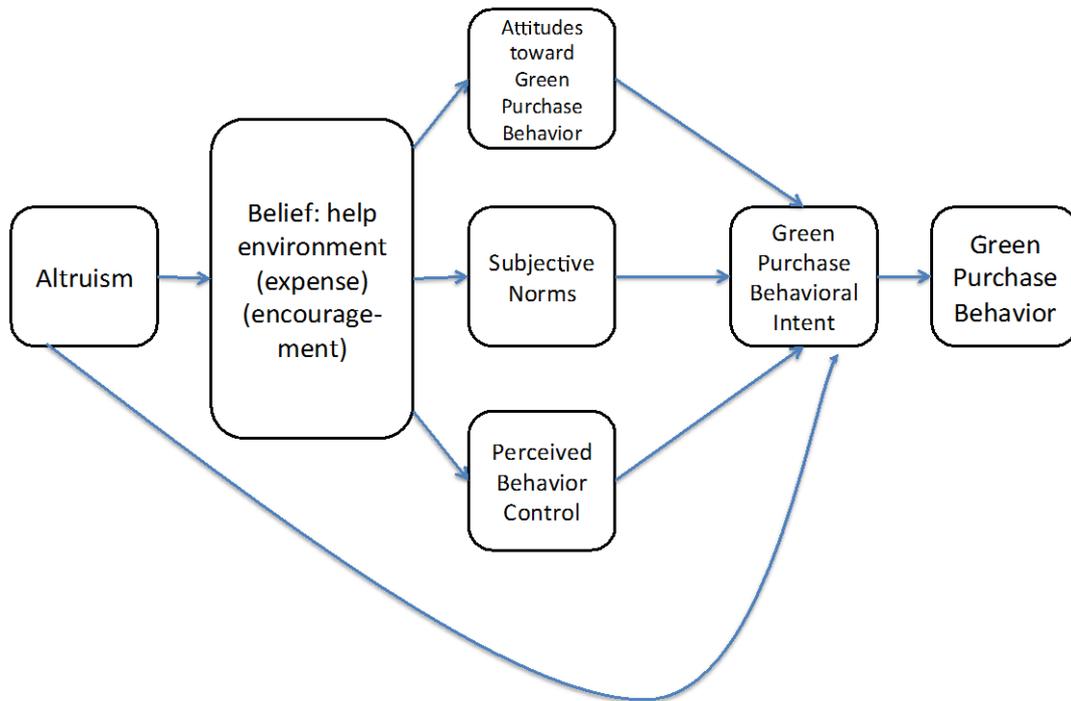
Figure 5. Conceptual Model for Individual Belief(s): EFPs help the environment in some way (EFPs are more expensive that other products) (EFP purchase is encouraged by those important).

Results of the Additional Path Analyses

The total, direct, and indirect effects of the predictors, including the individual belief variables, on *Behavioural Intent* were studied in more detail. The results are shown in the tables below.

Table 9. Summary of Effects of Individual Belief 1 on Behavioural Intent (Effect / Standard Error / t-value / p-value).

Summary of Effects on Behavioural Intent (Effect / Standard Error / t-value / p-value).			
	total effect	direct effect	indirect effect
Attitude	0.6522	0.6067	0
	0.0431	0.0428	
	15.1498	14.1881	
	<.0001	**<.0001**	
Belief: Help Environment	0.5471	0	0.5471
	0.042		0.042
	13.0301		13.0301
	<.0001		**<.0001**
Perceived Behaviour Control	0.1898	0.1898	0
	0.0366	0.0366	
	5.1804	5.1804	
	<.0001	**<.0001**	
Subjective Norms	0.1698	0.1698	0
	0.0367	0.0367	
	4.6293	4.6293	
	<.0001	**<.0001**	
Altruism	0.1073	0.029	0.0784
	0.0422	0.0285	0.0313
	2.5458	1.0179	2.5006
	0.0109	0.3087	**0.0124**

Table 10. Summary of Effects of Individual Belief 2 on Behavioural Intent (Effect/Standard Error/t-value/p-value).

