

Instituto Superior de Ciências do Trabalho e da Empresa



THE ADOPTION OF ECOLOGICALLY CONSCIOUS CONSUMER BEHAVIORS:
EXPLORING THE ASSOCIATION WITH
MATERIALISM AND VOLUNTARY SIMPLICITY LIFESTYLES

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Because we all share this small planet earth, we have to learn to live in harmony and peace with each other and with nature. That is not just a dream, but a necessity. We are dependent on each other in so many ways, that we can no longer live in isolated communities and ignore what is happening outside those communities, and we must share the good fortune that we enjoy.

Dalai Lama (Nobel lecture, 1989)

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ABSTRACT

In most of the developed economies it is common to find high levels of consumption, most of the times connected to the pursuit of status. The pattern of consumption dictated by contemporaneous society through persuasive marketing messages promises a more exciting life, through acquisition.

However, to keep a high level of consumption it is necessary to have financial resources. This means that more time dedicated to work is needed and/or get financial loans. Getting trapped in this vicious cycle – work/earn/spend – without personal time generates stress and anxiety. Therefore, many individuals are becoming aware that materialism does not imply happiness.

This awakening may also be connected to the finding that higher level of consumption has a higher impact in surrounding environment than the individual perceived until then, in social, ecological and even animal terms.

A new way of consumption, more aware, is rising, and it is called ethical consumption. Due to its multiple motivations and expressions it is complex to analyze. This work will specifically focus on voluntary simplifiers. These consumers, besides the concerning with acquired products, have chosen to reduce, voluntarily, their level of consumption.

As consumption has impact on surrounding environment, it is suspected that materialist individuals have fewer concerns over the environment than voluntary simplifiers, considered more aware. Therefore, this study intends to analyze the connection between ecological conscious consumer behaviors and environmental concern, and the impact of values such as altruism, non-generosity and perceived consumer effectiveness, for both groups of materialistic individuals and voluntary simplifiers.

Keywords: environmental concern, ethical consumption, materialism, voluntary simplicity.

JEL Classification: M31, M39.

RESUMO

Actualmente é comum encontrar, nos países economicamente desenvolvidos, elevados níveis de consumo, associados à procura de status social. O padrão de consumo ditado pela sociedade contemporânea, através de mensagens de marketing persuasivas, promete, através da aquisição de bens, uma vida mais entusiasmante.

No entanto, para manter um nível de consumo elevado é necessário ter recursos financeiros. Tal traduz-se em mais tempo dedicado à profissão e/ou recurso ao crédito. Entrar neste ciclo vicioso – trabalha/ganha/gasta – abdicando do equilíbrio na vida pessoal, gera stress e ansiedade. Como tal, muitas pessoas estão a aperceber-se de que o materialismo não gera felicidade.

Este acordar para uma nova perspectiva pode estar relacionado com a descoberta de que elevados níveis de consumo têm um impacto superior no meio envolvente ao que cada indivíduo percepcionou até então, seja em termos sociais, ambientais ou até animais.

Surge, então, uma nova forma de consumo, mais consciente, designada por consumo ético. É um tipo de consumo complexo, devido à sua multiplicidade de motivações e manifestações. Este estudo irá abordar um sub-grupo denominado por simplificadores voluntários. Estes, para além de se preocuparem com os bens adquiridos, também optam por reduzir, de forma voluntária, o seu consumo.

Dado que o consumo tem impacto no meio ambiente, suspeita-se que pessoas mais materialistas tenham menores preocupações com o ambiente do que o grupo de simplificadores voluntários, considerados mais conscientes. Assim, este estudo pretende analisar a relação entre os comportamentos ambientalmente responsáveis e a preocupação ambiental, observando, também, o impacto de valores como o altruísmo, falta de generosidade e percepção de eficácia do consumo, para ambos os grupos de indivíduos materialistas e de simplificadores voluntários.

Palavras-chave: consumo ético, materialismo, simplicidade voluntária, preocupação ambiental.

Classificação JEL: M31, M39.

EXECUTIVE SUMMARY

There is no doubt that society is living at a greater pace than ever. Normality is embodied by daily routines: wake up early in the morning and get out on a rush towards office, inevitably through a couple of hours on traffic. Ahead of us, a stressful day, where overtime has become trivial. It has become the way we can afford clothing, a car and a home which is empty for most of the day. It has become the way we can afford time-saving products/services and college for the kids. Time is a scarce resource! However, we squander several hours on shopping or daydreaming about stuff we would like to buy. On weekends, we prefer to jaywalk on shopping malls instead of spend fruitful time with our children.

So what is the guidance for this consumption level? Are we influenced by the media, through movies and jet-set magazines, to increase our material level? Are we subject to persuasive and concealable marketing plans, encrusted in glamour, telling us what we need? And if so, aren't we falling on a spiral of debt?

Many books and academic works have been alerting to the effect of high levels of consumption not only on the individual sphere, but also the social and environmental ones. Consumption has its seed on the search for happiness, on an attempt to escape from stress through acquisition of material goods that not just have an entertainment function but also have a symbolic function for what we are – or we would like to be.

The social gap between rich and poor is increasing. On developed societies, people buy goods without wondering about associated social costs (as an example, goods production settled on countries disrespectful of humans rights) or environmental hazard (consuming scarce resources, pollution and waste management, among others).

However, many are those who are figuring out that consumption does not generate happiness. There is a wakening concerning simpler, yet spiritually richer, lifestyles. Adoption of voluntary simplicity may start off from several motivations: spiritual, religious, social, political and/or environmental. Besides that, it may overcome through several shapes and at diverse degrees. Analysis of this new group of individuals is quite

complex, given its heterogeneity. They are informed and demanding consumers and ethics is a recurring feature on their decisions.

This study intends to analyse the existence of significant differences between these two groups of individuals – materialists and voluntary simplifiers – regarding ecologically conscious consumer behaviors. For the selected sample, it is observable that voluntary simplifiers have higher levels of environmental concern than materialistic individuals, which will affect on a stronger adoption of ecologically conscious consumer behaviors.

Moreover, it was possible to conclude that voluntary simplicity is positively correlated with both altruism and perceived consumer effectiveness and negatively correlated with non generosity. Contrariwise, materialistic individuals are less altruistic and have a lower level of perceived consumer effectiveness.

It was found that the adoption of ecologically conscious consumer behaviors is intimately connected with values such as environmental concern and altruism. Therefore, the relevancy of this study urges on a moment that Earth and its ecosystem are signalling for the need to reach a turning point. Besides general audience attention, this study delivers a few hints for political and business executives. It intends to, most of all, alert for the urging need for a new consumption organizational design, more controlled and conscious, which along side, protects the planet we live in.

SUMÁRIO EXECUTIVO

Restam poucas dúvidas de que a sociedade caminha em passo acelerado. A normalidade reveste-se de rituais quotidianos: acordar cedo e sair apressadamente para chegarmos ao emprego, depois de horas no trânsito dentro de um automóvel, para mais um dia de stress, onde as horas extraordinárias são já habituais. Para que possamos pagar as roupas, o carro e a casa que está vazia durante o dia. Para que haja dinheiro para recorrer a facilitadores de vida e para pagarmos o colégio dos miúdos. O tempo é, cada vez mais, um recurso escasso! No entanto, passamos longas horas a fazer compras ou a sonhar com o que gostaríamos de adquirir. Ao fim-de-semana, preferimos deambular em centros comerciais em vez de brincarmos com os nossos filhos.

Qual é a bitola que norteia este nível de consumo? Seremos influenciados pelos *media*, através de filmes e revistas cor-de-rosa, a elevar o nosso nível material? Seremos alvos de políticas de marketing persuasivas, cheias de *glamour*, que nos convencem, de forma subversiva, do que necessitamos? E se sim, será que nos endividamos de forma excessiva?

Muitos livros e artigos académicos têm vindo a alertar para o impacto de elevados níveis de consumo não só em termos pessoais, mas também sociais e ambientais. O consumismo tem origem na busca de felicidade, numa tentativa de escapar ao stress, através da compra de bens materiais que não só servem como entretenimento mas também que funcionam como símbolos do que somos – ou gostaríamos de ser.

Em termos sociais, são crescentes as desigualdades entre ricos e pobres. As sociedades desenvolvidas adquirem produtos sem reflectirem sobre os respectivos custos sociais (por exemplo, produção em países que não respeitam os direitos humanos) ou ambientais (por exemplo, utilização de recursos escassos, poluição e gestão de desperdícios).

No entanto, muitas pessoas estão a aperceber-se que o consumo não gera felicidade. Há um despertar para estilos de vida mais simples, embora mais enriquecedores em termos interiores. A adopção da simplicidade voluntária pode ter diversas motivações, tais como espirituais, religiosas, sociais, políticas e/ou ambientais, e manifestar-se de diferentes formas e em diversos graus. A análise deste novo grupo de indivíduos é, portanto, bastante

complexa dada a sua heterogeneidade. São consumidores informados, exigentes, que recorrem à ética nas suas escolhas.

O presente estudo pretende analisar a existência de diferenças significativas entre estes dois grupos de indivíduos – materialistas e simplificadores voluntários – face à adopção de comportamentos de consumo ambientalmente responsáveis. Perante a amostra seleccionada, foi possível concluir que simplificadores voluntários têm níveis de preocupação ambiental superiores aos materialistas, o que se reflecte numa adopção superior de comportamentos de consumo ambientalmente responsáveis.

Para além disso, foi possível observar que o estilo de vida de simplificação voluntária está positivamente correlacionado com altruísmo e percepção de eficácia de consumo e negativamente correlacionado com valores como falta de generosidade. Em oposição, indivíduos materialistas são conotados como pouco altruístas e com um índice de percepção de eficácia de consumo baixa.

Dado que a adopção de comportamentos de consumo ambientalmente responsáveis está relacionada com valores como a preocupação ambiental e como o altruísmo, a pertinência deste estudo surge num momento em que o planeta dá sinais que é necessário assumir um ponto de viragem, pretendendo lançar algumas pistas sobre novas formas de consumo. Para além do interesse para o público em geral, pretende despertar decisores políticos e empresariais. Deseja, sobretudo, alertar para a premência de uma nova organização do consumo, mais controlada e consciente, que proteja o planeta em que vivemos.

TABLE OF CONTENTS

1. Introduction	1
1.1. Research focus	1
1.2. Purpose of the study	2
2. Literature review	3
2.1. Affluence and consumption.....	3
2.2. Ethical consumption	10
2.2.1. Voluntary simplifiers as a group of ethical consumers	13
2.2.1.1. Simplifiers characterization.....	16
2.2.1.1.1. Motivation	16
2.2.1.1.2. Group Profiles	19
2.2.1.1.3. Consumption behavior typology	22
2.3. Consumption and environment.....	24
2.3.1. Consumption impact on environment.....	24
2.3.2. Ecologically conscious consumer behaviors	27
3. Research methodology	34
3.1. Conceptual model and research hypotheses	34
3.2. Questionnaire design	42
3.2.1. Dependent variable	42
3.2.1.1. Ecologically conscious consumer behavior.....	42
3.2.2. Independent variables	44
3.2.2.1. Voluntary simplicity.....	44

3.2.2.2.	Materialism.....	46
3.2.3.	Mediator variable.....	48
3.2.3.1.	Environmental concern.....	48
3.2.4.	Moderator variables.....	49
3.2.4.1.	Altruism.....	49
3.2.4.2.	Non-generosity.....	51
3.2.4.3.	Perceived consumer effectiveness.....	52
3.3.	Sample characterization.....	54
3.4.	Statistical analysis techniques.....	55
3.4.1.	Mediation.....	57
3.4.2.	Moderation.....	58
4.	Analysis and results.....	60
4.1.1.	Scale validation.....	60
4.1.2.	Analysis of bivariate correlations.....	67
4.1.3.	Cluster analysis.....	68
4.1.4.	Test of hypotheses.....	69
5.	Discussion and recommendations.....	87
5.1.	Main conclusions.....	87
5.2.	Research and managerial contributions.....	88
5.3.	Limitations of the study.....	90
5.4.	Directions for future research.....	92
	References.....	94
	Appendix 1 – Applied questionnaire.....	104

LIST OF TABLES

Table 1 - Previous research on environmental behavior across demographics.....	28
Table 2 - Previous research on environmental behavior across attitudes and knowledge ...	32
Table 3 – Main studies which support the proposed conceptual model.....	35
Table 4 - Ecologically conscious consumer behavior scale	43
Table 5 - Voluntary simplicity scale.....	45
Table 6 - Materialism scale	47
Table 7 - Environmental concern scale	49
Table 8 - Altruism scale.....	51
Table 9 - Non-generosity scale.....	52
Table 10 - Perceived consumer effectiveness scale.....	54
Table 11 – Sample characteristics	54
Table 12 – Factor analysis for ECCB scale.....	60
Table 13 – Factor analysis for voluntary simplicity scale	62
Table 14 – Factor analysis for materialism scale	63
Table 15 – Factor analysis for environmental concern scale.....	64
Table 16 – Factor analysis for altruism scale	65
Table 17 – Factor analysis for non-generosity scale	66
Table 18 – Factor analysis for perceived consumer effectiveness scale	66
Table 19 – Correlations between variables.....	67
Table 20 – Mean differences regarding voluntary simplicity and materialism.....	69
Table 21 – Mean differences among groups regarding the adoption of ECCB	70

Table 22 – Mean differences among groups regarding environmental concern	71
Table 23 – Correlations between voluntary simplicity, environmental concern and ECCB	72
Table 24 – Regressions among voluntary simplicity, environmental concern and ECCB...	72
Table 25 – Mediation between voluntary simplicity, environmental concern and ECCB ...	72
Table 26 – Correlations between materialism, environmental concern and ECCB	74
Table 27 – Regressions among materialism, environmental concern and ECCB	74
Table 28 – Mediation between materialism, environmental concern and ECCB	75
Table 29 – Coefficients results – moderation between voluntary simplicity and environmental concern by altruism	76
Table 30 – Coefficients results – moderation between materialism and environmental concern by altruism	78
Table 31 – Coefficients results – moderation between voluntary simplicity and environmental concern by non-generosity	80
Table 31 – Coefficients results – moderation between materialism and environmental concern by non-generosity.....	81
Table 32 – Coefficients results – moderation between environmental concern and ECCB by PCE (VS group).....	83
Table 33 – Coefficients results – moderation between environmental concern and ECCB by PCE (materialist group)	85

LIST OF FIGURES

Figure 1 – Expected correlations between environmental concern, ECCB and independent and moderator variables.....	37
Figure 2 – Expected correlations between voluntary simplicity, materialism and moderator variables.....	37
Figure 3 – Proposed conceptual model.....	38
Figure 4 – Mediation between voluntary simplicity and ecological conscious consumer behavior	48
Figure 5 – Moderation by altruism.....	50
Figure 6 – Moderation by non-generosity	52
Figure 7 – Moderation by perceived consumer effectiveness	53
Figure 8 – Mediation model	57
Figure 9 – Moderator model.....	58
Figure 10 – Moderation by altruism among voluntary simplicity and environmental concern	77
Figure 11 – Moderation by altruism among materialism and environmental concern.....	79
Figure 12 – Moderation by non-generosity among voluntary simplicity and environmental concern results	81
Figure 13 – Moderation by non-generosity among materialism and environmental concern results.....	82
Figure 14 – Moderation by perceived consumer effectiveness among environmental concern and ECCB results (voluntary simplifiers group)	84
Figure 15 – Moderation by perceived consumer effectiveness among environmental concern and ECCB (materialist group)	86

1. INTRODUCTION

1.1. RESEARCH FOCUS

For some individuals marketing is more than a management science, it is more like a philosophy, which guides the consumer, offering the best of what he can get. The concept of marketing as described in books and business literature is, without a doubt, virtuous, because it is driven by a desire to satisfy consumer needs (Pride, 2000), enabling consumers to select a brand which appears to have the best potential for satisfaction (Enis, 1997).

However, the problem is the simplicity of such argument. As Cherrier (2004) points out, in a global and complex world, arguing that consumers are in control over their life and that they can freely write their own stories appears too simplistic. Society is widely complex and individuality of each human being adds to that complexity. Consumer's motivations for buying goods have multiple and hybrid sources, formed in a thread of personal backgrounds, personal roles and social experiences. The framework of such scenario is inevitably and permanently unfinished. Consumer practices are not fully enclosable on any schema and a lack of consistency on social, demographical or such segmentations is perpetual.

Moreover, for many individuals, marketing policies are just a way to persuade consumers to buy one brand instead of other from the competition, where the ends justify the means. Most of times, marketing is blamed for exacerbate consumption, while it convinces consumers of what are their needs. To keep-up with the rising level, society has become trapped in a vicious cycle of work / earn / spend. Most of times, this is a way of escape of stress produced by the referred cycle and find happiness in the way. High levels of consumption keep rising, in part, because it is something visible. As Etzioni (1998) argues, people who are successful need to show their achievements in ways that are readily visible to others in order to gain their appreciation, approval, and respect. The complexity of these patterns of behaviors is explained by not only by research in consumer behavior, but also in psychological field of expertise and sociology. The aim of section 2.1 *Affluence and consumption* is to analyse what is behind high levels of consumption in contemporaneous societies.

Nevertheless, some individuals are waking to a new perspective, adopting simpler ways of living. This adoption is voluntary and may have several motivations (environmental, political, religious or spiritual) and several manifestations. The analysis of these groups of individuals is very complex, due to its heterogeneity. These are informed and demanding consumers, whose buying decisions are guided by ethics. This study intends to analyze what previous research has found in regard to ethical consumption, and this may be found in section 2.2 *Ethical consumption*. Moreover, in order to clarify the impact of consumption on environment and the adoption of ecologically conscious consumer behaviors, a review of the relevant literature was done in section 2.3 *Consumption and environment*.

Following the literature review, it is suspected that voluntary simplifiers have higher concern over the environment and, therefore, will engage in more ecologically conscious consumer behaviors. In opposition, materialistic individuals are expected to have the reverse correlation. In order to find if the referred relationship between environmental concern and ecologically conscious consumer behaviors the impact of altruism, non-generosity and perceived consumer effectiveness is analyzed. The proposed conceptual model and research hypothesis, the used statistical analysis techniques, the sample characterization and the questionnaire design are presented in section 3. *Research methodology*. Analysis of proposed hypotheses is presented in section 4, while discussion and recommendations can be found in section 5.

1.2. PURPOSE OF THE STUDY

The purpose of this study is to provide further evidences to the research that has been done in this field of expertise. More than confirm some findings already produced by previous research, it intends to find what mechanisms underlies the adoption of ecologically conscious consumer behaviors, in regard to values such as altruism, non-generosity and perceived consumer effectiveness. Furthermore, it pretends to detect if the adoption of a voluntary simplicity lifestyle is meaningful in order to achieve a new balance not only in personal terms, but also to find a new consumption organizational design, more controlled and conscious, which along side, protects the planet we live in.

2. LITERATURE REVIEW

2.1. AFFLUENCE AND CONSUMPTION

Consumption is the condition of life on earth. To survive, plants need light, carbon dioxide, water, and minerals. And animals eat plants and other animals. However, unlike plants and other animals, humans have a measure of choice about what and how they consume – a choice related to their class and their society's level of economic development (Gale, 2002).

To much of the developed world, the primary consumption function of only serving basic human needs is no longer true (Princen, 2002). Throughout the 1980s and 1990s, American middle-class was acquiring at a greater rate than any previous generation, at a scale that, by the end of the 1990's, the size of houses has doubled in less than fifty years, there were more second homes and automobiles have become increasingly option-packed. In twenty years, in the United States, the number of shopping centers (46.438) is more than twice the number of high schools (22.180). In addition, there is more time spent in shopping than in playing with children, and shopping centers turned to be the center of the community as De Graaf (2001) stresses out.

One explanation for this is that consumption has become interconnected to the need of achieving and demonstrating social status. What is the need of buying leather jackets, fur coats, jewelry, or fancy watches? Examinations of the purchases of those who have low income shows that these purchases are not needed in a strict sense of the term, but considered necessary only to meet status requirements. On the other hand, for individuals with higher incomes, these goods allow them to display the size of their income and wealth (Etzioni, 2004). To worsen the scenario, standards for what is socially necessary are continuously being upgraded, resulting in a feeling to constantly replace or update possessions so as not to be left behind (Bearden, 1982; Schor, 1998; Knoedler, 1999).

To explain this behavior, Schor (1998) cites Veblen's Theory of Leisure Class. This theory identifies conspicuous consumption by the rich and describes how spending becomes a mean by which the upper class demonstrates its social position in an affluent society. The

lower class sees this and tries to copy the same attitudes. The rise of a certain mass prosperity, throughout the 20th century, led to a process known in United States as “keeping up with the Joneses”, by which members of the middle-class tried to imitate their neighbors’ consumption patterns. Later in the century, the reference shifted to co-workers on a higher salary or celebrities whose lifestyles were unachievable for the average person. Research found that heavy exposure to this consumption-rich representation of television programming is significantly associated with beliefs about what other consumers have and do (O’Guinn, 1997). This way, an extensive use of and reliance on television allows individuals to believe that they know how others, with whom they may rarely have significant direct contact, live and consume. And, as O’Guinn (1997) refers, because of television’s frequent representations of affluent consumer behavior, heavier viewers are more likely to believe the social world to be an affluent place.

So, in the end, the visibility of the product and its usage is positively related to the importance of the status that the product holds. Objects transmit desired self-images, reflecting a sense of identity in certain situations and expressing social relationships, showing to the outer world who the individual wants to be (Schor, 1998).

Kasser (2002) defends that individuals have adopted a world view in which the worth and success of others is judged not by their apparent wisdom, kindness, or community contributions, but in terms of whether they possess the right goods. It is not simply about having enough, but about having more than others do. Desires to have more material goods impel individuals into an anxious pace of life. Not only is need to work harder, but once possessing the goods, it is necessary to maintain, upgrade, replace, insure, and constantly manage them.

Under Baudrillard’s approach, Cherrier (2004) argues that marketing may be fulfilling false and manipulated needs, trapping and commodifying the consumer. She explains why: having power to consume implies more time spent working, and consequently freedom would be the trade-off for nice homes, expensive cars, beautiful clothes, and exotic vacations. If freedom is traded-off in order to obtain objects, then objects are in control.

Thus, another explanation for over-consumption, besides seeking and demonstrating social status, is that individuals, to have power to consume, spend more time working and to relief

stress go shopping, becoming trapped in this vicious cycle. Maslow's needs hierarchy may be applied: high material consumption has overfilled physiological needs and, in the process, have distracted consumers from the nonmaterial pursuits and relationships that satisfy higher order needs. Decreased fulfillment of higher order needs stimulates efforts to find happiness and satisfaction through the acknowledged means: further increasing of material consumption and of the time taken to earn the money to pay for this consumption.

Consequently, and more than ever, consumption is socially and culturally determined. Tastes and preferences of the consumer are socially produced, rather than being personally spontaneous (Stihler, 2000). To be able to function as communicators within a society, there has to exist a shared understanding of the symbolic meaning of consumer goods. Indeed, research suggests that material goods are a bit like words (McCracken, 1988). Belk (1982) suggested that one of the strongest and most culturally universal phenomena inspired by consumer behavior is the tendency to make inferences about others based on their choices of consumption objects. And, as Holt (2002) argues, to feel sovereign, postmodern consumers must adopt a never-ending project to create an individuated identity through consumption.

Understanding what possessions mean is recognizing that individuals consider possessions as parts of themselves. As Belk (1988) points out, self-extension occurs through control and mastery of an object, through creation of an object, through knowledge of an object, and through contamination via proximity and habituation to an object. The extended self operates not only on an individual level, but also on a collective level involving family, group, sub-cultural, and national identities.

Hence, objects become not just identity markers, but identity fixers (Belk, 1985). As Cherrier (2004) stresses out, objects are purchased since conformity to the consumption code is integrating. Sign value is desired not because people are materialistic or vain, but because humans long for and need a sense of community. However, as Kasser (2002) points out, individuals who strongly focused on the pursuit of wealth, fame, and image, reported lower-quality relationships with friends and lovers. That is, materialistic values were associated with shorter, less positive, and more negative relationships than were non-materialistic values.

The downside of this shopping experience relates to the increasingly role of exhibitionism in the culture of consumption that confronts the consumer (Schor, 1998; Baudrillard 1981, cited by Cherrier, 2004; Holbrook, 2001). And, while it is plausible that materialistic people pursue false sources of happiness, and that therefore such people must be disappointed, it is also possible that those who have for various reasons experienced dissatisfaction in life turn to materialism in their effort to find happiness (Belk, 1985). Materialistic values are both a symptom of underlying insecurity and a coping strategy some people use in an attempt to alleviate their anxieties (Kasser, 2002).

But, what does it mean when one says that an individual is materialist? Is it a clear concept among researchers? Belk (1982) defines materialism as: “The importance a consumer attaches to worldly possessions. At the highest levels of materialism, such possessions assume a central place in a person's life and are believed to provide the greatest sources of satisfaction and dissatisfaction”.

For Richins (1992, 2004), materialism is defined as the importance attributed to the ownership and acquisition of material goods in achieving major life goals or desired states. They conceptualize material values as encircling three domains: 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.

Micken (1999) disagree with the notion that simply acquiring goods is as central to materialism as the Richins (1992, 2004) definition seems to suggest. They neither agree that materialists pursue happiness through acquisition. Rather, in the pursuit of certainty, materialistic individuals' appropriate possessions as signs of self; as uncertainty is accordingly lessened, the materialist finds happiness.

For Rumbo (2002), materialism is not something harmful, but overconsumption, on the other hand, is the philosophy that physical possessions lead to ultimate satisfaction. For Princen (2002), overconsumption is the level or quality of consumption that undermines life-support system and for which individuals and collectivities have choices in their consuming patterns. He distinguishes it from misconsumption, which concerns to individual behavior. Accordingly, from a physiologically point of view, humans misconsume, for instance, when they eat too much or when they become addicted to a drug.

The long-term burden overwhelms the immediate gratification. Psychologically, humans misconsume when, for example, they fall into the advertiser's ambush of "perpetual satisfaction". They purchase an item that provides brief satisfaction, always resulting in another purchase (Princen, 2002).

Benson (2000) attacks a common misconception by pointing out the difference between shopping and consuming. Campbell (2000) (cited by Holbrook, 2001) pursues a similar contrast between the "shopaholic", who is someone addicted to the recreational activity of shopping and the "spendaholic", the individual focused on the buying itself rather than on the general process of shopping.

According to Faber (1987), co-morbid behaviors – like compulsive buying – include eating disorders, alcohol dependence, and other impulse control disorders such as anorexia and bulimia among women or substance abuse and gambling among men. In his study, individuals would commonly refer to the shopping response as "a need", or something they simply "had to do", in response to something else in their lives. These behaviors were said to be precipitated or accompanied by an irresistible urge to buy. Respondents frequently expressed confusion and considerable frustration at their inability to control this urge. Psychological theories and models suggest that compulsive behaviors relieve stress experienced by the individual from pressure to perform or succeed at tasks or caused by low self-esteem. Sociological models suggest that compulsive behaviors stem from peer pressure or from beliefs about culture norms. The media also contribute by glamorizing these behaviors in entertainment works and commercials, or by making it appear to be expected behaviors (Faber, 1987; Hoolbrok, 1982, 2001).

Hoch (1991) presented a detailed discussion of compulsive and impulsive forms of consumer behavior. Their conceptualizations focused on the interplay of willpower, desire for gratification, and self-control in regulating consumption. Despite external signals to the contrary, these individuals suffer from performance anxiety, depression, isolation, and feelings that their inadequacies will inevitably be discovered (Brister, 1987; Johnson, 1980 cited by Hirschman, 1997). Feeling unable to manage their emotions through internal means, they turn to an external substance or behavior to: (1) help them escape their anxiety and (2) make them feel more in control of themselves. If the substance or behavior succeeds

in reducing their anxiety and enhancing their sense of self-control, it is positively reinforcing and the consumer learns to turn to it in times of distress (Hirschman, 1997).

Representing these effects, DeGraaf (2001) has introduced a new concept which he called “affluenza”, through a TV documentary where it was noticed consuming misbehaviors. Later, a book was published concerning that topics. Affluenza is defined as "a painful, contagious, socially transmitted condition of overload, debt, anxiety, and waste resulting from the dogged pursuit of more". Although this once has been labeled stress or greed, affluenza demonstrates that the syndrome is much more complex. It is related to many of the social and environmental problems that exist today, either as a cause, a result, or both (Rands, 1998; DeGraff, 2001).

Nevertheless, the addiction to material goods is not challenged in our society. It is socially accepted that a temporary depression is compensated by shopping (De Graaf, 2001). Moreover, retail therapy is identified as a response to feelings of emptiness, depression, or of any other psychological problem. As a consequence, fashionable luxury goods are used as a mean of enhancing self-esteem (Schor, 1998). On the other hand, people suffering from a particular disorder are, oftentimes, encouraged to replace the problematic behavior with other activities. For instance, some treatment programs encourage compulsive buyers to react to negative mood states by going out to a nice restaurant or baking rather than shopping. Similarly, cognitive behavioral therapy programs for eating disorders have suggested going shopping rather than binge eating in reaction to negative signals (Faber, 1995).

The escalating effects of a lifestyle of overconsumption include the rise of consumer debts, along with the record levels of borrowing and credit card usage (Stihler, 2000). The promises of a consumer culture are hard to resist and the need to keep up has led to mass overspending. And undeniably, people who are well socialized into the capitalistic system often believe that they need income to buy things they “need”. Understanding the difference between desire and deprivation becomes essential to escape and it is, inarguably, the key to financial recovery (Etzioni, 2004; Schor, 1998).

Researchers have examined the components of individual well-being such as cognitive evaluations of the conditions of one's life (e.g., overall life satisfaction), positive affective

states (e.g., happiness), and negative affective states (e.g., depression) and consistently found that materialism is negatively associated with both life satisfaction and happiness and positively associated with negative affective states as depression and neuroticism (Burroughs, 2002). The research led by La Barbera (1997) concluded that highly materialistic people report lower subjective well-being because they are disappointed by their pursuit of unsatisfying sources of well-being. It is also possible that those who have for various reasons experienced dissatisfaction in life turn to a materialistic orientation in their efforts to find happiness. According to judgment theory, the gap between an individual's current standard of living and his or her reference standards may be presumed to have a direct effect on satisfaction with standard of living. However, little research has sought to determine whether individuals readjust their expectations for standard of living overtime or how this process is influenced by materialism (Shaw, 2004).

Fortunately, some consumers are confronting the fact that consumption is not contributing to the creation of a healthy self (Schor, 1998). People are experiencing unhappiness and discontent and these feelings are being linked to the consumption culture driven messages to consume increasing amounts of goods and at greater rates. The ferocious hunting of wealth for the purpose of consuming material goods is leaving people stressed and dissatisfied. This acceptance is motivating some individuals to seek ways of increasing feelings of fulfillment in their lives through steps such as adopting simpler lifestyles (Zavestovski, 2002).

Schor (1998) sets out some principles intended as remedies for the problem of this vicious circle (too little saving, a hurried lifestyle, a deteriorating environment, the growth of competitive spending, and a lack of control): the need to control desire and to become an educated critical consumer, the necessity to overcome consumer symbolism, the avoidance of compensatory consumption, self control and voluntary restraints from competitive consumption and increase the willingness to share material goods within neighborhoods or communities.

This consciousness, as Dominguez (1992) refers, is the result of what he calls the "financially independent thinking", which is achieved by learning the true impact of earning and spending on fulfillment feelings, focusing the alignment between the financial

life and one's values. Because, as Schor (1998) stresses out, the problem is not just that more consumption does not yield more satisfaction, but that it always has a cost. The extra hours needed to work to earn the money cut into personal and family time. As Schor (1998) contends, whatever is consumed has an ecological impact, "whether it is the rain forests cleared to graze the cattle which become Big Macs, the toxins from the plastics that now dominate material environment, or the pesticides used to grow the cotton for T-shirts. In this process, temporal, social and biological infrastructures are being threatened".

2.2. ETHICAL CONSUMPTION

Some economists tell that when people go shopping they will usually buy the best quality products they can afford. The consumer will only buy a cheaper product if he is confident enough that its function is as good as slightly more expensive options available. Occasionally however, people might boycott a particular brand or company, choose a fair trade labeled product, due to a concern for developing countries, or an eco-labeled washing powder because they believe that environmental issues are relevant (Harrison, Newholm and Shaw, 2005). This type of buying has been described as ethical purchase behavior or, alternatively, ethical consumption.

This pattern of consumption behavior may have political, religious, spiritual, environmental, social or other motivations. Moreover, ethical consumers normally disagree about who is right and who is wrong. As Harrison, Newholm and Shaw (2005) argue, what they have in common is the concern with the effects that a purchasing choice has, not only on themselves, but also on the external world around them.

There are a few theories that explain the rise of ethical concerns at this moment. Sociologists like Ulrich Beck (1999) and Anthony Giddens (1990), cited by Newholm (2000) have argued that because proportionately more of our risks are human derived, in consumer societies individuals are forced to consider the increasing consequences of their existence. Additionally, Newholm (2000) has suggested that individuals increasingly express his ethics through consumption precisely because consumption, and the related construction of self-image, becomes his major time-consuming activity. Lastly, Maslow (1987) Hierarchy of Needs points out another interesting argument. When basic physical

needs are fulfilled, the individual turns to higher order concerns that include the need to know and self-actualization. Thus, he might try to self-actualize through hedonistic consumption as much as through ethical consumption (Etzioni, 1998).

Moral philosophy frequently divides ethical theories into two types: theories that privilege the “right”, and theories that privilege the “good”. Theories which privilege questions of the good are often referred to as consequentialist – they are concerned with defining the right thing to do by allusion to the consequences of actions. In opposite, deontological approaches advocate the right action as independent of its contribution to human happiness (Barnett, 2005).

Both theories seem to make cold calculations of what is right to do and neither approach gives adequate attention to what motivates people to be concerned by child labor, for instance. This question, however, is addressed by virtue theorists, a third approach regarding ethical consumption (Harrison, 2005).

Virtue theorists are concerned with what the individual should do, but they relate this to the question of what kinds of people we should aim to be, and how this sort of consideration shapes our actions (Harrison, 2005). So, faced with the concern about child labor, the consumer might be advised by a virtue theorist to be compassionate and generous. Virtue theories concern themselves less with our duties toward others, and more with specifying personal excellence and societal flourishing, and the best ways to achieve them. While consequentialists and deontologists work to justify altruism against the obstacles of self-interest, virtue ethicists try to awaken the individual to his enlightened self-interest in caring for others.

Before proceed, it might be interesting to clarify the distinction between two senses in which ethics and consumption can be related. The “ethics of consumption”, is concerned to a judgment regarding the morality of a whole system of provisioning, that of capitalist commodity production. This is perhaps the main topic in discussions such as environmental problems, debates about sustainable consumption, and in movements such as voluntary simplicity and the slow food movement (Harrison, 2005).

On the other hand, “ethical consumption” is not so much the object of moral evaluation, but instead an intermediate strategy for moral and political action, which underpins consumer boycotts, ethical audits, corporate social responsibility initiatives, and fair trade campaigns. As Barnett (2005) refers, in those cases there is no necessary implication that ethical consumption implies less consumption. However, these two judgments of ethics and consumption are not utterly disconnected and, furthermore, specific consumer practices should not be seen in isolation. Animal welfare, human rights, environmental sustainability and corporate responsibility combine, overlap, conflict and struggle for attention, as Newholm (2005) contends.

The most interesting in ethical consumption is the existence of a significant difference between the different ethical drivers to the purchase decision across the three different types of ethical issue tested for, namely, the environment, human rights and animal rights/welfare. In Wheale’s (2005) research, the rankings proposed that the environment was the highest ranked, followed by human rights, and then animal rights/welfare, implying that, at least for that population of ethical consumers, that a different strength of feeling for these issues across all the product ranges analyzed.

The traits of the population that carry out ethical consumption behavior are intricate to establish and efforts to describe this group have been controversial. One obstruction to effectively describing ethical consumers is that ethical decision processes refer to subjective moral judgment, as Cherrier (2005) refers. Hence, morality is concerned with the norms, values, and beliefs embedded in social processes which identify what is right and what is wrong. Moral judgments that outline the ethics of consumption are neither universal nor stable in time for three core reasons.

As Cherrier (2005) contends, the ethics of consumption are contextual. The rightness or wrongness of consumption is dependent upon the time and place in which one lives. Second, the ethics of consumption depends on the consumers’ subjective view on ethics, and to some extent their individual concerns. And third, consumers express their ethical concerns in varied individuals’ actions.

Embedded to the contextual aspects of the ethics of consumption, the diversity of ethical concerns, the disintegration of ethical consumer behaviors, and the juxtaposition of

lifestyles and ethical ideologies is most of the times the reasons that explain why it is impossible to know who belongs to a given ethical community and whether all individuals should be treated as ethical equals (Cherrier, 2005).

Nevertheless, the emergence of a group who seeks for simpler ways of living, known as the voluntary simplicity movement raises questions about the possibility of defining a valid ethical consumer. In the next section, this group of consumers will be characterized in order to describe their unique heterogeneity, their ethical concerns and consumption choices.

2.2.1. VOLUNTARY SIMPLIFIERS AS A GROUP OF ETHICAL CONSUMERS

Contrasting with the overconsumption lifestyle, there are simpler ways of living, which it has unprecedented relevance today. Simple living has a long history with deep roots in human experience. Spiritual traditions such as Buddhism, Hinduism and Taoism have encouraged a life of material moderation and spiritual abundance. Jesus embodied a life of compassionate simplicity (Elgin, 1998).

The conception of a simple living as we know it nowadays was initially defined by Gregg (1936) as: “voluntary simplicity involves both inner and outer condition. It means singleness of purpose, sincerity and honesty within, as well as avoidance of exterior clutter, of many possessions irrelevant to the chief purpose of life. It means an ordering and guiding of our energy and our desires, a partial restraint in some directions in order to secure greater abundance of life in other directions. It involves a deliberate organization of life for a purpose”.

Although its aspirations are still much the same, the contemporary version of voluntary simplicity may have slightly different manifestations than that of the 1960s and 1970s for instance. However, its aspirations are still much the same. In the 1960s it was also about a rebellion against being told to consume, what to consume, and how to consume. And, years later, accordingly with Shama (1981) “stagflation” (a stagnant economy in a period of inflation) created a “new breed of consumers whose reactions to the marketing mix may be utterly different from the pre-stagflation consumers”. Though slow economic growth is not the only cause, it accelerated the growth of a voluntary simplicity movement. Since then the

concept has gained varied definitions, particularly integrating voluntary simplicity into a secular world (Zavestoski, 2002; Bekin 2005).

Nowadays, voluntary simplicity is a new social movement with one common denominator, which is the choice to resist what we would call the new millennium Descartes: *I shop therefore I am* (Cherrier, 2002). Voluntary simplifiers perceive different environmental and/or social threats present in the consumer driven society. Some examples of those threats include pollution, over population, waste, dehumanization, and stress. Following this perception of a society at risk, they modify their lifestyle in order to seek a more meaningful existence. They decide to act according to their personal beliefs and to resist ideological manipulation (Cherrier, 2002; Pierce, 2000).

Following Fromm's point of view, Cherrier (2007) contends the possibility of living a mode of existence for which individuals are no longer alienated by the social system. They refuse fraudulent traditions and prestigious affiliations with social status, possessions, body, or image and are critical toward the system and all that surrounds them. This critical reflection gives them independence and freedom from social chains. Although individualistic, their goal in life relates more to emancipation from social constraints than to self-ownership.

Therefore, as Elgin (1998) points out, to live more simply is to live more purposefully. Following the idea for integrating the inner and outer aspects of life, voluntary simplicity can be described as a manner of living that is externally simpler and internally richer. In many ways, this way of life is not a static condition to be achieved, but an ever changing balance that must be continuously and consciously made real.

5 basic values were presented by Elgin (1977) to characterize the simplicity movement: 1) material simplicity (buying and consuming less or only what one needs is better than over-consuming or catering to one's desires); 2) human scale (this includes the value of "small is beautiful", and implies a preference for small, personal outlets over gigantic department stores and shopping centers); 3) self-determination (the need to have more control over one's life and less dependency on other organizations, including business, marketing channels, banking, etc); 4) ecological awareness (resources are limited, conservation is needed, and pollution reduction is imperative); and, 5) personal growth (desire to free one's

self from external clutter and develop one's inner life, both psychologically and spiritually). To these values, Shama (1981) added appropriate technology, which means, to use more functional, efficient, and energy-conserving technology.

Voluntary simplicity was defined by Iwata (1997) as a lifestyle of low consumption that includes low material dependency. It is worth mentioning, though, that it defines people who are motivated by pressures such as time squeeze to reduce their income and consumption. But the response to the said pressure could be, for instance, other than simplifying (for instance, hiring more help) (Schor, 1998).

It is commonly said that voluntary simplicity lifestyle is characterized by poverty, antagonism to progress, rural living and the denial of beauty (Elgin, 1998). It is important to acknowledge these misleading stereotypes because they suggest a life of regress instead of progress, making a simpler life seem impractical. Nevertheless, ecological living does not imply rejection of economic progress or rural living. Rather, it seeks to discover which technologies are most appropriate and helpful in moving towards a sustainable future (Elgin, 1998).

Regarding poverty misconception, it is, unlike voluntary simplicity, involuntary, debilitating and degrading to the human spirit. Besides, people who adjust their lifestyle only or mainly because of economic pressures (having lost their main or second job, or for any other reason) do not qualify as voluntary simplifiers on the simple grounds that their shift is not voluntary (Etzioni, 2004).

Moreover, voluntary simplicity is not necessarily about quitting one's job. Work provides to the individual a sense of purpose in life, and typically has several purposes: (1) it may provide income to live on, (2) it may produce valuable goods or services needed by other, and (3) it may give you a sense of personal fulfillment. Consumerists focus on the first purpose primarily, to a lesser degree on the second purpose and only coincidentally on the third purpose. Contrasting, simplifiers generally assign the third purpose as much importance as the other two, to the point that they will downsize their living expenses in exchange for fulfilling work. There are no will to work in unsatisfying jobs just to fund the good life as defined by corporate advertisers, their neighbors, families or friends (Grigsby, 2004; Pellow, 2005).

2.2.1.1. Simplifiers characterization

2.2.1.1.1. Motivation

It is not easily understood why a voluntary simplicity lifestyle is chosen. This lifestyle can be adopted for different reasons, such as concern for the environment, religion, or physical well-being (Craig-Lees, 2002; Johnston, 2002; Miller, 2006). Often these life changes are motivated by a desire to achieve a better work-life balance, to spend more time with children, or to reconnect with nature. This sense of needing new solutions to the meaningless life problem and stressed and hectic lifestyles can lead to enormous personal and financial adjustments, and motivations for voluntary simplicity are absolutely diverse (Juniu, 2000; Bekin, 2005).

Craig-Lees' study (2002) explored thoughts, beliefs, values, and behaviors and how voluntary simplifiers differed from non-simplifiers. The criteria used to identify simplifiers ensured that they would see themselves as people who restricted their consumption, who were relationship and/or community focused, and who had a choice of reasons for selecting the lifestyle. In her study, she founds that it is evident that the simplifiers have at least three underlying motives for reducing consumption that appears to influence their purchasing behavior: environment, spirituality, or self-orientation.

Even so, life has become more insecure, even in the most affluent societies. Many people may be reluctant to abandon high paying jobs, because they are concerned about possible financial risks. Under these circumstances, the satisfaction of basic needs makes possible the abandonment of consumerism only in the trivial sense, that people may downshift their apparent consumption levels while maintaining the security of high income and high achievement and pursuing the ecological damage and antipathy to redistribution of the market economy (Taylor-Gooby, 1998).

So, the extent to which individuals embrace voluntary simplicity is varied. People may retain high-profile jobs but go part-time; start their own business to achieve more rewarding employment; seek lower paid, more fulfilling or creative jobs, early retirement or volunteering. People may simply choose to reduce consumption to the "necessary level", or

purchase more ethically. The forms of simplification may derive from the varied nature of the motives behind simplification (Bekin, 2005).

Maslow's theory of human motivation has been cited to help explain voluntary simplicity (Etzioni, 1998; Zavestoski, 2002; Huneke, 2005). According to this theory, physiological needs (the ones which are needed to maintain the human organism healthy) are the starting point for human motivation. These needs are at the bottom of a hierarchy of ascendancy. If physiological, physical safety, love and esteem needs are relatively met, humans will feel a new discontent and restlessness, unless the individual is doing what he is fitted for. This is the need for self-actualization as defined by Huneke (2005).

Etzioni (1998) suggests that Maslow's hierarchy explains the rise of voluntary simplicity for the privileged members of advanced capitalist societies. Voluntary simplicity appeals to those whose basic needs are satisfied and who can be assured they will be met into the future (Etzioni, 1998; Huneke, 2005).

Zavestoski (2002) adapts and expands Maslow's hierarchy by dividing self-actualization into two: the need for efficacy and the need for authenticity. All needs in the hierarchy except authenticity can be met through consumption. In interviews with individuals who had demonstrated interest in taking a course on voluntary simplicity, he finds support for the notion that people who recognize that their needs for authenticity are not being met through consumption will seek out other means for meeting those needs.

Of the three primary motivational bases of the self (esteem, efficacy, and authenticity), it is argued that only self-esteem and self-efficacy can be acquired through consumption. The increasing number of individuals voluntarily reducing their levels of consumption may be motivated by underlying social-psychological stress related to living in a consumer society. Therefore, the current growth of the voluntary simplicity movement, it is argued, is among those individuals who have met the need for esteem and efficacy through consumption, but have failed to achieve a sense of authenticity.

As Cherrier (2004) found in her research, it became clear that the internalization of ethical consumption discourses and practices did not exclusively emerge from a rational reflection or cognition, but instead from a life-transforming event that led individuals to re-evaluate

their situation and transform their lives. She stretches out that ethical consumption behavior is viewed as a dynamic socially constructed concept whereby consumers are mutually constituted by their own agency and by their changing structural environment.