Summary of Effects on Behavioural Intent (Effect / Standard Error / t-value / p-value).			
	total effect	direct effect	indirect effect
Attitude	0.6022	0.6022	0
	0.0433	0.0433	
	13.9239	13.9239	
	<.0001	**<.0001**	
Belief: Expense	-0.017	0	-0.017
	0.0493		0.0493
	-0.3442		-0.3442
	0.7307		0.7307
Perceived Behaviour Control	0.1896	0.1896	0
	0.0367	0.0367	
	5.1635	5.1635	
	<.0001	**<.0001**	
Subjective Norms	0.1732	0.1732	0
	0.0373	0.0373	
	4.6432	4.6432	
	<.0001	**<.0001**	
Altruism	0.0287	0.0313	-0.002592
	0.0294	0.0284	0.007593
	0.9772	1.1016	-0.3414
	0.3285	0.2706	0.7328

Table 11. Summary of Effects of Individual Belief 2 on Behavioural Intent (Effect/Standard Error/t-value/p-value).

Summary of Effects on Behavioural Intent (Effect / Standard Error / t-value / p-value).			
	total effect	direct effect	indirect effect
Attitude	0.6067	0.6067	0
	0.043	0.043	
	14.1161	14.1161	
	<.0001	**<.0001**	
Belief: Encouragement	0.5345	0	0.5345
	0.0423		0.0423
	12.6411		12.6411
	<.0001		**<.0001**
Perceived Behaviour Control	0.1899	0.1899	0
	0.0368	0.0368	
	5.1634	5.1634	
	<.0001	**<.0001**	
Subjective Norms	0.1687	0.1687	0
	0.037	0.037	
	4.556	4.556	
	<.0001	**<.0001**	
Altruism	0.0931	0.0293	0.0638
	0.0418	0.0285	0.0307
	2.2286	1.0256	2.082
	0.0258	0.3051	**0.0373**

Note that the effect of the single *Belief*: EFPs are more expensive than other products (Table 10) was not statistically significant (p = .7307); however, the effects of the other two single *Beliefs* (EFPs help the environment in some way, Table 9; and EFP purchase is encouraged by those important, Table 11) were statistically significant (p = <.0001). Once again, this shows us that the value of altruism and the resulting belief that purchasing environmentally friendly products helps the environment, plays an important role in green consumption. All other results are consistent with the original path analysis except for the effects of *Altruism* on *Behavioural Intent*. In the analysis that included the single *Belief: EFPs are more expensive than other products,* Table 10, neither the direct nor the indirect effects on *Behavioural Intent* were statistically significant (p = .2707, p = .7328). This makes sense because if one believed purchasing was more expensive, logically that would not lead to behavioural intent.

Discussion

The study addressed eight research hypotheses:

H_1: Altruism predicts beliefs toward green purchase behaviour intent.

H_2: Beliefs predict attitudes toward green purchase behaviour intent.

H_3: Beliefs predict subjective norms regarding green purchase behaviour intent.

H_4: Beliefs predict perceived behaviour control regarding green purchase behaviour intent.

H_5: Attitudes toward green purchase behaviour predict behavioural intent to purchase environmentally friendly products.

H_6: Subjective norms regarding green purchase behaviour predict behavioural intent to purchase environmentally friendly products.

H$_7$: Perceived behaviour control regarding green purchase behaviour predicts behavioural intent to purchase environmentally friendly products.

H$_8$: Altruism predicts green purchase behaviour intent.

The first seven hypotheses were supported. The eighth hypothesis found partial support. The study also supports the Theory of Planned Behaviour as applied to purchasing decisions related to environmentally friendly products. There are strong relationships between the studied variables, *Attitude*, *Subjective Norms* and *Perceived Behaviour Control* with *Behavioural Intent*. These variables also appear to affect *Behavioural Intent*.