Later, Cherrier (2007) presented a study which defines socialization as crucial to the adoption of a simpler life. The process of identity negotiation has four main phases: sensitization, separation, socialization, and striving. Each stage represents growing positions of the self in the world. Individuals initiate the process of simplifying by examining their own lives. Cherrier (2007) states that this process of reflection is triggered by an event that occur at a turning point in the life of the individual, which enforces them to make a pause, think, and reflect on their situation. The damage of a common reality guides individuals to reassess their position in the world and to reflect on the connotation of pre-established norms and values.

Following the phase of sensitization, individuals walk through the separation stage, struggling from independence from past social shaping, including points of reference such as religion, parental values, class, and subculture. As Cherrier (2007) defines, individuals strive for a possibility of existing outside of a conformed existence where life would no longer be directed by acceptance, validation, and ritualistic conformity.

Subsequently, the socialization phase corresponds to reaching out for others' life examples in order to reshape a new normative background and redefine their way of living. Indeed, this shows that a vital aspect to determining new normative backgrounds was to reach out, listen, and follow certain others, being a friend, a new lover, a leader in a group, or simply knowing a person who lived differently. By reaching out, individuals gain access to a social sphere that are determining to the creation of a new identity. And, because the means to live simply are not explicit, voluntary simplifiers use virtual communication such as the Internet and chat rooms to interact across space, culture, and class regarding their beliefs, values and concerns on the voluntary simplicity movement (Cherrier, 2002).

The last level, the striving stage, will be a highly reflexive stage which includes both taking into consideration others and answering crucial questions about the self. This stage emphasizes that the process of dispossession is an ongoing journey of identity negotiation

and that the amount of objects to buy, own, and dispose of is always undetermined, ceaselessly negotiated.

Voluntary simplifiers recognize their dependence on the expanded social structure but they try to maintain an alternative to what they recognize as the shortcomings of a consumer society. They still consume, but strive to absent themselves from the dominance of traditional marketing channels. Yet, while community living can increase the possibilities of the simpler, more ethical lives, community members have to accept that exiting the marketplace entirely is (as yet) unrealizable (Bekin, 2005; Huneke, 2001).

Young (1991) compare consumers with professional actors and actresses. She states that individuals typically prefer certain plays: every role transitions usually have dramatic effects on self-identity and social identity as they represent changes in the plays, parts and scripts. And acquisition, usage, and disposition of possessions serve vital functions for the performers as they enact their roles and role transitions.

2.2.1.1.2. Group Profiles

Simplifiers have been segmented according to their motivations and level of commitment. Etzioni (1998) claims that the voluntary simplicity lifestyle is observable in different levels of intensity: it ranges from rather moderate levels as (1) downshifting, to (2) strong simplification or to (3) holistic simplification.

Downshifting is practiced by economically well-off and secure people who voluntarily give up some consumer goods (often considered luxuries) they could afford, while mainly maintaining their consumption-oriented lifestyle (Joyner, 2001).

The strong simplifiers are people who gave up high-paying and high-status jobs to live on less income. Strong simplifiers also include a large number of employees who voluntarily choose to retire before they are required to do so, choosing less income and lower pension payouts in order to have more leisure. People who voluntarily have a significant decrease on their incomes tend to be stronger simplifiers than those who only moderate their lifestyle, because a significant reduction of income often leads to a much more effective simplification of lifestyle than selective downshifting. It is possible for an affluent person to

stop working and still lead an affluent lifestyle, but reducing income, unless some other abnormal event occurs, implies a greater commitment to adjusting consumption. Research to date suggests that these individuals are likely to be more affluent and better educated than the general population (Huneke, 2005).

Though downshifting indicates a movement of social values away from ostentation, it is not clear that downshifter will give up their income or develop an ecological consumption sense, simply because they are more restrained about the display of their advantage. Much simplicity may be simply stylistic downshifting (Taylor-Gooby, 1998). Strategies towards achieving this lifestyle are mainly a considerable reduction of working hours and in spending. The importance of money and social status has fallen relative to the value “quality of life” (Schor, 1998).

As Cherrier (2007) argues, in the context of downshifting, the process of dispossession is used as a means of separating from undesired social norms and social shaping. Dispossession is a difficult process and does not allow to completely reject and break out from past selves and to integrate new identities and new consumption lifestyle. In her research, Cherrier (2007) found that the mode of “having” continued to restrict the informants before, during, and after disposing of material objects; making them less successful than they would like in establishing a new consumption lifestyle.

The most dedicated, holistic simplifiers adjust their whole life patterns according to the fundamental values of voluntary simplicity. They often move from affluent suburbs to smaller towns, the countryside, farms and less affluent or less urbanized parts with the explicit goal of leading a simpler life (Etzioni, 1998). This group differs from the downshifter and even strong simplifiers not only in the scope of change in their conduct but also in the more coherently articulated philosophy they advocate.

A different point of view is given by Shaw and Newholm (2002). These authors advocate the existence of a wide range of individuals practicing voluntary simplicity for multiple reasons. Downshifting and ethical consumption are two, nonexclusive variations of voluntary simplicity. Although both groups voluntarily simplify their lifestyle, ethical simplifiers are distinguished from downshifter by their concerns about environmental, social, and animal welfare issues. Shaw and Newholm (2002) point out the confusions in

terminology, arguing for a distinction between voluntary simplicity (a generic term for all who voluntarily reduce income and consequently consumption for altruistic or selfish reasons), downshifting (a version of voluntary simplicity that is self-centered and focused on resolving the unsatisfactory "hurried and harried" condition of current life), and ethical simplicity (a version of voluntary simplicity that is motivated by ethical concerns).

In addition, Shaw and Newholm (2002) argue that, although ethical simplifiers may be concerned about consumption levels *per se*, radical anticonsumerism may not be an option for them. Relevant decisions for these consumers, thus, enclose the concern of whether to consume with sensitivity through the range of more ethical alternatives, or whether to reduce levels of consumption to what they recognize as a more sustainable level through voluntary simplicity. As a result, even though overall consumption levels may be reduced through, for example, car sharing, other areas of consumption while remaining at the same level will be experienced to reflect ethical concerns, such as, for instance the purchase of fair trade products (Shaw and Newholm, 2002; Connolly 2006).

This kind of behaviors does not consist in a coherent general practice. It is a group of practices that can be associated with the perception (individual or collective) of rising human and environmental problems. This means that similar behaviors may be underpinned by different motivations. Shaw and Newholm (2002) contend these 3 types of groups, as follows: 1) Restraint: Individuals who try to always consume ethically, through voluntary restraint as part of an ethical approach to consumption; 2) Diversity: The ethical simplifier can adopt a wide range of different behavioral responses; 3) Compulsion: a strong motivation toward action arises from an internal moral compulsion toward integrity or a wish to change the world.

In Leonard-Barton (1981) approach, it is defined three types of individuals: conservers, crusaders, and conformists. Conservers are people who have been brought up in a home with a very strong prohibition against waste of all kinds. Crusaders may have come from a family with a strong conserving ethic, but the motivation to engage in voluntary simplicity behaviors is born of a strong sense of social responsibility, more than out of a desire to save financially. Conformists are people who engage in voluntary simplicity behaviors for less

well-defined reasons. Some are apparently influenced by guilt at being so comparatively wealthy; others have been encouraged by adherents in their neighborhood.

The diversity of the composition of this consumer group, in parallel to the complexity often inherent to their decision-making, highlights the need to gain an improved understanding of the heterogeneous nature consumers. As heterogeneous as is, voluntary simplicity still is undefined, which creates the need to study sub segments that arise from it. From a marketing perspective, unless the overall size of the simplifier cluster is large enough to have economically viable sub-segments, the viability of the simplifier cluster as a segment is, at this stage, uncertain (Craig-Lees, 2002).

2.2.1.1.3. Consumption behavior typology

Given that there is no dogmatic formula for simpler living, there is a general pattern of behaviors and attitudes that are often associated this approach to living.

The most important simplifying practices have a direct relationship to consumer behavior. Limiting television, limiting exposure to ads, and eliminating clutter impact the respondents' exposure to marketing communications (clutter usually includes magazines, newspapers, catalogs, newsletters, and direct-mail pieces). Voluntary simplifiers tend to reduce undue clutter and complexity in their personal lives by giving away or selling those possessions that are seldom used and could be used productively by others. Eliminating clutter is considered the most important practice and is also the second most disruptive to adopt (Elgin, 1998; Huneke, 2005).

Therefore, in order to avoid being oversaturated by advertising messages, consumer is often forced to employ "ad avoidance" strategies that can help to maintain some measure of sovereignty over his/her psychic space (Rumbo, 2002).

Simplifiers, as it was already referred, reported consciously limiting their consumption in terms of volume and in terms of products purchased. The simplifiers are more concerned with the functionality of utility items and usually do not use brand names and fashion as status but instead they did use them as identifiers of value for money (Elgin, 1998; Craig-Lees, 2002).

The adoption of a voluntary simplicity lifestyles can include city individuals who make an effort to control their consumption, or executives who refuse a promotion (and the associated increased income) in order to spend more time with family and friends There is also a rise in people moving to rural areas in an attempt to adopt a totally self-sufficient life-style (Craig-Lees, 2002). While there are many people who make a real success of changing their careers, it might be worth sorting out what problems one has with the current career before making a radical decision to downshift (Burton, 2004).

Individuals, who choose the voluntary simplicity lifestyle in order to have more personal time, saw reduced consumption as a trade-off. The main items that respondents were willing to sacrifice for this were holidays, entertainment, and luxuries. They also controlled expenditure on telephone, energy, and water. All of the simplifiers classified luxuries in terms of food, perfume, cosmetics, and alcohol (Elgin, 1998; Craig-Lees, 2002).

Other practices may include seeking technological solutions for more sustainable consumption choices. These approaches involve actual consumption and aim to make full use of modern technology to reduce material and energy use. The closely related issues of diet and diet restraint, ranging from reducing meat consumption to various nonmeat diets, have also been related to consumption. Consumers can seek out for fair-trade products and favoring small stores or local produce, and may also opt to boycott (Shaw, 2002).

Voluntary simplifiers tend to invest the time and energy freed up by simpler living in activities with their partner, children and friends, or getting involved in civic affairs to improve the life of the community (Elgin, 1998).

It is relevant to notice that this complexity of behaviors found in most affluent societies does not represent one behavioral strategy that could be studied as a coherent general practice. Rather they are a group of practices that, in some cases, derived from conflicting attitudes. And, once decisions have been made, consumers are likely to reflect continually upon them, with this temporal dynamic further complicating the balancing of multiple ethical concerns involved in decision making. It is necessary, therefore, to consider the attitudes or ideologies that drive these varied actions (Shaw, 2002).

2.3. CONSUMPTION AND ENVIRONMENT

2.3.1. CONSUMPTION IMPACT ON ENVIRONMENT

From the current economist thought, consumption is the main driver of economy. Economic activity is separated into supply and demand, and demand – that is, consumer purchasing behavior - is relegated to the black box of consumer sovereignty, as Princen (2002) quarrels. Demand function is seen as a blend of preferences and choices, which are only understandable through market purchases. On the other side, production (process of supplying consumers with what they demand) has the focus of political attention. When a problem arises in a production-based, consumer-oriented economy, adjustments are expected at production side, turning the operation more efficient, improved, or reducing the impacts. Consumption is treated as a passive process, indeed, merely a natural result of “real economics”, namely, production and its variants of growth, investment, trade, and innovation, as Princen (2002) argues.

The dominance of the production angle on economic and environmental issues and the insufficiency for dealing with the standpoint of a world with ecologically constrained conditions, suggest the need for an alternative perspective. Developing the consumption angle is to turn over the production angle and interpret all economic activity as consuming and degrading. Thus, a consumption perspective would ask about the nature of the demand. It will take in consideration whether the increasing demand is purely a matter of rising population; analyse if the price paid by buyers replicate full costs, social and ecological (however measured); examine whether consumption is facilitated, perhaps subsidized, by low-cost transportation infrastructure or easy credit for instance; investigate whether the benefits of new products are highlighted while the drawbacks are shaded; and what is more, the consumption angle raises questions of nonpurchase (Princen, 2002).

Nevertheless, improved consumption efficiency – a rise in social and individual welfare with lower energy and material consumption – is increasingly difficult to achieve to the extent that commodization drives the evolution of an economy. Commodization is defined as the tendency to produce goods with qualities that smooth the progress of buying and selling, as a reaction to human desires and needs (Manno, 2002). It is relevant to mention

that it does not mean that goods with lower commodity potential are morally more preferably or even always more benign. Instead, as Manno (2002) argues, lower commodity potential goods and services have the potential to satisfy human needs with less material and energy; they form the basis of need-reduction and cooperation strategies and an economy of care and connection that facilitates consumption efficiency.

As commoditization drives innovation, goods that were once repairable no longer are. Products are not designed for reuse, and therefore recycling programs must first transform the material they collect into usable materials again, a process that uses additional raw materials and energy and produces considerable pollution. In natural systems there is no such thing as waste, there are only by-products that become resources for another organism or process (Manno, 2002; Clapp, 2002). Looking at waste disposal through a consumption lens highlights the growing problem of distancing. Wastes are being separated from end consumers in increasingly new and incomprehensible ways. Both postconsumer and preconsumer wastes are travelling all around the world, with detrimental, environmental and social impacts (Princen, 2002).

Attempts to reduce the distancing of waste via education may make consumers more aware of the ecological implication of consumption choices. There is a widely accepted formula for waste minimization, the 4Rs: Reduce, Reuse, Recycle, and Recover. The priority ranking for the 4Rs is the exact opposite of the order of commodity potential. Energy recovery yields electricity, usable energy at its most portable and marketable. Recycling produces some products, and for instance the things that have been most recycled in the United States – paper and aluminium – are the most marketable. Reuse tends to reduce the consumption of new goods. And as already noted, use reduction has virtually negative commodity potential (Manno, 2002).

Choosing the consumption angle, thus, means that a more sustainable and simply consumption lead to reduced undesirable environmental impacts. While environmentalists usually consider that a change in values is needed to opt for environmentally conscious social choices, there are also those who hold that individual action informed by new ethical concerns for the environment – engagement in green consumerism, the adoption of

ecological lifestyles, or voluntary simplicity, for example – could alone remedy environmental problems (Elgin, 1998). Equally some economists believe that individual action in the market place can remedy environmental problems. Although they typically focus on entrepreneurial activities, their implicit assumption is that consumers with environmental concerns are around to make mutually beneficial exchange possible (Helleiner, 2002). Individuals may, because of their ethical beliefs, voluntarily and on their own initiative alter their consumption patterns (Paavola, 2001).

Nevertheless, when responsibility for environmental problems is individualized, there is little room to consider institutions, the nature and exercise of political power, or ways of collectively changing the distribution of power and influence in society. A privatization and individualization of responsibility for environmental problems shifts blame from state elites and powerful producers groups to something nebulous like “all of us” (Maniates, 2002).

In one hand, the danger of a strategy based on individual action, informed by ethical concerns for the environment, is that it may result in elitist environmental submarkets and lifestyles: in this scenario, deeply committed green consumers make their choices at the expense of their personal welfare to realize their values (Paavola, 2001). Besides, findings suggest that individual consumers are not eager to adopt waste-reduction, as a study done at environmentally conscious consumer communities in the UK (Bekin, 2007). In fact, certain strategies are only feasible if implemented collectively or if the facilitating institutional structures become accessible. And “living lightly on the planet” and “reducing your environmental impact” becomes, inconsistently, a consumer-product growth industry (Maniates, 2002).

In the opposite side of collective action it is perhaps not surprising that those who oppose neoliberalism have begun to focus on the potential role of consumption as a political tool. During the 1980s and 1990s, neoliberalism emerged as the dominant economic ideology across the world. Contemporary neoliberals advocate global economic integration through the liberalization of trade and investment flows. As this ideology has gained influence, it has become increasingly common to view individuals primarily as private consumers rather than as public citizens when economic issues are discussed (Helleiner, 2002).

However, as Helleiner (2002) stress out, there is a light at the end of the tunnel. Various consumer boycott campaigns targeting products made by firms or countries that are violating human rights or environmental standards, and the voluntary simplicity movement, for instance, are encouraging the more affluent individuals to control and reduce their levels of consumption and reject the materialistic values of the consumer culture (Helleiner, 2002). A large and growing number of people are claiming that “we can work less, want less, and spend less, and be happier in the process” (Princen, 2002; Etzioni, 1998, 2004). Some call it simple living, others prefer downsizing, downshifting, or simplifying, as it was already mentioned.

2.3.2. ECOLOGICALLY CONSCIOUS CONSUMER BEHAVIORS

Concern over the environment has evolved through several distinct phases. As Straughan and Roberts (1996) contend, from the 1960s ecology movement spotlight on pollution and energy conservation, to the latest use of environmental worries as a source of competitive advantage in business and politics, individual and societal concerns over environmental issues have become progressively more evident. The recent highlighting on environmental concerns such as global warming and associated aspects such as health concerns, the demands on organizations to report for their environmental performance, the labelling of products with environmental claims and developing technology that allows consumers to investigate issues for themselves has improved awareness in what is called environmental marketing (McDonald, 2006).

As expected, the evolution of academic investigation of environmental concerns reflected the evolution of ecological sensitivity. The topic was introduced at 25-30 years ago as appropriate for additional research. A second wave of academic investigation redefined the area in light of the amplified environmental concern expressed in the 1980s. In the 1990s, it was commonly supposed that businesses would have to become more environmentally and socially responsive to stay competitive. As with the practitioner publications, the academic literature indicated that the 1990s would see an increase in environmental concern (Roberts, 1996a, 1996b; Schlegelmilch, 1996).

Hence, numerous studies focused the characteristics of ecologically conscious consumers either as the main point of investigation or as a secondary issue. The greater part of the studies in the marketing research field, have looked at, and found, demographic variables associated with self-report measures of environmental concern, behavioral indicators of environmental commitment, or psychometric scales measuring environmental consciousness (Samdahl, 1989; Zimmer, 1994; Roberts 1996). Some have offered additional attitudinal or psychographic dimensions associated with green attitudes and behavior (Roberts, 1996b; Roberts, 1997; Stern, 1999).

While it is important to know the demographic characteristics of the different groups, those characteristics can not be used to predict environmental concern. As Minton (1997) argues, marketing researchers have found that attempts to identify or predict environmentally friendly behavior or behavioral intentions from demographic variables were not consistent. Several researches were done and studies have found the green consumer to be educated/not educated, older/younger, female/male, or found no relationship at all between such factors and ecologically conscious behavior (Straughan, 1999; McDonald, 2006; Tilikidou, 2007) (see table 1).

Table 1 - Previous research on environmental behavior across demographics

Independent Variable	Relationship	Studies
Age	Positive	Balderjahn, 1988; Samdahi and Robertson, 1989; Scott and Willits, 1994; Roberts, 1996b.
	Negative	Tognacci et al, 1972; Anderson et al., 1974; Buttel, 1979; Van Liere and Dunlap, 1981; Zimmer et al, 1994.
	Unrelated	Kinnear et al, 1974; McEvoy, 1972; Roper, 1990; 1992.
Education	Positive	Buttel, 1976; Balderjahn, 1988; Arcury, 1990; Scott and Willits, 1994; Tilikidou, 2001; Aaker and Bagozzi, 1982; Anderson et al, 1974; Leonard-Barton, 1981; McEvoy, 1972; Murphy et al, 1978; Roberts, 1996b; Roper, 1990; 1992; Schwartz and Miller, 1991; Tognacci et al, 1972; Van Liere and Dunlap, 1981; Zimmer et al, 1994.
	Negative	Samdahi and Robertson (1989).
	Unrelated	Kinnear et al. (1974).

Income	Positive	Webster, 1975; Balderjahn, 1988; Arcury, 1990; Scott and Willits, 1994; Tilikidou, 2001; Kinnear et al., 1974; McEvoy, 1972; Roper, 1990; 1992; Zimmer et al., 1994.
	Negative	Roberts, 1996b; Samdahi and Robertson, 1989.
	Unrelated	Anderson et al., 1974; Antil, 1978; Kassartjian, 1971; Van Liere and Dunlap, 1981.
Gender	Women	Webster, 1975; Eagly 1987; Roberts, 1996.
	Men	Arcury, 1990; Scott and Willits, 1994.
	Unrelated	Arbuthnot, 1977; Brooker, 1976; Samdahi and Robertson, 1989; Tognacci et al, 1972.
Place of residence	Positive	Antil, 1984; McEvoy, 1972; Samdahi and Robertson, 1989; Schwartz and Miller, 1991; Van Liere and Dunlap, 1981; Zimmer et al, 1994.
	Unrelated	Hounshell and Liggett, 1973.

More than characterizing ecologically aware consumers on a demographic basis, it is relevant to analyze environmentalism from a behavioral perspective. Thirty years ago, Henion (1976), cited by Ellen (1991), predicted that, as the size of the environmental movement increased, the uniformity of the group would dissipate. They went on to suggest that the challenge facing marketers in the future would not be to encourage everyone in the segment to engage in some pro-ecological activity but to identify the specific attitudinal and personality traits associated with a consumer's willingness to engage in a specific class of actions and then link those attitudes and behaviors through targeted messages (Ellen, 1991).

One point of attention has been given to one clear motivation, such as providing material incentives and disincentives enough to make the behavior worth attending. However, both reliability and durability appeared as weaknesses and several researchers suggested that although monetary incentives are able to initiate environmental responsible behaviors, they seem unable to produce durable behavior change: behavior returned to baseline levels after the reinforcement was terminated (De Young, 2000).

In social psychology, some theories treat environmentalism as a matter of world view. One of the most important contributions is perhaps the idea that it flows from adopting a New

Ecological Paradigm, within which human activity and a fragile biosphere are seen as inextricably interconnected (Dunlap, 2000). Besides, some researchers have begun to explore affective influences on environmental concern and behavior, including sympathy for others (Allen, 1999), “emotional affinity” toward nature (Kals, 1999), and empathy with wild animals (Schultz, 2000).

Other theories present values as the basis of environmentalism. Inglehart (1990) (cited by Stern, 2000) suggests that ecological behavior is an expression of post materialist values of quality of life and self-expression that come out as a consequence of rising affluence and security in the developed countries. Some researchers have linked environmental concern and behavior to general theories of values and a related line of research finds greater evidence of environmental concern among individuals with “prosocial” rather than individualistic or competitive social value orientations (Joireman, cited by Stern, 2000).

Theories of altruistic behavior have also been used to explain environmentalism. This approach, first articulated by Heberlein (1972), assume that because environmental quality is a public good, altruistic motives are essential for an individual to contribute to it in a significant way. This approach is based on Schwartz’s (1973, 1977) (cited by Stern, 2000) moral norm-activation theory of altruism. The theory contends that altruistic (including proenvironmental) behavior occurs in reaction to personal moral norms that are activated in individuals who believe that particular conditions pose threats to others (awareness of adverse consequences) and that conditions they could initiate could avert those consequences (ascription of responsibility to self).

More recently, Stern et al (2000) have developed a value-belief-norm theory of environmentalism that builds on some of the above theoretical accounts. The theory links Value Theory, Norm-Activation Theory, and the New Environmental Paradigm perspective through a causal chain of five variables leading to behavior: personal values (especially altruistic values), the New Environmental Paradigm, Awareness of Adverse Consequences and Ascription of Responsibility beliefs about general conditions in the biophysical environment, and personal norms, for proenvironmental action.

Self-interest is also commonly identified as a starting place of environmental problems (Hardin, 1977; Manbridge, 1990; cited by De Young, 2000). As De Young suggests, this assumption was central for much of the premature research on environmental responsible behavior, arguing that humans are egocentric gain-maximizers who consume resources with little or no concern for efficiency, and usually pass waste and costs to others. In opposition, recent research suggests the possibility that self-interest is a potential solution to environmental problems, working in concert with altruism to promote environmental responsible behaviors.

Before proceed, it is relevant to distinguish some concepts in order to avoid misunderstandings. Self-interest is different from selfishness. According with De Young (2000), selfishly consuming resources or creating waste without concern for others is quite different from taking care of oneself, for gaining a sense of happiness or meaning from life. An extreme sense of egoism is to believe that the only thing that matters to the individual is its own happiness and that, by extension, he can never have concern for another person or thing external to him. It is important, then, to make clear that ones individual happiness can depend on what happens to those things about which we care, which may include the environment (De Young, 2000).

In the marketing field, concern for the environment was also conceptualized as an attitude (Banerjee, 1994). Nevertheless, this conceptualization is not straight and clear, in part stemming from researchers' disagreement about the appropriateness of a tripartite (cognition, affect, and conation), versus a one-dimensional, evaluative construct, as Banerjee (1994) points out. For instance, many "attitudinal" environmental scales include beliefs, knowledge, intentions, and behaviors (Banerjee, 1994).

This conceptualization allows people to vary in their levels of environmentalism based on the strength of their beliefs. Hence, environmentalism can have a variety of behavioral consequences. For example, product choice and purchase can be influences by environmentalism. Changes in lifestyle and other consumption behaviors, like walking or biking instead of driving, or repairing and reusing products are also possible. Other

consequences are activism (e.g. signing petitions), joining environmental organizations, and keeping abreast of current environmental developments (Banerjee, 1994).

Table 2 - Previous research on environmental behavior across attitudes and knowledge

Independent Variable	Relationship	Studies
Attitudes	Positive	Crosby et al, 1981; Antil, 1984; Belderjahn, 1988; Hine and Gifford (1991); Stem et al (1993); Scott and Willits, 1994; Schlegelmilch et al., 1996; Minton and Rose, 1997; Berger and Corbin, 1992; Kinnear et al, 1974; Roberts, 1995; 1996b; Roberts and Bacon, 1997; Webster, 1975; Weiner and Doescher, 1991; Antil, 1984; Kinnear et al, 1974; Lepisto, 1974; Roberts, 1995; 1996b; Roberts and Bacon, 1997; Van Liere and Dunlap, 1981.
Knowledge	Positive	Antil, 1984; Arcury, 1990.
	Unrelated	Maloney and Ward, 1973; Pickett et al., 1993; Laroche et al., 1996; Tilikidou, 2001.

What about the relationship between ecologically conscious consumer behaviour (ECCB) and a voluntary simplicity lifestyle? It has been previously claimed that consumers who are at least partially involved in pro-environmental actions might be more likely to become in other actions too, such as pro-environmental purchasing behavior, or reduction of over-consumption (Tilikidou, 2005). Tilikidou (2005) study suggested that the non-purchasing pro-environmental behaviors can be included in the concept of ECCB, as they can be undertaken by consumers in their everyday lives in favor of the environment.

Brown's (2005) research found that personal well-being and ecologically responsible behavior were complementary, which means that happier people live in more sustainable ways. After all, the pursuit for happiness may be one of the goals to be achieved by voluntary simplifiers. Craig-Lees (2002) found that it is evident that the simplifiers have at least three underlying motives for reducing consumption that appears to influence their purchasing behavior: environment, spirituality, or self-orientation. On the other hand, Banerjee (1994) found a negative correlation between environmentalism and materialism. It was concluded that the two constructs are opposite manifestations of an individual's orientation toward consumption. That is, materialism is generally considered to be a pro-

consumption value whereas environmentalism is a conservation-oriented, anti-consumption value (Banerjee, 1994).

Following the previous directions, in order to analyze the existing relations between materialism and environmental concern and the adoption of ecologically conscious consumer behaviors, the proposed conceptual model also aims to verify the connection with altruism, non-generosity and perceived consumer effectiveness. Moreover, it intends to clarify if the relationships are the opposite regarding the voluntary simplifiers individuals, as it can be verified in the subsequent section.

3. RESEARCH METHODOLOGY

3.1. CONCEPTUAL MODEL AND RESEARCH HYPOTHESES

Environmental problems have become a matter of vast concern. Based on previous research, it is suggested that this state of affairs may be caused by an avid human desire for a comfortable life and consequently by over-consumption. And, at all, the focus on consumption is enlightened for several reasons. Consumer choices are often an element in proposals suggesting reliance on individual action to solve environmental problems. Moreover, consumer choices do have a significant effect on the environment and, therefore, at least a potential to remedy environmental problems. Transferring both academic and international policy field attention from production towards consumption, as the potential of regulation of production, is not sufficient to remedy environmental problems.

Therefore, the major focus of this dissertation is to investigate if there is any correlation between ecological conscious consumer behaviors and the adoption of a voluntary simplicity lifestyle, and if, in opposite, individuals engaged in conspicuous consumption have fewer concerns about the impact of their consumption patterns on environment. The main studies which compose the theoretical background are described on table 3.

In the present analysis, and based in the literature review, it is assumed that materialism and a voluntary simplicity lifestyle are in opposite sides. From a poststructuralist perspective, lifestyles are created by relational differences between consumption patterns – their meanings are constructed by and exist in these differences (Holt, 1997). For example, as Holt (1997) argues, a consumption pattern that involves systematic denial of material abundance is meaningful as an ascetic lifestyle only to the extent that this pattern exists in opposition to alternative lifestyles that include a consumption pattern based on hedonism and indulgence. Therefore, derived from the literature review, it is expected that materialistic individuals, who have consumption patterns based on hedonism and indulgence, are the opposite facing the individuals who choose to live a simple life.

Table 3 – Main studies which support the proposed conceptual model

Author	Construct	Statistical Techniques	Sample	Conclusions
<p>Roberts (1996b)</p> <p>Develop a profile of the ecological conscious consumer.</p>	<p>ECCB, demographic variables (age, sex, education, income, occupational prestige, PCE, environmental concern, and liberalism</p>	<p>-Basic correlations</p> <p>-Hierarchical model of multiple regressions using the ECCB scale as dependent variable. 2 models: 1) only demographic variables, 2) demographic and attitudinal variables.</p>	<p>Random cluster sample of 605 adult US consumers</p>	<p>- Model 1: R2 = 0.06 (sex, income, education, and age)</p> <p>- Model 2: R2 = 0.45.</p> <p>PCE explains 33%. After PCE, the next most important were environmental concern, age, liberalism, income and sex.</p>
<p>Straughan and Roberts (1999)</p> <p>Determine the role that altruism plays in profiling the ecologically conscious consumer in combination with those constructs considered earlier by Roberts (1996b).</p>	<p>ECCB, demographic variables (income, sex, age, academic classification), PCE, altruism, environmental concern, liberalism.</p>	<p>-Basic correlations</p> <p>-Multiple and step-wise regressions to develop a profile of the ecologically conscious consumer were applied to 3 models: 1) only demographic variables, 2) only psychographic variables, 3) all demographic and psychographic variables.</p>	<p>Convenience sample of 235 university students</p>	<p>-Model 1: R2 = 0.087 (Age, sex, and classification)</p> <p>-Model 2: R2 = 0.393. (PCE, altruism, and environmental concern)</p> <p>-Model 3: R2 = 0.434. (PCE, altruism, liberalism, age, classification, and environmental concern.</p>
<p>Iwata (2006)</p> <p>Investigate the relationship between a voluntary simplicity lifestyle on the one hand and environmentally responsible consumerism and a non-simplicity lifestyle on the other.</p>	<p>Voluntary simplicity, environmental responsible consumerism, non-simplicity lifestyle.</p>	<p>-Factor analysis and basic correlations between factors</p>	<p>Convenience sample of 189 Japanese female undergraduate students</p>	<p>Both the evaluation of a voluntarily simple life and environmentally responsible consumerism has low and positive correlations with all the measures of voluntarily simplicity lifestyle.</p>
<p>Richins and Dawson (1992)</p> <p>Scale development and validation</p>	<p>Materialism</p>	<p>-Factor analysis</p> <p>-Validation assessment, regarding materialism and Value of acquisition, materialism and Self-centeredness, materialism and VS.</p>	<p>-Data collections: 3 U.S. universities</p> <p>-Validation tests: randomly chosen samples of households.</p>	<p>3 sub traits: Centrality, Happiness and Success</p>

The theoretical framework of this study was based on the following assumptions: simplifier purchasers are expected to buy less, consume less, choose environmentally less harmful products, and incorporate environmental criteria in their purchasing behavior; contrariwise, materialistic individuals, especially those who equate material goods with success, are expected to appear unconcerned with the environmental consequences of consumption.

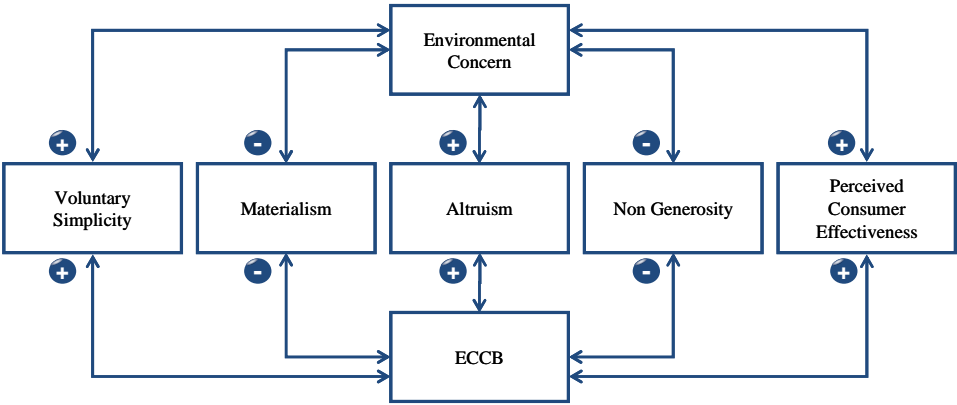
In order to analyze pro-environmental behaviors, this study followed Roberts (1996b) and Straughan (1999) approach regarding ecologically conscious consumer behavior (ECCB). As noted by Roberts (1996b), the behavioral orientation of the scale helps to solve one problem widely noted in marketing research and green marketing research in particular, that attitudes often do not translate into behavior (Straughan, 1999).

Nevertheless, as Follows (1999) argues, attitudes are based on values: beliefs that transcend specific situations and are used to resolved conflicts or make decisions. Values are considered to be more stable and more abstract than attitudes, and act as standards upon which a large number of attitudes are based. Attitudes are composed of several beliefs concerning a specific object or act, whereas values are criteria used to evaluate behavior and people. Theoretically, values can influence behavior; however, because values are the most abstract cognition, values should influence behavior indirectly through attitudes.

Regarding the proposed conceptual model, and based in the literature review, it is expected that individuals who choose a voluntary simplicity lifestyle will engage in more ecologically conscious consumer behaviors. In opposite, it is supposed that materialistic individuals have fewer concerns in take on ecologically conscious consumer behaviors. Moreover, one individual will engage in ecologically conscious consumer behaviors only if he is environmentally concerned (see figure 3), representing a mediating hypotheses.

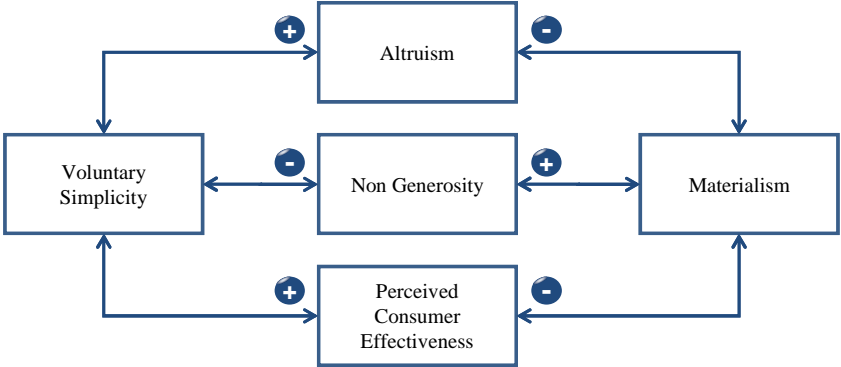
Thus, it is expected to find negative correlations between materialism and both environmental concern and ecologically conscious consumer behaviors, and in opposite, a positive correlation between voluntary simplicity and both environmental concern and ecologically conscious consumer behaviors (Iwata, 2001; Richins, 1992; Banerjee, 1994). In addition, it is suspected that environmental concern has a positive correlation with both altruism and perceived consumer effectiveness (Straughan, 1999) and a negative correlation with non-generosity (see figure 1).

Figure 1 – Expected correlations between environmental concern, ECCB and independent and moderator variables



Additionally, and based in the literature review, it is expected that voluntary simplicity, because these individuals seek for control in their life, is positively related with perceived consumer effectiveness. Also, it is suspected that voluntary simplifiers are altruistic individuals and not non-generous ones. Regarding materialism, it is expected to find a negative correlation between altruism and also between perceived consumer effectiveness, because, based in literature review, these individuals are more self-centered and try to find happiness to their lives through consumption. Moreover, it is suspected that materialism is positively correlated with non-generosity (Belk, 1985) (see figure 2).

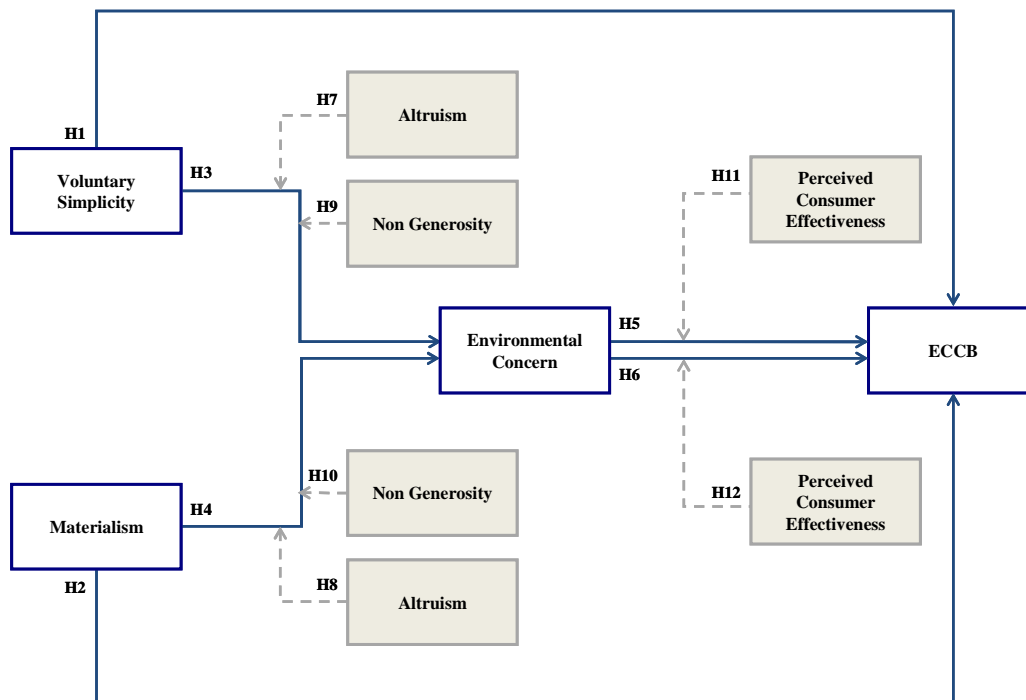
Figure 2 – Expected correlations between voluntary simplicity, materialism and moderator variables



The intensity of environmental concern may vary if an individual is considered more altruistic or, in opposition, non-generous. Thus, it is expected that if an individual is considered altruistic he will have a higher degree of environmental concern. In contrary, an individual who is a high scorer in non-generosity will be less concerned with environmental

issues. Such supposition embodies the moderation hypotheses between both voluntary simplicity and materialism and environmental concern, moderated by altruism and non-generosity (see figure 3).

Figure 3 – Proposed conceptual model



In addition, if one is environmentally concerned, the possibility of engaging in ecologically conscious consumer behaviors is superior if one's perception of effectiveness is higher, because the individual assumes that his or her actions will make a difference in the surrounding world. The proposed conceptual model is shown in figure 3, and the unit of analysis is the individual consumer for the following research hypotheses.

H1: The embracing of a voluntary simplicity lifestyle will positively affect the adoption of ecologically conscious consumer behaviors.

To the date some academic research has been done in this field, as it was mentioned in the literature review, examining the relationship between the adoption of a voluntarily simpler life and concerns of consumption environmental impacts. Regarding consumers' attitudes, Iwata (1999, 2001) found a positive correlation between careful shopping attitudes - including the intention of buying only items which will last a long time - and self-rated

environmentally responsible behavior. Besides, he found that a more positive evaluation of a voluntarily simple life and a stronger environmentally responsible consumerism are associated with stronger cautious attitudes in shopping, a higher degree of acceptance of self-sufficiency, a stronger desire for a voluntarily simple life, and a broader voluntary simplicity lifestyle (Iwata 1999, 2001, 2006). Based on the literature review, it is also expected that voluntary simplifiers will engage in more ecological conscious behavior than materialistic individuals.

H2: A consumer's degree of materialism will negatively affect the adoption of ecologically conscious consumer behaviors.

The examination of the environmental responsible consumerism and materialism is not widely studied, with the exception of Banerjee (1994), who found a negative correlation between environmentalism and materialism. Richins and Dawson (1992) concluded that materialistic individuals desired a higher level of income, placed greater emphasis on financial security and less on interpersonal relationships, preferred to spend more on themselves and less on others, engaged in fewer voluntary simplicity behaviors, and were less satisfied with their lives. This suggests that more materialistic individuals may have fewer concerns with impact on environment originated by overconsumption attitudes.

H3: The adoption of a voluntary simplicity lifestyle will positively influence environmental concern.

Voluntary simplifiers are a cluster of consumers who restrict their consumption and who make market decisions for lifestyle, ethical, and/or ecological reasons. These individuals showed a high sense of social responsibility, supported causes such as conservation, and sought a lifestyle that conserved and improved the physical and social environment (Craig-Lee, 2002). Therefore, and based on the literature review, it is expected that voluntary simplifiers will have higher levels of environmental concern.

H4: A consumer's degree of materialism will negatively affect his or her level of environmental concern.

Acquisition and consumption are central motives that impel materialists' behaviors, so they would not hold environmental defense as a core value. Based on the literature review, it is

observed that the importance of environmental concern to materialists' is not as strong as acquiring material goods. According to Banerjee (1994), for environmentalists, consumption choices are dictated by values and beliefs placing greater emphasis on environmental protection whereas for materialists, possession and consumption per se are central values and choices dictated by beliefs that acquisition of goods brings happiness and defines success. Therefore, it is expected that materialist individuals engage in fewer ecological conscious consumer behaviors.

H5: An individual who adopts a voluntary simplicity lifestyle will engage in ecologically conscious consumer behaviors if he is environmentally concerned.

This hypothesis attempts to verify the underlying reason for the adoption of ecologically conscious consumer behaviors. It is suspected that voluntary simplifiers are environmentally concerned and do adopt ecologically conscious behaviors, which is partly being tested on previous hypotheses. Based on literature review, environmental concern explains the adoption of ECCB. Therefore, the aim is to analyze if this linkage is valid for voluntary simplifiers.

H6: A consumer's degree of materialism will negatively affect his or her level of environmental concern, and therefore the adoption of ecologically conscious consumer behaviors.

Following H4 assumption, and based in the literature review, it is expected that the materialistic individuals will have fewer concerns over the environment and, therefore, will engage in fewer ecologically conscious consumer behaviors.

H7: The degree of environmental concern by individuals who adopt a voluntary simplicity lifestyle is strengthened by altruism.

This hypothesis aims to test if altruism reinforces the concern over the environment felt by voluntary simplifiers. Considering that altruism implies a greater concern for surrounding environment, granting a superior satisfaction for one's self, it is expected that this sort of value strengthens the positive relation of voluntary simplicity and environmental concern.

H8: The extent of environmental concern by individuals who have a high level of materialism is strengthened by altruism.

In opposition to H7, this hypothesis pretends to evaluate if altruism strengthens the concern over the environment from materialistic individuals. Although it is suspected that altruism is negatively correlated with materialism, the aim of this hypothesis is to test if materialistic individuals who are also altruistic have more concern over the environment, than the one's who are not.

H9: The level of environmental concern by individuals who adopt a voluntary simplicity lifestyle is weakened by non-generosity.

Contrariwise to the hypotheses which test the effect that altruism produces over environmental concern, this hypothesis intends to verify if non-generosity weakens the concern over the environment. Even though it is expected a negative correlation between voluntary simplicity and non-generosity, this hypothesis suggests that non-generous voluntary simplifiers will have less environmental concern.

H10: The extent of environmental concern by individuals who have a high level of materialism is weakened by non-generosity.

This hypothesis is similar to H9 but in regard of materialistic individuals. In the same context, it is suspected that materialistic individuals who are also non-generous individuals will have fewer concerns over the environment.

H11: Environmental concern from an individual who embraced a voluntary simplicity lifestyle will strengthen the adoption of ecologically conscious consumer behaviors when there is a high level of perceived consumer effectiveness.

Previous research (Roberts, 1996; Straughan and Roberts, 1999) stated that individuals with high levels of perceived consumer effectiveness, who believe that their actions do make a difference in the surrounding world will, with higher probability, engage in more ecologically conscious consumer behaviors. Therefore, this hypothesis intends to verify if perceived consumer effectiveness strengthens the relation between environmental concern and ecologically conscious consumer behaviors, regarding the cluster of voluntary simplifiers.

H12: Environmental concern from an individual with high level of materialism will strengthen the adoption of ecologically conscious consumer behaviors when there is a high level of perceived consumer effectiveness.

Likewise the previous hypothesis, the goal of H12 is to verify if perceived consumer effectiveness strengthens the relation between environmental concern and ecologically conscious consumer behaviors, but in regard of the cluster of materialistic individuals. Although it is suspected that materialism is negatively correlated with perceived consumer effectiveness, this hypothesis intends to analyze if materialistic individuals with high levels of perceived consumer effectiveness will engage in more ecologically conscious consumer behaviors.

3.2. QUESTIONNAIRE DESIGN

In order to test the proposed conceptual model, existing and tested scales were chosen for each variable. The aim of this chapter is to present and explain the scales used in the questionnaire applied in this study.

3.2.1. DEPENDENT VARIABLE

3.2.1.1. Ecologically conscious consumer behavior

ECCB (Roberts, 1996b) measures the extent to which individual respondents' purchases goods and services, believing to have a more positive (or less negative) impact on the environment.

The ECCB scale presented by Roberts (1996b) encloses an extensive variety of behaviors chosen from the domain of ECCB. In his words, the use of a behavioral measure was essential because of the potential gap between environmental attitudes and behavior. Some items were selected from existing scales and others were developed to reflect the changing nature of ecologically conscious consumption in the 1990s (Roberts, 1996b).