When it comes to the role of *Beliefs* in green purchase behaviour/behavioural intent, this study shows that *Beliefs* about environmentally friendly products play a significant role, and have a statistically significant effect, on green purchase behavioural intent. In addition, *Attitude* toward green purchase behaviour has a stronger relationship with green purchase *Behavioural Intent* than do *Subjective Norms* and perceived *Behavioural Control* (although all are strong positive correlations). The strength of the relationship between *Beliefs* and *Attitudes* is also worth pointing out, as it is the second strongest relationship among the six variables.

Also statistically significant, *Altruism* was found to have a relationship with all of the other variables, and was found to be an indirect predictor of green purchase *Behavioural Intent*. Similar to the pilot belief elicitation study, the top advantage to purchasing EFPs reported by participants was that they would be helping the environment—which would be considered an altruistic motive. Thus, this study does fall in line with the pilot belief elicitation study as altruism was found to have statistical significant relationships with all of the other variables and is also a statistically significant indirect predictor of behavioural intent, however, the magnitude of these findings may be disputable.

What this means is that consumer beliefs regarding environmentally friendly products (EFPs) are influential in their decision-making processes related to green products. When the specific belief items were analysed individually and in more detail, it was found that two of the beliefs (EFPs help the environment in some way, and EFP purchase is encouraged by those important) are statistically significant predictors of green purchase *behavioural intent*, however the third belief (EFPs are more expensive than other products) was not found to have a statistically significant effect and is thus not a strong predictor of *behavioural intent*. This research also shows that *Attitude* toward green purchase behaviour is more influential than *Subjective Norm* and perceived *Behaviour Control* when it comes to green purchase *Behavioural Intent*.

Implications

The findings in this study are adjacent to prior research that supports the Theory of Planned Behaviour in predicting consumer behaviour. As expected, attitudes, subjective norms and perceived behaviour control predicted intentions to purchase environmentally friendly products. The addition of beliefs and altruism into the theoretical model, and thus the study, show the direct and indirect impact that additional variables (beliefs and altruism) can play when one considers purchasing EFPs.

This research contributes to the growing literature on TPB, specifically that which looks at the "green consumer." In addition, this study reaches beyond previous research in multiple ways. First, it examines thoughts about advertising and consumer behaviour related to a social issue: sustainability. Second, it considers the role values, specifically altruism, play in everyday purchasing decisions. This research adds to our understanding of the effect of values and beliefs on behaviours. Altruism affects green consumption behaviour. Although this research is not structured as theory-building research, it calls for further theoretical understanding of how the TPB explains green consumption.

This study also contributes to advertising scholarship in two ways. First, it attempts to incorporate a value structure into a previously established behavioural theory (TPB). Also, because this study is uniquely different from traditional advertising, social marketing, public relations and corporate image research, this study has the potential to advance the scholarship on social effects and social motivations of advertising and consumers respectively.

In addition to theoretical implications, this research presents two additional practical implications that those in the fields of advertising, marketing and communications may find useful. First, marketers of EFPs should focus their marketing communication messages on beliefs about EFPs, as belief-related messages (such as messages regarding price, environmental impact, or even the effectiveness of the products) may have a strong impact on consumers' green purchase behavioural intent.

Second, although subjective norms and perceived control also effect green purchase behavioural intent, marketers of EFPs should also, or alternatively, consider focusing their marketing communication messages on attitudes toward EFPs as attitude has the strongest relationship with behavioural intent. Attitude-related messages, such as those pointing out that purchasing EFPs is worthwhile, enjoyable or good, will most likely have a strong positive impact on consumers' green purchase behavioural intent.

Limitations

As with all research, this study has potential limitations. Survey methodology includes collecting self-reported data, and there is the potential that the data collected and analysed are exaggerated or influenced by various participant biases. The study relied on self-reported data. In addition, there is the potential that additional belief variables or values, other than those explored in this study, could play a role in green purchase behavioural intent. Future research should include an investigation of additional beliefs and values to either show support for the idea that altruism is the key value impacting green

consumption, or explain how other values may contribute to green purchase behavioural intent.