The ECCB construct was measured using a 21-item scale used in the Roberts (1996b) study, which was originated by a 30-item scale used in the same study. Roberts (1996b)

concluded that 9 of the initial items were related with “Saving money”. As the factors only explained 6% of the variance, Roberts (1996b) proposes to measure ECCB with the 21-item scale presented in table 4 (Cronbach’s alpha = 0.96). The individual items are presented in a 5-point 21-item scale Likert-format (see table 4), where 1 is strongly disagree and 5 is strongly agree.

Table 4 - Ecologically conscious consumer behavior scale

1. I normally make a conscious effort to limit my use of products that are made of or use scarce resources.
2. I will not buy products which have excessive packaging.
3. When there is a choice, I always choose that product which contributes to the least amount of pollution.
4. If I understand the potential damage to the environment that some products can cause, I do not purchase these products.
5. I have switched products for ecological reasons.
6. I use a recycling center or in some way recycle some of my household trash.
7. I make every effort to buy paper products made from recycled paper.
8. I use a low-phosphate detergent (or soap) for my laundry.
9. I have convinced members of my family or friends not to buy some products which are harmful to the environment.
10. I have purchased products because they cause less pollution.
11. I do not buy products in aerosol containers.
12. Whenever possible, I buy products packaged in reusable containers.
13. When I purchase products, I always make a conscious effort to buy those products that are low in pollutants.
14. When I have a choice between two equal products, I always purchase the one which is less harmful to other people and the environment.
15. I buy toilet paper made from recycled paper.
16. I buy Kleenex made from recycled paper.
17. I buy paper towels made from recycled paper.
18. I will not buy a product if the company that sells it is ecologically irresponsible.

-
- | |
|--|
| <p>19. I try to buy products that can be recycled.</p> <p>20. To reduce our reliance on foreign oil, I drive my car as little as possible.</p> <p>21. I do not buy household products that harm the environment.</p> |
|--|

3.2.2. *INDEPENDENT VARIABLES*

3.2.2.1. Voluntary simplicity

Reviews report agreement among scholars as to the building blocks of the lifestyle: material simplicity (non-consumption orientation patterns of use); human scale (desire for small-scale institutions and simple technologies); self-determination (desire for greater control over personal destiny); ecological awareness (recognition of the interdependency of people and resources); personal growth (a desire to explore and develop the “inner life”) (Elgin, 1977; Leonard-Barton 1981; Cowles, 1986).

Yet, scholars do not agree about what comprises the best method for identifying voluntary simplifiers. The measurement tool primarily developed by Leonard-Barton is essentially a behavioral scale which consists of 18 specific behaviors common to people supposed to have a value of voluntary simplicity. Cowles (1986) presents an alternative voluntary simplicity lifestyle model that is more theory-based. Behavioral constructs which comprise the alternative model are not the result of factor analysis; rather they are suggested by voluntary simplicity lifestyle theory as presented in the literature. Iwata (1997) argues that voluntary simplicity is a value or an attitude. So it is inappropriate to measure the strength of voluntary simplicity in terms of the frequency of the 18 specific behaviors Leonard-Barton (1981) used, as Iwata (1997) contends.

Iwata (2006) proposes a 20-item scales to identify voluntary simplifiers (see table 5). He found three factors among Japanese undergraduates, which were considered sub-scales: Desire for a Voluntarily Simple Life (4, 5, 8, 21 and 22 - Cronbach's alpha = 0.714), Cautious Attitudes in Shopping (items 1, 2, 3, 6, 15, 16, and 17 - Cronbach's alpha = 0.756), and Acceptance of Self-Sufficiency (items 12, 13 and 14 - Cronbach's alpha =

0.829). Significant correlations between these factors and selected attitudes and behavior generally supported the validity of this scale (Iwata, 2006). The individual items are presented in a 7-point 20-item Likert scale, where 1 is “strongly disagree” and 7 corresponds to “strongly agree”. Reversed questions are signaled with an asterisk.

Table 5 - Voluntary simplicity scale

1. I try to live a simple life and not to buy articles which are not necessary.
2. I do not do impulse buying.
3. When I shop, I decide to do so after serious consideration of whether an article is necessary to me or not.
4. I am more concerned with mental growth and fulfillment than with material affluence.
5. Material affluence is very important to me. *
6. Even if I have money, it is not my principle to buy things suddenly.
7. Except for traveling, I enjoy my leisure time without spending too much money.
8. A life of convenience and comfort is most important to me. *
9. I prefer products with simple functions to those with complex functions.
10. Products designed to promote convenience and comfort make people spoiled.
11. As far as possible, I do not buy products with sophisticated functions.
12. I want to be self-sufficient in food in the future.
13. It is desirable to be self-sufficient as much as possible.
14. In the future, I want to lead a life that can be self-sufficient as far as possible.
15. I try to use article which I bought as long as possible.
16. I am the type of person who continues using something old as long as it can still be used.
17. When I shop, I take a serious view of being able to use an article for a long time without getting tired of it.
18. If I am surrounded by what I have bought, I feel fortunate. *
19. I want to buy something new shortly after it comes out, even if I have a similar thing already. *
20. I tend to buy something that can be used for a long time, even if it is expensive, rather than buying cheap new things frequently.
21. I want to live simply rather than extravagantly.
22. Since a simple life is miserable, I do not want live such a life. *

3.2.2.2. Materialism

Materialism has been measured in a variety of ways – by measuring personality traits, by examining the importance of various social goals, or by assessing attitudes. As argued by Richins (1992), all the existing measures seem to suffer from at least one of two important limitations. First, many of the measures do not possess adequate levels of reliability for use in anything except exploratory research, which is not surprising, given the difficulty of measuring a complex construct like materialism. Second, the construct validity of many of the measures has not been established. Because none of the measures, except Belk's, have involved the psychometric procedures of construct definition, scale refinement, and validity assessment, they are of limited usefulness (Richins, 1990, 1992).

To establish the proper measurement approach for materialism, it is essential to study the nature of the construct itself. As suggested in the literature review, theoretical and common-sense notions indicate that materialism correspond to a mind-set of attitudes regarding the relative importance of acquisition and possession of objects in ones' life. As Richins (1992) stresses out, for materialists, possessions and their acquisition are at the forefront of personal goals that dictate “ways of life”. They value possessions and their acquisitions more highly than most other matters and activities in life. The organizing function of acquisition goals among materialists, the centrality of acquisition-related activities to their lives, and the prioritizing of possessions suggests that materialism is a value (Richins, 1992).

To avoid the problems inherent in ranking and rating procedures, Richins (1992) adopted a different approach to measuring materialism: materialism was considered to be a set of centrally held beliefs about the importance of possession in one's life and therefore the three belief domains were measured: acquisition centrality (items 7 to 13), the role of acquisition in happiness (items 14 to 18), and the role of possessions in defining success (items 1 to 6).

In Richins research (1992) Cronbach's alpha was calculated separately for the items comprising the three factors and for the 18 items as a single scale. The seven Centrality items produced alpha coefficients between 0.71 and 0.75 (three surveys). For the six-item

Success subscale alpha ranged from 0.74 to 0.78, and for the five Happiness items, alpha was between 0.73 and 0.83. When combined into a single scale, alpha for the 18 items varied between 0.80 and 0.88. Test-retest reliability (three-week interval) was calculated on data from a sample of 58 students at an urban university. The reliability correlations were 0.82, 0.86, and 0.82 for the Centrality, Happiness, and Success subscales, respectively, and 0.87 for the combined scale. An 18-item 5-point Likert scale was used for all items, where 1 is “strongly disagree” and 5 is “strongly agree”. Reversed questions are signaled with an asterisk (see table 6).

Table 6 - Materialism scale

1. I admire people who own expensive homes, cars, and clothes.
2. Some of the most important achievements in life include acquiring material possessions.
3. I don't place much emphasis on the amount of material objects people own as a sign of success. *
4. The things I own say a lot about how well I'm doing in life.
5. I like to own things that impress people.
6. I don't pay much attention to the material objects other people own. *
7. I usually buy only the things I need. *
8. I try to keep my life simple, as far as possessions are concerned. *
9. The things I own aren't all that important to me. *
10. I enjoy spending money on things that aren't practical.
11. Buying things gives me a lot of pleasure.
12. I like a lot of luxury in my life.
13. I put less emphasis on material things than most people do. *
14. I have all the things I really need to enjoy my life. *
15. My life would be better if I owned nicer things.
16. I wouldn't be any happier if I owned nicer things. *
17. I'd be happier if I could afford to buy more things.
18. It sometimes bothers me quite a bit that I can't afford to buy all the things I'd like.

3.2.3. MEDIATOR VARIABLE

3.2.3.1. Environmental concern

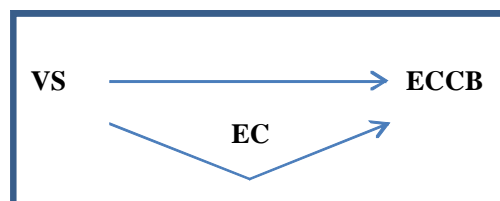
Ecological and environmental concern (Dunlap and Van Liere, 2000) have frequently been used as substitutes for social responsibility (Roberts, 1996b). These two concepts are strongly related, and it is expected that if one is concerned about the environment, this concern may lead to more ECCB (Roberts, 1996b).

Studies examining environmental concern as a correlate of environmentally friendly behavior have generally found a positive correlation between the two (Roberts, 1996b; Straughan and Roberts, 1999). Therefore, we believe that voluntary simplicity is related with ECCB. This means that someone who reports a high level of voluntary simplicity lifestyle will also report a relatively higher level of ECCB. And, as it was described in literature review, voluntary simplifiers are generally more environmentally concerned. The inclusion of a mediator, environmental concern, attempts to explicate this basic relationship.

For research oriented toward psychological levels of explanation (i.e., where the individual is the relevant unit of analysis), mediators represent properties of the person that transform the predictor or input variables in some way. In this regard the typical mediator elaborates the various meanings that go beyond the information given (Baron and Kinney, 1986)

When it is argued that environmental concern may mediate the basic relationship, what it means is that it is suspected that voluntary simplicity leads one to higher levels of environmental concern, and subsequently higher levels of environmental concern leads one to adopt more ECCB. The identification of a mediator is a very helpful discovery because it elucidates the mechanism by which we get from point VS to point ECCB (see figure 4).

Figure 4 – Mediation between voluntary simplicity and ecological conscious consumer behavior



In order to measure the level of environmental concern, Roberts (1996b) proposed the 12-item scale (Cronbach alpha of 0.84), a shorter version of the New Environmental Paradigm (NEP) scale that was originally developed by Dunlap (2000) and later tested by Noe (1990) who concluded that the NEP scale was an advanced tool for measuring environmental concern (cited by Roberts, 1996b). The scale includes 5-point 12 Likert-type, where 1 is “strongly disagree” and 5 corresponds to “strongly agree”. Reversed questions are signaled with an asterisk (see table 7).

Table 7 - Environmental concern scale

1. Humans need not adapt to the natural environment because they can remake it to suit their needs. *
2. There are limits to growth beyond which our industrialized society cannot expand.
3. The balance of nature is very delicate and easily upset.
4. When humans interfere with nature, it often produces disastrous consequences.
5. Humans must live in harmony with nature in order to survive.
6. Mankind is severely abusing the environment.
7. Humans have the right to modify the natural environment to suit their needs. *
8. Plants and animals exist primarily to be used by humans. *
9. We are approaching the limit of the number of people the earth can support.
10. To maintain a healthy economy, we will have to develop a steady-state economy where industrial growth is controlled.
11. The earth is like a spaceship with only limited room and resources.
12. Mankind was created to rule over the rest of nature. *

3.2.4. MODERATOR VARIABLES

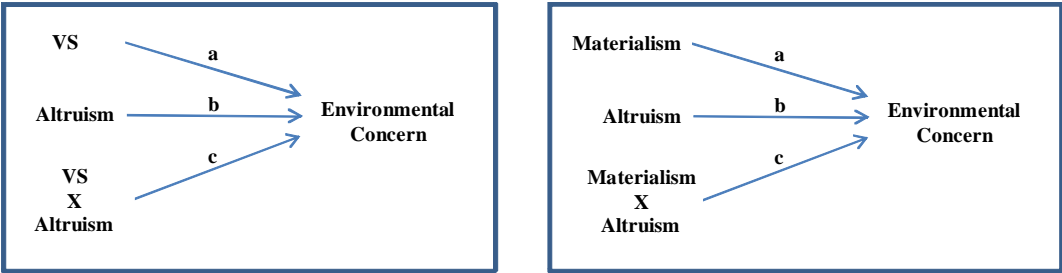
3.2.4.1. Altruism

In addition to the psychographic measures of the original Roberts (1996b) study, a measure of altruism was taken in Straughan and Roberts (1999) analysis. In their study, altruism measure was the second most important of all of the predictor variables, suggesting that it should not be disregarded when profiling green consumers.

According to Schwartz model (1970, 1977), cited by Clark (2003), altruistic behavior arises from personal norms if two criteria are met: an individual must be aware that particular actions (or inactions) have consequences for the welfare of others (awareness of consequences, AC); and an individual must assign responsibility for consequences of those actions to himself or herself (ascription of responsibility, AR). The simultaneous presence of AC and AR in a specific situation enables pertinent personal norms to motivate behavior. Some researchers have also equated intrinsic satisfaction with altruism, namely, that altruism involves getting pleasure from helping behavior (De Young, 2000). Therefore, this study is not considering the altruism-centered approach seen as helplessness and a stressing sacrifice. Instead, it considers quality-of-life-enhancing solutions (Kaplan, 2000).

Lepisto (1974), cited by Straughan (2000), found environmental concern to be a significant predictor of ECCB, suggesting that the more attractive the environment, the more an altruistic act is likely to be performed. Therefore, it is suspected that altruism will strengthen the relation between voluntary simplicity and environmental concern. In the opposite side, although it is expected that materialist individuals do not have concern for the environment, it is suspected that these individuals who see themselves as altruists will have a higher level of environmental concern.

Figure 5 – Moderation by altruism



A 5-point 9-item Likert scale was used for assessing altruism, developed by Clark (2003) based on the Schwartz norm-activation model to measure altruistic attitudes, as presented in table 8. Value 1 corresponds to “strongly disagree” and 5 corresponds to “strongly agree”. Cronbach’s coefficient alpha was 0.7. Reversed questions are signaled with an asterisk.

Table 8 - Altruism scale

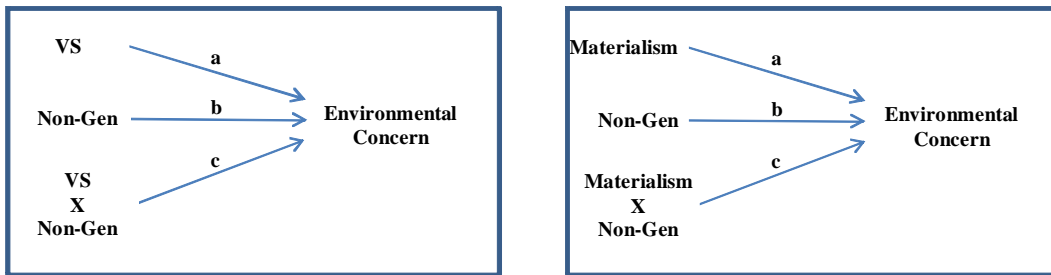
<ol style="list-style-type: none">1. I worry about conserving energy only when it helps to lower my utility bills. *2. Contributions to community organizations can greatly improve the lives of others.3. The individual alone is responsible for his or her satisfaction in life. *4. It is my duty to help other people when they are unable to help themselves.5. Many of society's problems result from selfish behavior.6. Households like mine should not be blamed for environmental problems caused by energy production and use. *7. My responsibility is to provide only for my family and myself. *8. Use of renewable energy is the best way to combat global warming.9. My personal actions can greatly improve the well being of people I don't know.
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3.2.4.2. Non-generosity

Belk (1985) defines non-generosity as an unwillingness to give possessions to or share possessions with others. The author considered that the conceptual domain for non-generosity included an unwillingness to share possessions with others, a reluctance to lend or donate possessions to others, and negative attitudes toward charity. While this similarity may imply that non-generosity is simply based on egoistic self-interest, other evidence suggests that generosity is most likely among those who have come to accept themselves as worthy to give and receive (Belk, 1985).

Based on the literature review, it is expected that, as materialistic individuals are less generous, would have less concerns with the environment and other people, and therefore, engage in fewer ecologically conscious consumer behaviors. In the same way, it is suspected that voluntary simplifiers who are less generous will have a less concerns with the environment (see figure 6).

Figure 6 – Moderation by non-generosity



A 5-point 7-item Likert scale was used to measure non-generosity, where 1 is “strongly disagree” and 5 corresponds to “strongly agree”, based on Belk’s (1985) study, as presented on table 9. Belk’s original study included two additional sub-scales for the measurement of envy and possessiveness.

Test-retest for this subscale presented a correlation of 0.64. The Cronbach’s alpha was only measured as the sum of the 24 items from the envy, possessiveness and non-generosity subscales and presented a value of 0.66 for a larger sample and of 0.73 for a smaller sample. Reversed questions are signaled with an asterisk.

Table 9 - Non-generosity scale

<ol style="list-style-type: none"> 1. I enjoy having guests stay in my home. * 2. I enjoy sharing what I have. * 3. I don’t like to lend things, even to good friends. 4. It makes sense to buy a lawnmower with a neighbor and share it. * 5. I don’t mind giving rides to those who don’t have a car. * 6. I don’t like to have anyone in my home when I’m not there. 7. I enjoy donating things to charities. *

3.2.4.3. Perceived consumer effectiveness

Perceived consumer effectiveness (PCE) is a measure of the subject's judgment over the ability of individual consumers to affect environmental/resource problems. In addition, perceived consumer effectiveness has been linked to more generalized feelings of control (locus of control), and may be directly affected by knowledge, direct experience, and the

experiences of others (Ellen, 1991). Similarly, PCE should affect intentions and behavior if individuals believe their behavior will or will not lead to the desired outcome.

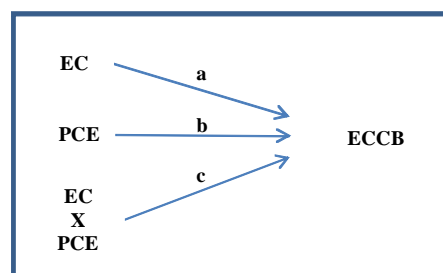
Previous research has found perceived consumer effectiveness to be a valid construct with the ability to distinguish between high and low ecologically conscious consumers. Roberts (1996b) also found that this was the single best predictor of ECCB, exceeding all other demographic and psychographic correlates examined in his analysis.

It is interesting to note that environmental concern may be high, but many consumers may feel that environment protection is a duty of government and big companies, or that the costs of act in accordance with are too high. Price, quality, convenience, and consumer skepticism and confusion over environmental claims are some of the issues that may reduce the adoption of ecologically responsible consumer behavior (Roberts, 1996b).

Therefore, it seems that the judgment of the individual's ability to stop environmental destruction elucidates more of why a person carries out ecologically conscious consumer behaviors than does the concern for the environment, for instance. If people are concerned about the environment, but feel that their actions cannot cause change, they will be less likely to participate in such activities (Roberts, 1996b; Straughan, 2000).

It was referred in the literature review that voluntary simplifiers are more likely to engage in ecologically responsible behaviors. As they were characterized by having a higher desire to control their own life, it is suspected that perceived consumer effectiveness explains why voluntary simplifiers, who are environmentally concerned, will have more ecologically conscious consumer behaviors. In the same way, it is suspected that, the relation between environmental concern and the adoption of ecological conscious consumer behaviors by materialistic individuals is affected by the perceived consumer effectiveness.

Figure 7 – Moderation by perceived consumer effectiveness



A 5-point 4-item Likert type scale was used to assess perceived consumer effectiveness, where 1 is “strongly disagree” and 5 corresponds to “strongly agree”, as it is presented in table 10. Cronbach’s alpha for the scale in the original study was 0.72. Reversed questions are signaled with an asterisk.

Table 10 - Perceived consumer effectiveness scale

1. It is worthless for the individual consumer to do anything about pollution. *
2. When I buy products, I try to consider how my use of them will affect the environment and other consumers.
3. Since one person cannot have any effect upon pollution and natural resource problems, it doesn’t make any difference what I do. *
4. Each consumer’s behavior can have a positive effect on society by purchasing products sold by socially responsible companies.

3.3. SAMPLE CHARACTERIZATION

The questionnaire used to test the presented model was sent to a random (stratified) sample of 700 adults Portuguese consumers, through an independent company specialized in research through web based questionnaires. The sample was designed so that results could be generalized to the active Portuguese adult consumer population, considering age, gender, education and occupation (see table 11). Of the 700 questionnaires, a total of 381 usable responses were returned, presenting a response rate of 54.4%. The encouraging response rate may be related not only with a higher interest in environmental issues but also with a sample composed by individuals who are more aware of the importance of participating in scientific research and therefore collaborate with the research company, gaining a symbolic gift.

Table 11 – Sample characteristics

Characteristics	Percentage of Population ^a	Percentage of Sample	χ^2
Gender			
Female	52%	53%	0.580 ^b
Male	48%	47%	
Residence			
North	37%	39%	

Center	24%	22%	0.280 ^b
Lisbon	28%	30%	
Alentejo	8%	5%	
Algarve	4%	4%	
Age			
18-24	12%	21%	0.263 ^b
25-54	55%	63%	
More than 55	17%	16%	
Education			
Elementary	66%	2%	0.000 ^b
High School	15%	51%	
BsC	14%	46%	
Occupation			
Management occupations	8%	16%	0.000 ^b
Scientific occupations	9%	12%	
Middle-level occupations	9%	12%	
Office and administrative support occupations	10%	13%	
Sales and related occupations	14%	17%	
Farm, fishing, and forestry occupations	11%	0%	
Production occupations	20%	11%	
Installation, maintenance, and repair occupations	8%	5%	
Non-qualified occupations	12%	14%	
Military specific occupations	1%	0%	

^a Based on 2006 census data (INE, Demographic Statistics)

^b $p < 0.001$

Age, sex and residence were equally balanced, taking in consideration the population characteristics, contrasting with education and occupation (see table 11). The χ^2 goodness-of-fit test was used to compare the present sample's demographic distribution to that of the population. The results of this analysis show that sample is similar to the Portuguese population in regard to its age, gender, and residence. As this was a web based questionnaire, we expected that the sample would have higher levels of education and types of occupation with prevalence on services.

3.4. STATISTICAL ANALYSIS TECHNIQUES

The statistical packages used were Microsoft Excel, SPSS (Statistical Package for the Social Sciences), MedGraph and ModGraph. Statistical procedures include the following tasks.

First, a test was performed to determine the reliability of the study instruments. Second, it was performed a factor analysis in order to verify if all items of each scale were representative, with Varimax rotation and Kaiser normalization used.

Then, cluster analysis was executed to place the respondents into 2 distinct groups of voluntary simplifiers and materialist, according to the presented scales of voluntary simplicity and materialism. It was created a cluster composed by voluntary simplifiers and non-voluntary simplifiers. Specifically, K-means cluster analysis was used in this statistical procedure. Kruskal-Wallis test verified if there were significant mean differences between the referred groups.