References

Ajzen, I. (1985), From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action control: From cognition to behaviour*, Berlin, Heidelberg, New York: Springer-Verlag.

Anghelcev, G. & Eighmey, J. (2007), Motivation Crowding: The Hidden Costs of Introducing and Incentive in Advertising to Promote Altruistic Behavior, *Proceedings of the Annual Conference of the Association for Education in Journalism and Mass Communication*, Washington DC.

Bagozzi, R. P., & Moore, D. J. (1994), Public Service Advertisements: Emotions and Empathy Guide Prosocial Behavior, *Journal of Marketing*, *58*(1), 56-70.

Baron, J. (1999), Consumer Attitudes About Personal and Political Action, *Journal of Consumer Psychology (Lawrence Erlbaum Associates)*, *8*(3), 261-275.

Batson, C. D, (2011), *Altruism in Humans*, New York: Oxford University Press.

Batson, C., O'Quin, K., Fultz, J., Vanderplas, M., & Isen, A. M. (1983), Influence of self-reported distress and empathy on egoistic versus altruistic motivation to help, *Journal of Personality and Social Psychology*, *45*(3), 706-718.

Briggs, E., Peterson, M., & Gregory, G. (2010), Toward a Better Understanding of Volunteering for Nonprofit Organizations: Explaining Volunteers; Pro-Social Attitudes, *Journal of Macromarketing*, *30*(1), 61-76.

Chan, R. K. (2000), The effectiveness of environmental advertising: the role of claim type and the source country green image, *International Journal of Advertising*, *19*(3), 349-375.

Elliot, S. (2013, February 13), Selling products by selling shared values, *New York Times*. Retrieved from http://www.nytimes.com/2013/02/14/business/media/panera-to-advertise-its-social-consciousness-advertising.html?pagewanted=all&_r=0

Ferguson, E., Atsma, F., de Kort, W., & Veldhuizen, I. (2012), Exploring the pattern of blood donor beliefs in first-time, novice, and experienced donors: differentiating reluctant altruism, pure altruism, impure altruism, and warm glow, *Transfusion*, *52*(2), 343-355.

Fishbein, M. & Ajzen, I. (1975), *Belief, attitude, intention, and behavior: An introduction to theory and research*, Reading, MA: Addison-Wesley.

Fowler III, A. R., & Close, A. G. (2012), It Ain't Easy Being Green, *Journal of Advertising,* 41 (4), 119-132.

Hartmann, P., & Apaolaza-Ibáñez, V. (2009), Green advertising revisited, *International Journal of Advertising*, *28*(4), 715-739.

Montoro-Rios, F., Luque-Martínez, T., & Rodríguez-Molina, M. (2008), How Green Should You Be: Can Environmental Associations Enhance Brand Performance?, *Journal of Advertising Research*, *48*(4), 547-563.

Paul, E. F., Miller, F. D., & Paul, J. (1993), *Altruism*, Cambridge [England]; New York, NY, USA: Cambridge University Press.

Rushton, J. P., Chrisjohn, R. D., & Fekken, G. C. (1981), The Altruistic Personality and the Self-Report Altruism Scale, *Personality and Individual Differences*. 2(4), 293-302.

Schultz, E. J., Neff, J., & Pollack, J. (2010), Purpose-driven marketing all the rage at ANA, (cover story), *Advertising Age*, *81*(37), 1-22.

Stafford, M., Stafford, T. F., & Chowdhury, J. (1996), Predispositions Toward Green Issues: The Potential Efficacy of Advertising Appeals, *Journal of Current Issues & Research in*

Advertising, *18*(1), 67.

Webb, D. J., & Mohr, L. A. (1998), A Typology of Consumer Responses to Cause- Related Marketing: From Skeptics to Socially Concerned, *Journal of Public Policy & Marketing*, *17*(2), 226-238.

Youn, S., & Kim, H. (2008), Antecedents of Consumer Attitudes toward Cause-Related Marketing, *Journal of Advertising Research*, 48(1), 123-137.