In order to test the presented conceptual model, basic correlations were examined in an effort to compare current results with those of past research in terms of direction and significance of the relationships.

To understand the underlined specificities of both groups of individuals of voluntary simplifiers and materialistic, and also to compare such results, the means of each group are compared with the Kruskal-Wallis Test.

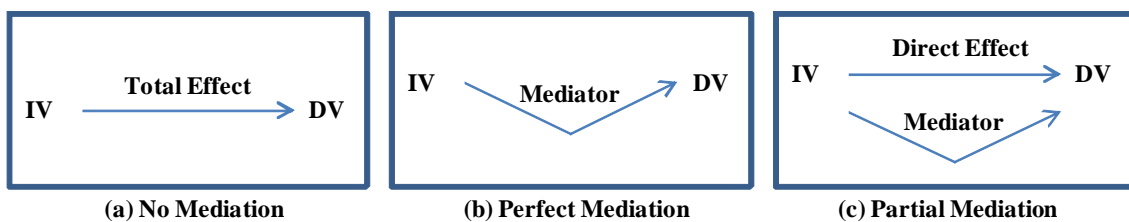
The model also presents some hypotheses of mediation and moderation between variables. Confusion seems to exist about precisely what each of these two techniques do and what they do not. According to Jose (2003), there are 4 main reasons for this: 1) since they have similar sounding names, most people assume that they are related and similar, and possibly derive from the same source; 2) statistics textbooks typically do not do a very good job explaining these two approaches; 3) reports of moderation and mediation in the empirical literature are not always clear, and rarely researchers perform both moderation and mediation on the same dataset, so examples of this type of work are rare; 4) both are special cases of two separate broad statistical approaches (moderation is a special type of ANOVA interaction, and mediation is a special type of path model), and therefore they do not receive as much attention and coverage as mainstream statistical approaches. Thus, as it is our aim to clarify what was the approach used in this research, we will present a brief explanation of both statistical techniques.

3.4.1. MEDIATION

Mediation refers to the covariance relationships among three variables: an independent variable, a potential mediating variable, and a dependent variable. The question raised in this case is whether the mediating variable accounts for a significant amount of the shared variance between the independent variable and dependent variable. Mediation is a special case in which three variables are examined in a particular way (Jose, 2003).

As seen in figure 6, the relationship between the independent variable and dependent variable is called the total effect. The direct effect is the relationship between the independent variable and the dependent variable after controlling for the mediator. According to Baron (1986) a variable is confirmed as a mediator if 1) there is a significant relationship between the independent variable and the dependent variable, 2) there is a significant relationship between the independent variable and the mediator, 3) the mediator still predicts the dependent variable after controlling for the independent variable, and 4) the ability of the independent variable explaining the dependent variable is reduced when the mediator is in the equation. If the relationship between the independent variable and the dependent variable goes to zero when the mediator is in the equation, mediation is said to be perfect (figure 8 (b)); if the relationship is diminished, but not null, mediation is said to be partial (figure 8 (c)). Note that the three variables are hypothesized to occur in a causal sequence.

Figure 8 – Mediation model



An ANOVA provides a limited test of mediational hypotheses as discussed in Fiske (1982) (in Baron, 1986). Rather, a series of regression models should be estimated: 1) regressing the mediator on the independent variable; 2) regressing the dependent variable on the independent variable; 3) regressing the dependent variable on both the independent variable

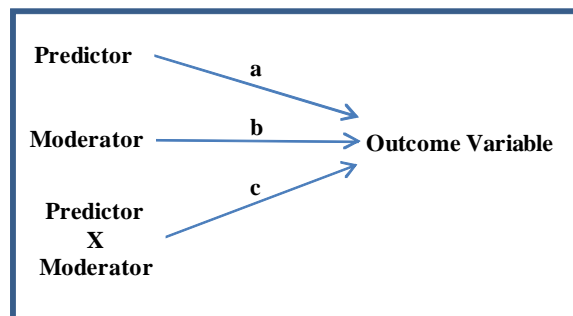
and on the mediator. Separate coefficients for each equation should be estimated and tested. These three regression equations provide the tests of the linkages of the meditational model.

Sobel presents a method for testing the significance of a simple mediation by testing the difference between the total effect and the direct effect, but few statistical packages include this computation. Therefore, was used MedGraph (Jose, 2003), which is an application that provides straightforward statistical output as it performs the Sobel test and generates some additional useful information (available at <http://www.victoria.ac.nz/psyc/staff/paul-jose/files/medgraph/medgraph.php>).

3.4.2. MODERATION

Moderation refers to the examination of the statistical interaction between two independent variables (at least one of which is continuous) in predicting a dependent variable. The model diagrammed in figure 9 has three causal paths that nourish into the outcome variable: the impact of noise intensity as a predictor (path a), the impact of controllability as a moderator (path b), and the interaction or product of these two (path c). The moderator hypothesis is supported if the interaction (path c) is significant (Baron, 1986).

Figure 9 – Moderator model



One property of the moderation variable is, unlike mediation-predictor relation (where the predictor is causally antecedent to the mediator) moderators and predictors are at the same level in regard to their role as causal variables antecedent or exogenous to certain criterion effects. That is, moderator variable always function as independent variables, whereas mediating events shift roles from effects to causes, depending on the focus of analysis. In addition, it is desirable, although not mandatory, that the moderator variable be

uncorrelated with both the predictor and the dependent variable, to provide a clearly and straightforward interpretable interaction term (Baron, 1986).

The statistical interaction between two or more independent variables can be examined in ANOVA or MANOVA but these will be categorical in nature. Instead of convert a continuous variable (e.g., socio-economic status) into a categorical variable by enacting a median split on the variable and creating a dichotomous variable, for instance, Aiken (1991) have described the use of multiple regression as a method for investigating interactions between continuous variables, in order to avoid losses of valuable mathematical information when one converts a continuous variable into a categorical one (Jose, 2003).

Current statistical packages like SPSS do not provide an easy way to analyze the nature of this sort of interaction. Aiken and West provide guidance in how one might wish to investigate the interaction, but these computations are overdriving and labour intensive, and the process is subject to mistakes (Jose, 2003). In this research, it was used the ModGraph application, which enables researchers to take output information from regression analyses and create intuitive graphical output (available at <http://www.victoria.ac.nz/psyc/staff/paul-jose/files/modgraph/modgraph.php>).

4. ANALYSIS AND RESULTS

The presented questionnaire was applied to the referred sample. The aim of this chapter is to present scales validation, correlation between variables, cluster analysis, and the test of each hypothesis and concerning results.

4.1.1. SCALE VALIDATION

A factor analysis was conducted in order to check if the variables were correlated with each other and therefore representative of what was being tested.

For the ECCB scale, the factor analysis identified 2 factors, with a Kaiser-Meyer-Olkin measure of sample adequacy of 0.948. These two factors explained 57% of total variance and had eigenvalues over 1. After applying a Varimax rotation, factor 1 (1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 18, 19, 20, 21) was interpreted as being related with ecological conscious behaviors as well as factor 2 (7, 15, 16, 17), although this factor were interpreted as “paper recycling consciousness” (see table 12). These results are in conformity regarding original studies (Roberts, 1996b; Straughan, 1999). All items were considered in the analysis in order to prevent losses of information, where higher scores indicate greater levels of ECCB. A Cronbach’s alpha of 0.94 was obtained.

Table 12 – Factor analysis for ECCB scale

Factor 1 – Ecologically conscious behaviors	
1. I normally make a conscious effort to limit my use of products that are made of or use scarce resources.	0.674
2. I will not buy products which have excessive packaging.	0.521
3. When there is a choice, I always choose that product which contributes to the least amount of pollution.	0.712
4. If I understand the potential damage to the environment that some products can cause, I do not purchase these products.	0.712
5. I have switched products for ecological reasons.	0.633
6. I use a recycling center or in some way recycle some of my household trash.	0.646
8. I use a low-phosphate detergent (or soap) for my laundry.	0.620

9. I have convinced members of my family or friends not to buy some products which are harmful to the environment.	0.651
10. I have purchased products because they cause less pollution.	0.799
11. I do not buy products in aerosol containers.	0.600
12. Whenever possible, I buy products packaged in reusable containers.	0.754
13. When I purchase products, I always make a conscious effort to buy those products that are low in pollutants.	0.806
14. When I have a choice between two equal products, I always purchase the one which is less harmful to other people and the environment.	0.775
18. I will not buy a product if the company that sells it is ecologically irresponsible.	0.519
19. I try to buy products that can be recycled.	0.715
20. To reduce our reliance on foreign oil, I drive my car as little as possible.	0.483
21. I do not buy household products that harm the environment.	0.763
Factor 2 – Paper recycling consciousness	
7. I make every effort to buy paper products made from recycled paper.	0.699
15. I buy toilet paper made from recycled paper.	0.924
16. I buy Kleenex made from recycled paper.	0.934
17. I buy paper towels made from recycled paper.	0.920

Regarding the voluntary simplicity scale, the factor analysis identified 5 factors. The Kaiser-Meyer-Olkin measure of sample adequacy is 0.798. These 5 factors explained 57.55% of total variance and had eigenvalues over 1. After applying a Varimax rotation, factor 1 was interpreted as “cautious attitudes in shopping” (1, 2, 3, 6, 7), factor 2 as “usage of products for a long time” (15, 16, 17, 19, 20), factor 3 as “self-sufficiency” (12, 13, 14), factor 4 as “desire for a simple life” (4, 5, 8, 18, 21, 22) and factor 5 as “products with simple functions” (9, 10, 11) (see table 13). Regarding original results (Iwata, 2006), although a new factor (factor 5) had emerged, this interpretation is similar. It was considered that only factor 5 was not directly related with a voluntary simplicity lifestyle and therefore items 9, 10 and 11 were not considered in the analysis. Higher scores indicate

greater levels of voluntary simplicity. It was obtained a Cronbach's alpha of 0.76 for this scale.

Table 13 – Factor analysis for voluntary simplicity scale

Factor 1 – Cautious attitudes in shopping	
1. I try to live a simple life and not to buy articles which are not necessary.	0.710
2. I do not do impulse buying.	0.801
3. When I shop, I decide to do so after serious consideration of whether an article is necessary to me or not.	0.758
6. Even if I have money, it is not my principle to buy things suddenly.	0.743
7. Except for traveling, I enjoy my leisure time without spending too much money.	0.486
Factor 2 – Usage of products for a long-time	
15. I try to use article which I bought as long as possible.	0.770
16. I am the type of person who continues using something old as long as it can still be used.	0.822
17. When I shop, I take a serious view of being able to use an article for a long time without getting tired of it.	0.856
19. I want to buy something new shortly after it comes out, even if I have a similar thing already. *	0.418
20. I tend to buy something that can be used for a long time, even if it is expensive, rather than buying cheap new things frequently.	0.476
Factor 3 – Self-sufficiency	
12. I want to be self-sufficient in food in the future.	0.832
13. It is desirable to be self-sufficient as much as possible.	0.870
14. In the future, I want to lead a life that can be self-sufficient as far as possible.	0.910
Factor 4 – Desire for a simple life	
4. I am more concerned with mental growth and fulfillment than with material affluence.	0.768
5. Material affluence is very important to me. *	0.529
8. A life of convenience and comfort is most important to me. *	0.553
18. If I am surrounded by what I have bought, I feel fortunate. *	0.669
21. I want to live simply rather than extravagantly.	0.590
22. Since a simple life is miserable, I do not want live such a life. *	0.588
Factor 5 – Products with simple functions	
9. I prefer products with simple functions to those with complex functions.	0.738
10. Products designed to promote convenience and comfort make people spoiled.	0.698
11. As far as possible, I do not buy products with sophisticated functions.	0.839

About the materialism scale, the factor analysis identified 5 factors, presenting a Kaiser-Meyer-Olkin measure of sample adequacy of 0.775. These 5 factors explained 60.78% of total variance and had eigenvalues over 1. After applying a Varimax rotation, factor 1 was interpreted as “role of acquisition in success” (1, 2, 3, 4, 5, 6), factor 2 as “role of acquisition in happiness” (13, 14, 15, 16, 17), factor 3 as “the role of acquisition in centrality” (9, 10, 11), factor 4 as “the role of acquisition in necessity” (7, 18) and factor 5 as “desire for a luxurious life” (8, 12) (see table 14). The analysis interpretation is quite different from the original study, presented by Richins (1992). While only three factor had become known, in the present interpretation factor representing “centrality” is divided through “centrality”, “necessity” and “desire for a luxurious life”.

Table 14 – Factor analysis for materialism scale

Factor 1 – Role of acquisition in success	
1. I admire people who own expensive homes, cars, and clothes.	0.686
2. Some of the most important achievements in life include acquiring material possessions.	0.545
3. I don't place much emphasis on the amount of material objects people own as a sign of success. *	0.644
4. The things I own say a lot about how well I'm doing in life.	0.648
5. I like to own things that impress people.	0.614
6. I don't pay much attention to the material objects other people own. *	0.705
Factor 2 – Role of acquisition in happiness	
13. I put less emphasis on material things than most people do. *	-0.655
14. I have all the things I really need to enjoy my life. *	0.791
15. My life would be better if I owned nicer things.	-0.686
16. I wouldn't be any happier if I owned nicer things. *	0.700
17. I'd be happier if I could afford to buy more things.	0.493
Factor 3 – Role of acquisition in centrality	
9. The things I own aren't all that important to me. *	0.859
10. I enjoy spending money on things that aren't practical.	0.835
11. Buying things gives me a lot of pleasure.	0.635
Factor 4 – Role of acquisition in necessity	
7. I usually buy only the things I need. *	0.887

18. It sometimes bothers me quite a bit that I can't afford to buy all the things I'd like.	0.899
Factor 5 – Desire for a luxurious life	
8. I try to keep my life simple, as far as possessions are concerned. *	0.779
12. I like a lot of luxury in my life.	0.525

It was considered that only factor 4 was not directly related with materialism but with the necessity of acquiring, and therefore items 7 and 18 were not considered in the analysis. Higher scores indicate greater levels of materialism. A Cronbach's alpha of 0.684 was obtained for this scale.

Concerning the environmental concern scale, the factor analysis identified 3 factors. The Kaiser-Meyer-Olkin measure of sample adequacy was 0.863. These 3 factors explained 60.15% of total variance and had eigenvalues over 1. After applying a Varimax rotation, factor 1 was interpreted as "concern with nature" (3, 4, 5, 6, 10), factor 2 as "concern with anthropocentrism" (1, 7, 8, 12), and factor 3 as "concern with scarce resources" (2, 9, 11) (see table 15). It was considered that all the variables are related with environmental concern and therefore they were all included in the analysis. Higher scores indicate greater levels of environmental concern. Cronbach alpha is 0.799.

Table 15 – Factor analysis for environmental concern scale

Factor 1 – Concern with nature	
3. The balance of nature is very delicate and easily upset.	0.772
4. When humans interfere with nature, it often produces disastrous consequences.	0.763
5. Humans must live in harmony with nature in order to survive.	0.861
6. Mankind is severely abusing the environment.	0.800
10. To maintain a healthy economy, we will have to develop a steady-state economy where industrial growth is controlled.	0.589
Factor 2 – Concern with anthropocentrism	
1. Humans need not adapt to the natural environment because they can remake it to suit their needs. *	0.616
7. Humans have the right to modify the natural environment to suit their needs. *	0.747
8. Plants and animals exist primarily to be used by humans. *	0.759
12. Mankind was created to rule over the rest of nature. *	0.796

Factor 3 – Concern with scarce resources	
2. There are limits to growth beyond which our industrialized society cannot expand.	0.628
9. We are approaching the limit of the number of people the earth can support.	0.783
11. The earth is like a spaceship with only limited room and resources.	0.668

Relating to altruism scale, the factor analysis identified 3 factors. The Kaiser-Meyer-Olkin measure of sample adequacy is 0.721. These 3 factors explained 58.69% of total variance and had eigenvalues over 1. After applying a Varimax rotation, factor 1 was interpreted as “awareness of self-consciousness” (1, 2, 4, 5), factor 2 as “awareness for the welfare of other people” (8, 9), and factor 3 as “awareness of self-responsibility” (3, 6, 7) (see table 16). It was also considered that all the variables are related with altruism and therefore were all included in the analysis. Higher scores indicate greater levels of altruism. Cronbach alpha is 0.639.

Table 16 – Factor analysis for altruism scale

Factor 1 – Awareness of self-consciousness	
1. I worry about conserving energy only when it helps to lower my utility bills. *	0.527
2. Contributions to community organizations can greatly improve the lives of others.	0.721
4. It is my duty to help other people when they are unable to help themselves.	0.794
5. Many of society’s problems result from selfish behavior.	0.640
Factor 2 – Awareness for the welfare of other people	
8. Use of renewable energy is the best way to combat global warming.	0.832
9. My personal actions can greatly improve the well being of people I don’t know.	0.723
Factor 3 – Awareness of self-responsibility	
3. The individual alone is responsible for his or her satisfaction in life. *	0.658
6. Households like mine should not be blamed for environmental problems caused by energy production and use. *	0.712
7. My responsibility is to provide only for my family and myself. *	0.662

After applying a factor analysis to non-generosity scale, 2 factors were identified. The Kaiser-Meyer-Olkin measure of sample adequacy is 0.703. These 2 factors explained 52.47% of total variance and had eigenvalues over 1. After applying a Varimax rotation,

factor 1 was interpreted as “sharing and communal feelings” (1, 2, 4, 5, 7), and factor 2 as “ownership sense” (3, 6) (see table 17). It was considered that all the variables are related with non-generosity and therefore were all included in the analysis. Higher scores indicate greater levels of non-generosity. Cronbach alpha is 0.614. As this instrument was designed to be used as a part of a battery, it was intentionally designed to be as short as possible and is somewhat less reliable.

Table 17 – Factor analysis for non-generosity scale

Factor 1 – Sharing and communal feelings	
1. I enjoy having guests stay in my home. *	0.796
2. I enjoy sharing what I have. *	0.849
4. It makes sense to buy a lawnmower with a neighbor and share it. *	0.417
5. I don't mind giving rides to those who don't have a car. *	0.603
7. I enjoy donating things to charities. *	-0.562
Factor 2 – Ownership sense	
3. I don't like to lend things, even to good friends.	0.687
6. I don't like to have anyone in my home when I'm not there.	0.864

A factor analysis identified 2 factors for the perceived consumer effectiveness scale. The Kaiser-Meyer-Olkin measure of sample adequacy is 0.594. These 2 factors explained 52.47% of total variance and had eigenvalues over 1. After applying a Varimax rotation, factor 1 was interpreted as “awareness of behaviors impact on environment” (1, 3), and factor 2 as “awareness of purchase impact on environment” (2, 4) (see table 18).

Table 18 – Factor analysis for perceived consumer effectiveness scale

Factor 1 - Awareness of behaviors impact on environment	
1. It is worthless for the individual consumer to do anything about pollution. *	0.883
3. Since one person cannot have any effect upon pollution and natural resource problems, it doesn't make any difference what I do. *	0.869
Factor 2 - Awareness of purchase impact on environment	
2. When I buy products, I try to consider how my use of them will affect the environment and other consumers.	0.911
4. Each consumer's behavior can have a positive effect on society by purchasing products sold by socially responsible companies.	0.601

It was considered that all the variables are related with perceived consumer effectiveness and therefore were all included in the analysis. Higher scores indicate greater levels of perceived consumer effectiveness. Cronbach's alpha is 0.58. Such as the previous scale, this instrument was designed to be used as a part of a battery, it was intentionally designed to be as short as possible, with the disadvantage of being less reliable.

4.1.2. ANALYSIS OF BIVARIATE CORRELATIONS

Before testing the proposed conceptual model hypotheses, it is relevant to observe the correlations among variables, in order to contextualize and reinforce the proposed hypotheses. It was expected that voluntary simplicity were positively correlated with both altruism and perceived consumer effectiveness, and that suspicion was confirmed with statistical significance at the 0.01 level (see table 19). Moreover, it was found that voluntary simplicity is negatively correlated with non-generosity, at the 0.01 level, as expected.

It is also observable that materialism is negatively correlated with both altruism and perceived consumer effectiveness, at the 0.01 level. However, the positive correlation with non-generosity is not statistically significant.

Table 19 – Correlations between variables

	Voluntary Simplicity	Materialism	Environmental concern	ECCB	Altruism	Non-generosity
Materialism	-0,320 **					
Env. concern	0.272 **	-0.147 **				
ECCB	0.259 **	-0.078	0.267 **			
Altruism	0,269 **	-0,233 **	0.508 **	0.357 **		
Non-generosity	-0,175 **	0,100	-0.281 **	-0.131 *	-0,394 **	
PCE	0,257 **	-0,250 **	0.554 **	0.378 **	0,618 **	-0,354 **

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Notice that altruism is negatively correlated with non-generosity. Perceived consumer effectiveness has a positive correlation with altruism and negative correlation with non-generosity. These findings support the notion of altruism and non-generosity in opposite

poles. In addition, it is suggested that altruistic individuals also believe that their actions can make a difference (high scorers in perceived consumer effectiveness), while it happens the reverse for non-generous individuals.

Such conveys with the notion that altruistic individuals will engage in more ecological conscious consumer behaviours, than non-generous one, as it is observable through positive correlations amongst these variables.

It is also pertinent to enlighten the existence of identical patterns of correlations regarding environmental concern and altruism, non-generosity and perceived consumer effectiveness.

The relation between environmental concern, ecologically conscious consumer behaviors and both moderator and independent variables are described ahead, on a specific hypothesis.

4.1.3. CLUSTER ANALYSIS

In order to assess the proposed hypotheses, it was necessary to create two distinct groups: voluntary simplifiers and materialistic individuals. This separation was mandatory because the assessment was done with the use of 2 distinct scales, one to evaluate a voluntary simplicity lifestyle (Iwata, 1999) and another to assess materialistic individuals (Richins, 1992).

Firstly, based on voluntary simplicity rate of responses, a cluster analysis was then performed (K-mean clustering) and 2 clusters were obtained, composed by voluntary simplifiers (184 individuals) and non-voluntary simplifiers. After that, another 2 clusters were created with differentiation amongst materialists (67 individuals) and non-materialist, with regard to materialism scale. There were cases that an individual was labeled both as voluntary simplifier and materialist (66 individuals), or none of the options (64 individuals).

Although the samples have approximately equal variances, they do not have a normal distribution nor have the same size, it was selected an appropriate non-parametric alternative to the one-way independent-samples ANOVA. Thus, Kruskal-Wallis test was

used to verify if there were significant mean differences between the defined groups (see table 20).

Table 20 – Mean differences regarding voluntary simplicity and materialism

Cluster Tag	N	Mean Rank Voluntary Simplicity	Mean Rank Materialism
Both voluntary simplifier and materialist	66	232,27	306,83
Voluntary simplifier	184	265,19	117,77
Materialist	67	59,99	323,04
Not voluntary simplifier nor materialist	64	72,29	143,85
Total	381		

Significant mean differences were found, at the 0.05 level. Effectively, voluntary simplifiers had the higher mean rank for voluntary simplicity scale as well as materialism had the higher mean rank for materialism. Both cases of respondents who are classified as both voluntary simplifiers and materialist or not voluntary simplifiers nor materialist were excluded from the analysis, only considering the groups of voluntary simplifiers and materialistic individuals in the subsequent tests of hypotheses.

4.1.4. TEST OF HYPOTHESES

The proposed conceptual model tested for each of its components. In this section, it will be presented each hypothesis and the achieved results.

H1: The embracing of a voluntary simplicity lifestyle will positively affect the adoption of ecologically conscious consumer behaviors.

H2: A consumer's degree of materialism will negatively affect the adoption of ecologically conscious consumer behaviors.

Despite of materialism and voluntary simplicity not being the exact opposite poles, they can be considered conflicting, since a simple life implies material detachment. Therefore, both H1 and H2 are being analyzed simultaneously. Pearson's correlation coefficient for the two variables is -0.320 indicating a negative correlation with statistical significance at the 0.01 level.

Please notice that these two hypotheses were tested with regard on voluntary simplifiers cluster (H1) and materialists cluster (H2).

Regarding H1, it is suspected that the adoption of ecologically conscious consumer behaviors is positively related with the adoption of a voluntary simplicity lifestyle. Correlation between the two variables is significant at 0.01 level, presenting a Pearson correlation coefficient of 0.259, not rejecting H1.

Concerning H2, a negative relation between materialism and ecologically conscious consumer behaviors is expected. Pearson's correlation coefficient is negative (-0.081) but not statistically significant at 0.01 level. Therefore, H2 is rejected.

However, it is relevant to compare the means between these two groups to see if there are any statistically significant differences among them, using the Kruskal-Wallis test (see table 21).

Table 21 – Mean differences among groups regarding the adoption of ECCB

	Groups	N	Mean rank
ECCB	Both voluntary simplifier and materialist	66	201,7
	Voluntary simplifier	184	208,6
	Materialist	67	150,1
	Not voluntary simplifier nor materialist	64	172,1
	Total	381	

Since the null-hypothesis is rejected ($p = 0.01$), the conclusion is that there are significant statistical differences regarding the adoption of ECCB among the groups. Moreover, it is curious to note that voluntary simplifiers do have the highest mean rank and the materialists the lower mean rank, regarding ECCB.

H3: The adoption of a voluntary simplicity lifestyle will positively influence environmental concern.

H4: A consumer's degree of materialism will negatively affect his or her level of environmental concern.

According to H1/H2 procedure, the hypotheses stated above will be performed simultaneously. Regarding H3, environmental concern is associated with the adoption of

voluntary simplicity lifestyle. Pearson's correlation coefficient points for a positive and moderate correlation of 0.272, which is significant at the 0.01 level, not rejecting H3.

Focusing on H4, a negative relation between materialism and environmental concern was expected. The Pearson's correlation coefficient of -0.140 confirms that expectation at 0.01 level of significance, which holds a moderate negative correlation, not rejecting H4.

Still, it is also appropriate to compare the means between these groups to see if there are any statistically significant differences among them, again through the Kruskal-Wallis test. Since the null-hypothesis is rejected ($p = 0.000$), the conclusion is that there are significant statistical differences regarding the levels of environmental concern among the groups. Moreover, it is curious to note that voluntary simplifiers have the highest mean rank and the materialists the lower mean rank (see table 22).

Table 22 – Mean differences among groups regarding environmental concern

	Groups	N	Mean rank
Environmental Concern	Both voluntary simplifier and materialist	66	198,26
	Voluntary simplifier	184	211,97
	Materialist	67	145,6
	Not voluntary simplifier nor materialist	64	170,76
	Total	381	

H5: An individual who adopts a voluntary simplicity lifestyle will engage in ecologically conscious consumer behaviors if he is environmentally concerned.

H5 suggests that there is a hypothetical causal sequence of three variables: voluntary simplicity, environmental concern and ECCB. The middle variable (environmental concern) is considered a mediator (indirect effect) that represents at least part of the chain of events leading to changes in ECCB (dependent variable). Assuming that there is a relationship between voluntary simplicity and the adoption of ECCB, environmental concern would be the mechanism that lies beneath that relation.

Three separate statistical analyses were conducted, for the voluntary simplifiers cluster: 1) raw correlations among the three variables in question (see table 23); 2) a multiple

regression where the mediator is the dependent variable and the independent variable is the independent variable in the analysis (see table 24); and 3) a simultaneous multiple regression where the independent variable and the mediator are the independent variables and the dependent variable is the dependent variable in the analysis (see table 24). These analyses will yield all of the statistical input necessary for proper computations within MedGraph.

Table 23 – Correlations between voluntary simplicity, environmental concern and ECCB

	Environmental concern	ECCB
Voluntary simplicity	0.23	0.198
Environmental concern		0.296
N = 184		

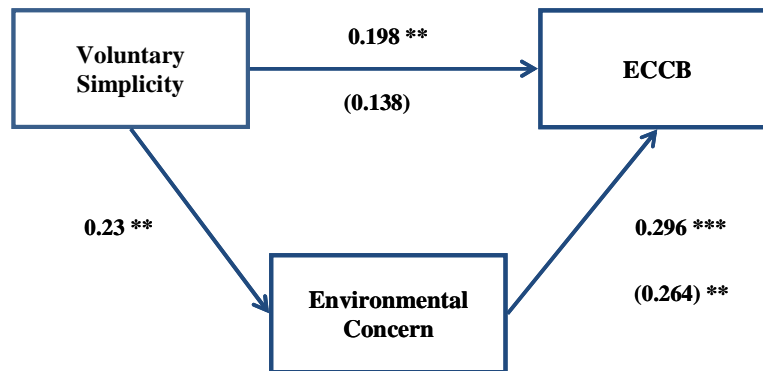
Table 24 – Regressions among voluntary simplicity, environmental concern and ECCB

First regression (VS predicted EC)	
B	0.184
se	0.058
Second regression (VS and EC predicted ECCB)	
EC	
B	0.617
se	0.169
Beta	0.264
VS	
Beta	0.138

From application MedGraph, the result is the following:

Table 25 – Mediation between voluntary simplicity, environmental concern and ECCB

Type of Mediation	Full
Sobel t-value	2,394658 significance 0,016636
Standardized coefficient of VS on ECCB	
Direct:	0.138
Indirect:	0.06



The first line of table 25 tells that full mediation has been identified. This is a very important result that is not typically communicated with other statistical assessments of mediation. The Sobel's *t* (or *z*) value must be sufficiently large, yielding a *p*-value of less than 0.05, for significant mediation to be identified. What this means in practice is that the association between voluntary simplicity and the ECCB has been significantly reduced by the inclusion of the mediating variable environmental concern in the second regression. One cannot just look at the change in correlations (from 0.198 to 0.138) and determine whether significant reduction has occurred. That is why Sobel test is so valuable: it conclusively tells the user whether significant mediation has occurred or not.

However, the simple Sobel test does not tell one whether partial or full mediation has occurred. The second fact that needs attention is whether the correlation between the voluntary simplicity and ECCB has been reduced to a non-significant level. If this association is now no longer significant, then full mediation has been identified. In this case the resulting correlation (0.138) is not significant (at $p < .001$), so this is a case of full mediation.

Standardized coefficients of voluntary simplicity and ECCB tell how much of the effect of the former on the latter is direct as opposed to indirect. The direct effect is the size of the correlation between voluntary simplicity and ECCB with the mediating variable included in the regression, with the value of 0.138. The indirect effect is the amount of the original correlation between voluntary simplicity and the ECCB that now goes through the mediator to ECCB, which is 0.06. It is important to note the size of the ratio between these two values. As the indirect effect is relatively large, then full mediation has been identified.

H6: A consumer's degree of materialism will negatively affect his or her level of environmental concern, and therefore the adoption of ecologically conscious consumer behaviors.

This hypothesis assumes the same type of mediation which was explained in the previous section for H5. However, it differs from the preceding due to the consideration of consumer's degree of materialism. Therefore, the same three separate statistical analyses were conducted, but for materialists cluster: 1) raw correlations among the three variables (see table 26); 2) a multiple regression where the mediator is the dependent variable in the regression (see table 27); and 3) a simultaneous multiple regression where the independent variable and the mediator are the dependent variables in the regression (see table 27).

Table 26 – Correlations between materialism, environmental concern and ECCB

	Environmental concern	ECCB
Materialism	-0.14	-0.100
Environmental concern		0.585
N = 67		

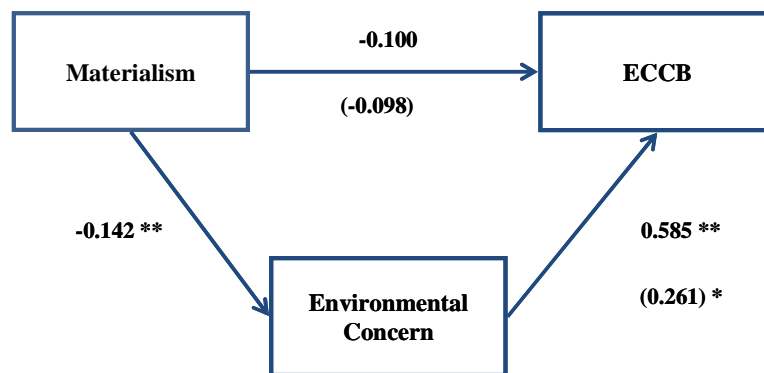
Table 27 – Regressions among materialism, environmental concern and ECCB

First regression (materialism predicted EC)	
B	-0.140
se	0.050
Second regression (materialism and EC predicted ECCB)	
EC	
B	0.585
se	0.112
Beta	0.261
VS	
Beta	-0.098

From the MedGraph application, the result is the following:

Table 28 – Mediation between materialism, environmental concern and ECCB

Type of Mediation	Full
Sobel t-value	-2,46778 significance 0,013595
Standardized coefficient of materialism on ECCB	
Direct:	-0.098
Indirect:	-0.002



Full mediation has been identified, with the Sobel’s test value -2.4677 , at the 0.01 level (see table 28). Therefore, the association between materialism and ecological conscious consumer behaviors has been significantly reduced by the inclusion of the mediating variable representing environmental concern in the second regression. The direct effect is the size of the correlation between materialism and ECCB with the mediating variable included in the regression, with the value of -0.098 . The indirect effect is the amount of the original correlation between materialism and the ECCB that now goes through the mediator to ECCB, which is -0.002 . It is important to note the size of the ratio between these two values. As the indirect effect is relatively large, then full mediation has been identified.

H7: The degree of environmental concern by individuals who adopt a voluntary simplicity lifestyle is strengthened by altruism.

This hypothesis suggests that the relation between voluntary simplicity and environmental concern may differ at different levels of altruism, which is considered to embody a moderator variable of that relation. In order to test the moderation we will use multiple regression to test whether voluntary simplicity and altruism are significant predictors of the

environmental concern. It is necessary to compute a hierarchical regression in which three distinct steps are stipulated. The main effect of voluntary simplicity is entered first, the main effect of altruism is entered second, and the interaction term is entered third (see table 29).

Table 29 – Coefficients results – moderation between voluntary simplicity and environmental concern by altruism

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	
	B	Std. Error				
1 (Constant)	30,64	6,19		4,00	0,00	
	Voluntary simplicity	0,18	0,06	0,23	3,18	0,00
2 (Constant)	16,28	6,28		2,59	0,01	
	Voluntary simplicity	0,14	0,05	0,18	2,62	0,01
	Altruism	0,55	0,10	0,38	5,59	0,00
3 (Constant)	38,09	51,90		0,73	0,46	
	Voluntary simplicity	-0,06	0,49	-0,08	-0,13	0,90
	Altruism	-0,08	1,50	-0,05	-0,05	0,96
	VS * ALT	0,01	0,01	0,53	0,42	0,67

a Dependent Variable: Environmental concern

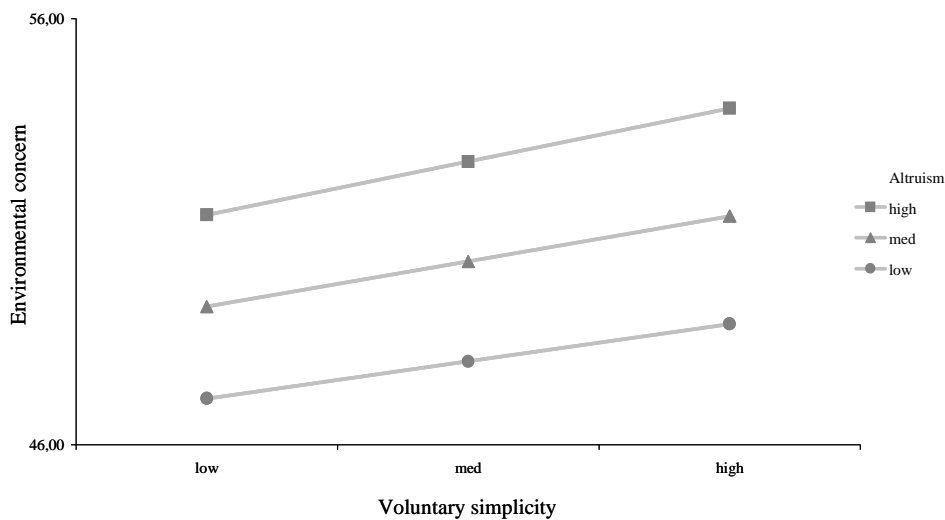
b Selecting only cases for which Cluster Tag = Voluntary Simplifier

On the first step voluntary simplicity only was entered. The obtained beta of 0.023 is like a Pearson correlation and can be interpreted in that way. The large and positive relation concludes that individuals who reported higher levels of voluntary simplicity also reported higher levels of environmental concern. The second step consists on entering the moderating variable. Voluntary simplicity is still in the equation, and the question is whether the inclusion of altruism significantly explains more variance in the dependent variable, with the beta for altruism statistically significant. The positive beta of 0.38 indicates that higher altruism is associated with higher environmental concern. And finally, on the third step, the interaction term did not significantly added to explained variance, indicating that moderation of altruism on the relation between voluntary simplicity and environmental concern is inexistent and thus rejecting H7.

In order to understand the results, one key notion to keep in mind when interpreting these patterns is that statistical interaction occurs when lines are not parallel. In this case, they

are. As represented in the figure 10, the hypothesis of moderation between voluntary simplicity and environmental concern is rejected.

Figure 10 – Moderation by altruism among voluntary simplicity and environmental concern



Notice, however, that a strong voluntary simplifier is more concerned over the environment than an individual who reported a low voluntary simplicity score.

H8: The extent of environmental concern by individuals who have a high level of materialism is strengthened by altruism.

This hypothesis suggests that the relationship between materialism and environmental concern may differ at different levels of altruism. In order to test the moderation the same procedure as in H7 was done through multiple regression. Below, on table 30, is the coefficients results table for the three steps of the regression equation.

Table 30 – Coefficients results – moderation between materialism and environmental concern by altruism

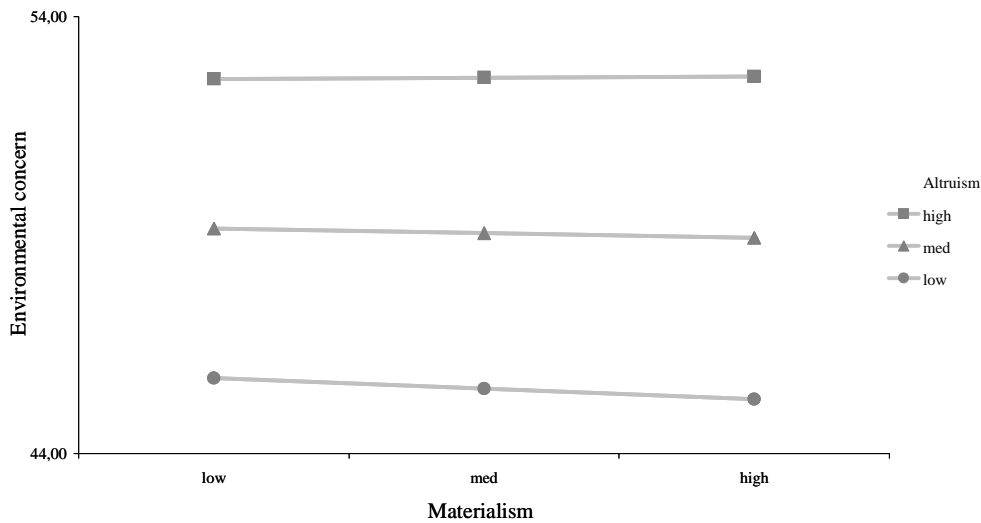
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	55,04	2,294		23,99	0,00
	Materialism	-0,138	0,050	-0,140	-2,751	0,06
2	(Constant)	25,01	3,377		7,404	0,00
	Materialism	-0,02	0,045	-0,023	-0,499	0,62
	Altruism	0,757	0,069	0,502	11,03	0,00
3	(Constant)	30,7	13,14		2,336	0,02
	Materialism	-0,146	0,279	-0,149	-0,523	0,60
	Altruism	0,580	0,400	0,385	1,451	0,14
	MAT * ALT	0,004	0,009	0,152	0,448	0,65

a Dependent Variable: Environmental concern

b Selecting only cases for which Cluster Tag = Materialist

The obtained beta is -0.14 for the first regression, demonstrating that there is a negative correlation between materialism and environmental concern. Altruism was entered on the second step, as a moderating effect. Materialism is still in the equation, to assess if there is significantly increase on explained variance of environmental concern. The positive beta indicates that higher altruism is associated with higher environmental concern. On the third step, the interaction term is introduced, having a positive beta of 0.15; however did not significantly added new variance, indicating that moderation of altruism on the relationship between materialism and environmental concern is inexistent, and thus rejecting H8.

Figure 11 – Moderation by altruism among materialism and environmental concern



As represented in the figure 11 the hypothesis of moderation between materialism and environmental concern by altruism is rejected. The three lines are parallel, which means that an interaction does not exist. The effect of altruism on the relation between environmental concern and materialism is similar for its different degrees.

H9: The level of environmental concern by individuals who adopt a voluntary simplicity lifestyle is weakened by non-generosity.

This hypothesis suggests that the relationship between voluntary simplicity and environmental concern may differ at different levels of non-generosity. In order to test moderation a hierarchical regression is computed in three distinct steps. The main effect of voluntary simplicity is entered first, the moderating effect of non-generosity is entered second, and the interaction term is entered third. Below, on table 31, is the coefficients results table for the three steps of the regression equation.

Table 31 – Coefficients results – moderation between voluntary simplicity and environmental concern by non-generosity

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	30,64	6,19		4,95	0,00
Voluntary simplicity	0,18	0,06	0,23	3,18	0,00
2 (Constant)	36,51	6,76		5,40	0,00
Voluntary simplicity	0,17	0,06	0,21	2,92	0,00
Non-Generosity	-0,25	0,12	-0,15	-2,06	0,04
3 (Constant)	38,36	30,31		1,27	0,21
Voluntary simplicity	0,15	0,28	0,19	0,54	0,59
Non-Generosity	-0,35	1,74	-0,21	-0,20	0,84
NG * VS	0,00	0,02	0,07	0,06	0,95

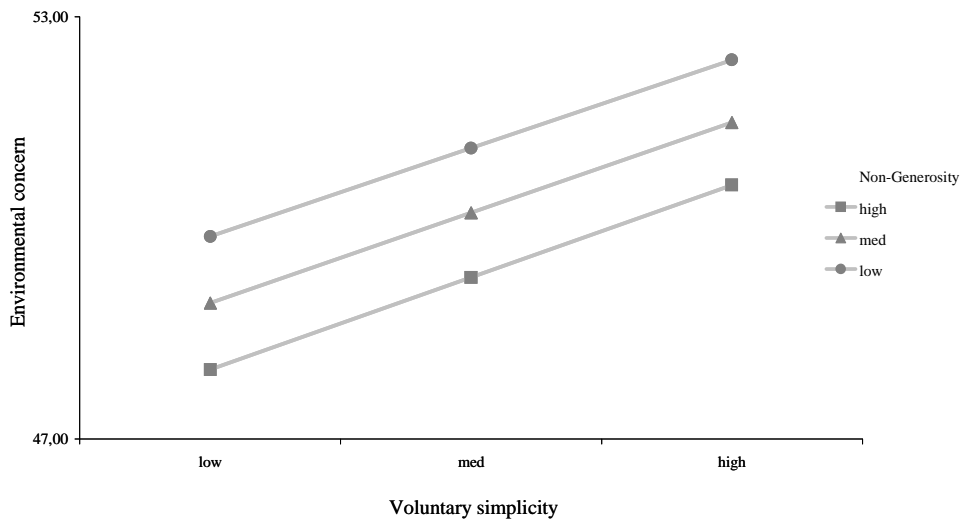
a Dependent Variable: Environmental concern

b Selecting only cases for which Cluster Tag = Voluntary Simplifier

The obtained beta for the first correlation is 0.23. The moderated and positive relationship tells that individuals who reported higher levels of voluntary also reported higher levels of environmental concern. The second step enters the moderating effect of non-generosity while voluntary simplicity is still in the equation, verifying whether the new equation still explains significant added variance in the dependent variable. The negative beta indicates that a higher score on non-generosity is associated with lower environmental concern. The third step encompasses the interaction term, which beta is close to null (0.07).

For this hypothesis, moderation is also rejected, which means that there is no divergence on different degrees of non-generosity, when interacting with voluntary simplicity and environmental concern. As represented in the Figure 12 the hypothesis of moderation between voluntary simplicity and environmental concern is rejected.

Figure 12 – Moderation by non-generosity among voluntary simplicity and environmental concern results



H10: The extent of environmental concern by individuals who have a high level of materialism is weakened by non-generosity.

This hypothesis suggests that the relationship between materialism and environmental concern may differ at different levels of non-generosity. The same procedure than before was applied. The main effect of materialism is entered first, the effect of non-generosity is entered second, and the interaction term is entered third (see table 31).

Table 32 – Coefficients results – moderation between materialism and environmental concern by non-generosity

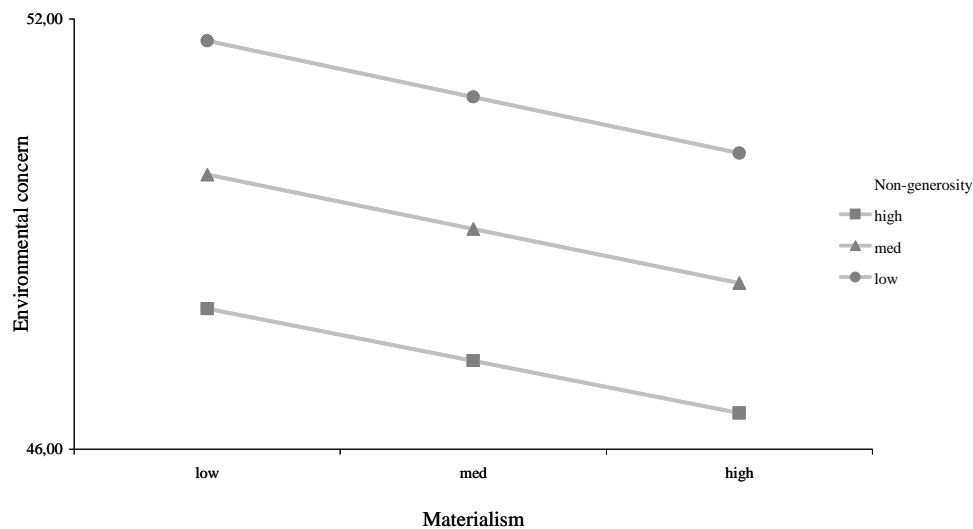
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	55,04	2,29		23,99	0,00
	Materialism	-0,14	0,05	-0,14	-2,75	0,01
2	(Constant)	62,73	2,62		23,95	0,00
	Materialism	-0,11	0,05	-0,11	-2,29	0,02
	Non-Generosity	-0,51	0,09	-0,27	-5,47	0,00
3	(Constant)	63,26	11,50		5,50	0,00
	Materialism	-0,12	0,25	-0,12	-0,49	0,63
	Non-Generosity	-0,54	0,64	-0,29	-0,84	0,40
	NG * MAT	0,00	0,01	0,02	0,05	0,96

a Dependent Variable: Environmental concern

b Selecting only cases for which Cluster Tag = Materialist

The obtained beta in the first regression was -0.14, demonstrating that there is a negative correlation between materialism and environmental concern. The second step shows that the main effect of non-generosity was entered next. Materialism is still in the equation, in order to detect whether this regression adds significantly explained variance of dependent variable. The negative beta indicates that higher non-generosity is associated with lower environmental concern. On the third step, the beta associated to the interaction term is close to null (0.02), not significantly added new variance, indicating that moderation of non-generosity on the relationship between materialism and environmental concern is inexistent, and thus rejecting H10.

Figure 13 – Moderation by non-generosity among materialism and environmental concern results



As represented in the figure 13 the hypothesis of moderation between materialism and environmental concern is rejected. The three lines are parallel, which makes the hypothesized interaction inexistent.

H11: Environmental concern from an individual who embraced a voluntary simplicity lifestyle will strengthen the adoption of ecologically conscious consumer behaviors when there is a high level of perceived consumer effectiveness.

This hypothesis suggests that the relationship between environmental concern and ecologically conscious consumer behaviors may differ at different levels of perceived

consumer effectiveness, regarding voluntary simplifiers. In order to test the moderation we will use multiple regression. The main effect of environmental concern is entered first, the effect of perceived consumer effectiveness is entered second, and the interaction term is entered third (see table 32).

Table 33 – Coefficients results – moderation between environmental concern and ECCB by PCE (VS group)

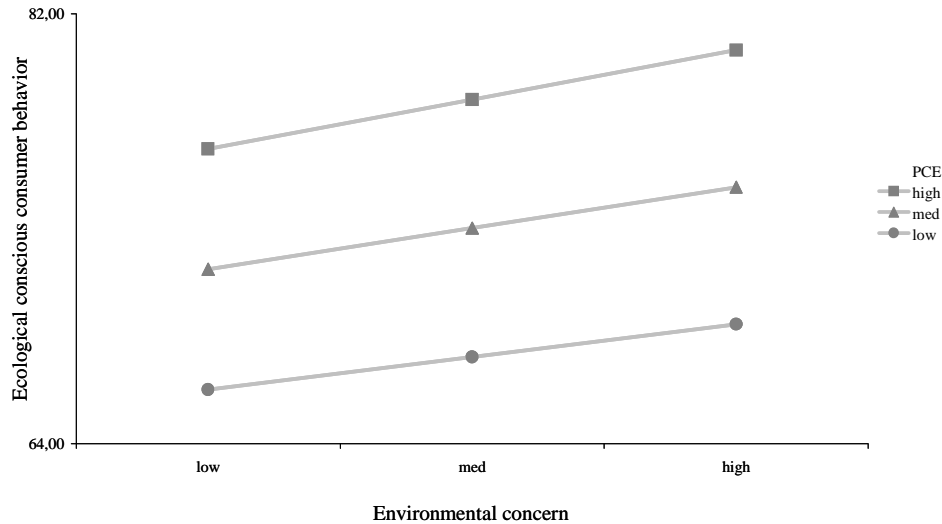
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	38,46	8,38		4,59	0,00
	Environmental concern	0,69	0,17	0,30	4,17	0,00
2	(Constant)	25,32	8,37		3,03	0,00
	Environmental concern	0,27	0,18	0,12	1,50	0,14
	Perceived consumer effectiveness	2,03	0,42	0,37	4,81	0,00
3	(Constant)	42,50	42,02		1,01	0,31
	Environmental concern	-0,09	0,88	-0,04	-0,10	0,92
	Perceived consumer effectiveness	0,97	2,58	0,18	0,38	0,71
	Environmental concern * PCE	0,02	0,05	0,30	0,42	0,68

a Dependent Variable: Ecologically Conscious Consumer Behavior

b Selecting only cases for which Cluster Tag = Voluntary simplifier

On the first step environmental concern only was entered. The obtained beta (0.30) is like a Pearson correlation and can be interpreted in that way, demonstrating that ECCB and environmental concern are correlated. As seen before, the second step consists on considering the effect of PCE while environmental concern is still in the equation. The positive beta indicates that higher PCE is associated with higher ECCB. And finally, on the third step, an interaction term was introduced in the equation.

Figure 14 – Moderation by perceived consumer effectiveness among environmental concern and ECCB results (voluntary simplifiers group)



As represented in the figure 14 the hypothesis of moderation between environmental concern and ECCB is rejected. The lines are parallel which means that an interaction provided by PCE does not exist on the main relation.

H12: Environmental concern from an individual with high level of materialism will strengthen the adoption of ecologically conscious consumer behaviors when there is a high level of perceived consumer effectiveness.

This hypothesis suggests that the relationship between environmental concern and ecologically conscious consumer behaviors may differ at different levels of perceived consumer effectiveness, when observed for individuals with high level of materialism.

In order to test the moderation we will again use multiple regression to test whether certain independent variable terms are significant predictors of the dependent variable. Thus, one will compute a hierarchical regression in which three distinct steps are stipulated. The effect of environmental concern is entered first, the effect of perceived consumer effectiveness is entered second, and the interaction term is entered third (see table 33).

Table 34 – Coefficients results – moderation between environmental concern and ECCB by PCE (materialist group)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1 (Constant)	41,37	5,47		7,56	0,00	
	Environmental concern	0,60	0,11	0,27	5,39	0,00
2 (Constant)	31,33	5,52		5,67	0,00	
	Environmental concern	0,19	0,13	0,08	1,45	0,15
3 (Constant)	58,72	28,45		2,06	0,04	
	Environmental concern	-0,40	0,61	-0,18	-0,66	0,51
	Perceived consumer effectiveness	1,87	0,32	0,33	5,83	0,00
3 (Constant)	58,72	28,45		2,06	0,04	
	Environmental concern	-0,40	0,61	-0,18	-0,66	0,51
	Perceived consumer effectiveness	1,87	0,32	0,33	5,83	0,00
Environmental concern * PCE	0,10	1,83	0,02	0,05	0,96	
Environmental concern * PCE	0,04	0,04	0,51	1,98	0,03	

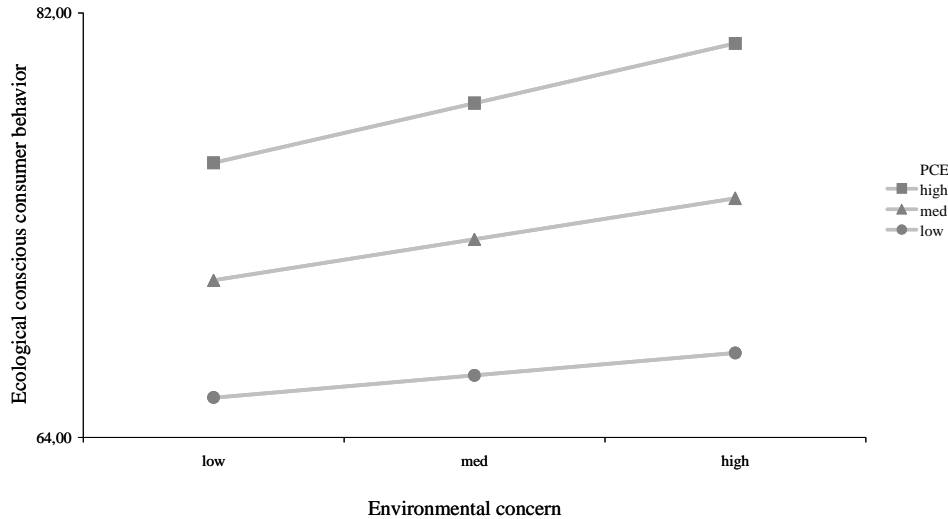
a Dependent Variable: Ecologically Conscious Consumer Behavior

b Selecting only cases for which Cluster Tag = Materialist

On the first step environmental concern only was entered. The obtained beta (0.27) is like a Pearson correlation and can be interpreted in that way, demonstrating that there is a positive correlation between environmental concern and ecologically conscious consumer behaviors. The second step considers the main effect of perceived consumer effectiveness together with environmental concern. The positive beta indicates that higher perceived consumer effectiveness is associated with the adoption of ecologically conscious consumer behaviors. On the third step, the interaction term also presented a positive beta, with statistical significance for moderation.

As represented in the figure 15 the hypothesis of moderation between ecologically conscious consumer behaviors and environmental concern exists, although it is not very strong.

Figure 15 – Moderation by perceived consumer effectiveness among environmental concern and ECCB (materialist group)



The ‘fan effect’ or divergence of lines representing different levels of perceived consumer effectiveness expresses the most interesting aspect of the interaction. The fan effect occurs under the condition of high perceived consumer effectiveness, in other words, the degree of the moderating variable has its greatest impact under this particular value for the main effect of environmental concern. The mean for high perceived consumer effectiveness / low environmental concern is proportionally lower than that for high perceived consumer effectiveness / high environmental concern in relation to the low environmental concern line. The slope of line representing high perceived consumer effectiveness is greater than the slope of line representing low perceived consumer effectiveness, suggesting that an interaction induced by PCE exists.

In other words, the divergence under high perceived consumer effectiveness is greater than under low perceived consumer effectiveness. The effect of environmental concern on ecologically conscious consumer behaviors is greater under high rather than low perceived consumer effectiveness because its means are more divergent.

5. DISCUSSION AND RECOMENDATIONS

The starting point for this study settled on the assumption that, in a developed society, increasingly focused on soaring levels of comfort and consumption, the will to adopt ecologically conscious consumer behaviors is deeply intrinsic with individual lifestyle – materialism or simplicity -driven. The main conclusions of this study are presented next.

5.1. MAIN CONCLUSIONS

After the empirical proof of proposed conceptual model, several interesting conclusions can be drawn. It can be inferred, through statistical analysis, that there is an opposition between materialism and voluntary simplicity lifestyles, as indeed was expected. Furthermore, there is statistical evidence that voluntary simplifiers are altruistic individuals with higher levels of environmental concern, who further adopt ecologically conscious consumer behaviors and perceive greater effectiveness on their consumption patterns. Inversely, materialistic individuals demonstrate weak altruism and have lower levels of environmental concern, altogether with a shortened perception of their consumption effectiveness. Their relation with non-generosity and with the adoption of ecologically conscious consumer behaviors was not statistically conclusive.

Embracing of ecologically conscious consumer behaviors is closely related with a simpler lifestyle adoption. Further than that, this adoption is explained by each individual level of environmental concern: the more concerned, greater is the chance of such adoption. Although it might seem too linear and had already been studied on previous works, inclusion of perceived consumer effectiveness does not have a significant role on strengthening the relation between environmental concern and ECCB embracing.

Contrariwise, negative relation between materialism and ECCB adoption turns out to be not statistically significant, as referred. Yet, perfect mediation by environmental concern on that relation allows to state that, by acknowledging the level of environmental concern, it is possible to establish a factual relation between materialism and ECCB.

It was found no evidence, however, that support hypothesized statements that altruism as well as non-generosity would strengthen environmental concern levels for both voluntary

simplifiers and materialistic individuals. The only verified moderation, albeit modest, is associated with introduction of perceived consumer effectiveness between environmental concern and ECCB, for materialistic individuals. It is then realized that, for that group, greater environmental concern as well as greater perception of consumer effectiveness leads to the increase of ECCB adoption. In addition, as perceived consumer effectiveness is positively correlated with ecologically conscious consumer behaviors, such means that the higher the belief that one's efforts can make a difference, the higher will be the referred adoption.

5.2. RESEARCH AND MANAGERIAL CONTRIBUTIONS

The mentioned findings come in the same direction of previous research. According to Roberts (1996b) and Straughan (1999), ecologically conscious consumer behavior is correlated with altruism, perceived consumer effectiveness and environmental concern. Moreover, it was found a negative correlation with non-generosity, as already mentioned. In regard to voluntary simplicity, it is possible to conclude once more that it is a lifestyle with concerns over the environment, like Iwata (2006) and Richins and Dawson (1992) had also found. In addition, materialism is negatively correlated with environmental concern, such as Banerjee (1994) have pointed out.

There are several consequences for marketing and policy executives engaged on the search of sustainable development. If marketers consider a win-win relationship with consumers and also aim to aid sustainable development, they must then take in consideration such lifestyles and perceive them as opportunities from which to learn, rather than a threat, or simply understand it as the behavior of some nonstandard consumers.

The emergence of new typologies of consumption, more informed and demanding will hassle companies to find new approaches to these new consumers. It is not only about turning the brand greener and greener. More than that, it is important to achieve notoriety amongst ethical consumers and that is only possible if the company is really worried about being ethical. It is more like controlling the entire supply chain from beginning to its very

end, knowing their suppliers and manage all the implicit costs, not only the direct, but also social and environmental ones.

Running away from cynical marketing policies is the new challenge for global companies. Moreover, marketing executives are defied to present new approaches to these new consumers. It is not only about presenting an environmentally concerned label. New kinds of products which preserve the environment through resource saving and diminished pollution and which are also able to promote the 2 Rs of reutilization and reduction, comprise some of the possibilities.

The findings regarding perceived consumer effectiveness suggests that both public and private policymakers who support voluntary behavior in order to resolve environmental problems, should try to develop consumer perceptions that their own actions will make a difference. It is common that consumers identify some environmental claims as overstated and/or opportunistic, turning the decision of the best choice more complex.

Therefore, it is important to select effective communication strategies, which show what is being done to protect the environment. Fine (1990) argues that the most general type of social marketing messages is the "sick baby" appeal, a convincing tactic that emphasizes the gravity or seriousness of a problem. However, highlighting the severity of a social marketing problem is perilous because it may boost concern at the expense of perceived effectiveness. As an alternative to the "sick baby" appeal Fine (1990) has suggested the using of the "well baby" appeal, which calls attention to the problem in a positive way, increasing perceptions that the individual can make a difference.

Likewise, if a large number of people choose to live a voluntary simplicity lifestyle, there is no doubt that the movement would increase society's ability to protect the environment, even if it was only a downshift in their lives. As Etzioni (2004) argues, voluntary simplifiers use fewer resources than individuals engaged in conspicuous consumption. Their choices, besides using significantly less energy and other scarce resources, have an impact in the reduction of waste, with environmental gains.

This turns out to be a virtuous cycle, where individuals who are committed with environment they are more likely to embrace a voluntary simplicity lifestyle, while the reverse is also true. Nevertheless, as Etzioni (2004) points out, it should be noted, that while the values and motives of environmentalists and voluntary simplifiers are highly compatible, they may not be the same. Voluntary simplifiers reduce consumption because they find it to be more suited with their psychological needs while pure environmentalists are motivated by concerns for nature and the effects of the increased use of scarce resources.

In addition, if voluntary simplicity is undertaken on a broader sense, it may constitute a new realm where social conditions are gathered, making politically possible to optimize reallocation of wealth in order to suppress general population basic needs. This reasoning is essential as well as it is simple. The wealthy would find value, meaning and satisfaction in challenges other than wealth accumulation, giving up some of that to the needed. These resources would be redirected without political opposition to those who have poor means and prevailing basic needs unresolved,

Empirical evidence points to the notion that when people are positively and robustly motivated by non-consumerist values and sources of satisfaction, it is less probable that they will exceed their consumption needs and it is more probable that they will share their exceeding resources. Voluntary simplicity provides a culturally fashioned expression for such behaviors and strengthens them, while it provides a socially accepted lifestyle that is both psychologically sustainable and tuned with basic socio-economic equality. Changes in culture and public policies have together resulted on an increasingly adoption of voluntary simplicity, essentially by those who have satisfied their basic needs. Such event might provide the fundamental bricks for a society that willingly accommodates basic socio-economic equality, contrasting with one on which conspicuous consumption is widespread.

5.3. LIMITATIONS OF THE STUDY

Some of the limitations of this study need to be addressed. The first limitation is concerned with the small sample size. Besides, the sample needed to be divided into smaller clusters. Hence, the results are not totally generalized across populations. If the sample size could be

increased and the instrument could be delivered to more respondents willing to participate in the study, a richer database would be used to analyze the topic. Moreover, the broadening of the study to a larger and heterogeneous sample would provide the possibility to investigate the demographic profile of the green-consumer.

The second limitation is concerned with the study instrument design. The scale of the study instrument is not uniform. Some of the items are on a 5-point Likert scale, while others are on a 7-point. Different scales were used because different references were employed for the study questions in the questionnaire. Additionally, the instrument should have provided a not applicable (NA) selection in the questionnaire for respondents who could not answer a particular question.

Third, the scales used to measure altruism, non-generosity, and perceived consumer effectiveness were scales that had been used in past research. However, these scales had low reliability in the current study. Future studies need to be careful in the adoption of these scales, or the researcher must be prepared to deal with poor reliability.

The fourth limitation is concerned with the survey method. The study used a self-reported survey to collect data; however, one of the drawbacks in using this method is that people tend to fulfill the survey in order to make themselves look good. Moreover, when the subject is environmental consciousness, there is a tendency to exacerbate the behaviors, i.e., the individual may respond what one would like to do instead of what actually does in his daily life.

The fifth limitation is concerned with the method used to obtain the responses for the questionnaires. The internet is still not accessible to everyone and, moreover, if we want to obtain responses from voluntary simplifiers, these individuals may not wish to have an access to it. Therefore, in future research it would be interesting to find voluntary simplifiers through different means.

The sixth limitation is related with questionnaire language. The original scales were produced in English but the questionnaire was applied in Portuguese. Thus, it may exist some lack of interpretation for each translated question.

The seventh limitation concerns the length of the questionnaire. In order to assess the relationships proposed in the conceptual model, one scale for each variable was used. Although being a web-based questionnaire, it is considered too extensive.

The eighth limitation refers to the measurement of voluntary simplicity lifestyles. It is difficult to assess if the simplicity process is really voluntary or if it results from a need to spare income. For instance, in Portuguese culture, in time of crisis, it is common to find individuals who are concerned with high levels consumption but often times this concern do not translates into behavior. Indeed, it is possible to find individuals who simplify for some type of products but are attached to material possessions related to status quo. Therefore, it is important to develop an instrument which is capable to analyze what is the real motivation for simplifying.

And finally, the ninth limitation is related with the use of two scales to define which individual were considered voluntary simplifiers and who were materialists. However, this study found individuals who are high scorers on both scales. It is suggested the use of alternative scales (or just one, if possible) to identify and discriminate both groups in future research.

5.4. DIRECTIONS FOR FUTURE RESEARCH

Concerning this study and the referred limitations, it is relevant to provide some guidance for future research. The extensive promotion of ecological behaviors requires an understanding of the great diversity of motives people find acceptable and empowering. Yet, given that there are a huge number of environmentally responsible behaviors that will need to be encouraged, it seems prudent to explore those techniques that score well on the durability dimensions.

There is a need to expand the range of motives available to practitioners and to provide a framework within which motives can be evaluated for both their immediate and long-term effectiveness. Attitudes are found to be more behavior predictive when they are held with greater conviction. Thus, it is vital to distinguish between those attitudes that people do not genuinely concern themselves about and those that are personally significant for them.

Moreover, it is important to assess if the opinions of consumers translate into changes in purchasing and consuming behavior. It may be suggested that the complexity of research on ethical consumerism is inherently unreliable. However, part of the gap may be due to the nature of the survey instruments used in the consumer research. In general, surveys on ethical consumerism have used simple ratings scales that may overstate the importance of the ethical issues, since there are clearly more socially acceptable answers.

The first level is to assess what portion of a population is environmentally concerned. Then, the second level is to assess if opinions translates into behaviours. The third level is to assess if a technique is still capable of effecting change after repeated presentation to the same individual. More than that, it is relevant to understand the values which promote not only environmental concern but also the adoption of ecologically conscious consumer behaviors. And, furthermore, it is important to broaden the field of study to ethical consumption and find connections between concern over social and animal fields, understanding if they are connected and what can be done to promote ecologically conscious consumer behaviors.

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APPENDIX 1 – APPLIED QUESTIONNAIRE

Grupo A. Leia atentamente as seguintes frases e, de acordo com a sua opinião, seleccione de 1 a 7 a resposta que mais se adequa, sendo que (1) significa *Discordo totalmente* e (7) *Concordo totalmente*:

	Discordo Totalmente	1	2	3	4	5	6	7	Concordo Totalmente
1. Tento viver uma vida simples e não compro artigos que não são necessários.		1	2	3	4	5	6	7	
2. Não faço compras impulsivas.		1	2	3	4	5	6	7	
3. Quando faço compras, decido comprar um determinado artigo apenas depois de pensar seriamente se o artigo me faz falta ou não.		1	2	3	4	5	6	7	
4. Estou mais preocupado com o desenvolvimento intelectual do que com a riqueza material.		1	2	3	4	5	6	7	
5. Riqueza material é algo muito importante para mim.		1	2	3	4	5	6	7	
6. Mesmo que tenha dinheiro, não tenho o hábito de comprar coisas de forma repentina.		1	2	3	4	5	6	7	
7. Com excepção de viagens, passo o meu tempo livre sem gastar muito dinheiro.		1	2	3	4	5	6	7	
8. Uma vida de conforto e conveniência é o mais importante para mim.		1	2	3	4	5	6	7	
9. Prefiro produtos com funções simples face a produtos com funções complexas.		1	2	3	4	5	6	7	
10. Os produtos que promovem a conveniência e o conforto tornam as pessoas mimadas.		1	2	3	4	5	6	7	
11. Tanto quanto possível, não compro produtos com funções sofisticadas.		1	2	3	4	5	6	7	
12. No futuro, pretendo ser auto-suficiente em termos de alimentação.		1	2	3	4	5	6	7	
13. É desejável ser-se auto-suficiente tanto quanto possível.		1	2	3	4	5	6	7	
14. No futuro, desejo viver uma vida em que posso ser auto-suficiente tanto quanto possível.		1	2	3	4	5	6	7	
15. Tento utilizar os produtos que comprei durante tanto tempo quanto possível.		1	2	3	4	5	6	7	
16. Continuo a utilizar algo que esteja velho desde que ainda possa ser utilizado.		1	2	3	4	5	6	7	
17. Tento comprar artigos que possa usar durante muito tempo sem que me canse deles.		1	2	3	4	5	6	7	
18. Se estiver rodeado por aquilo que comprei, sinto-me sortudo.		1	2	3	4	5	6	7	
19. Desejo comprar algo novo logo após o seu lançamento no mercado, mesmo que já tenha um produto similar.		1	2	3	4	5	6	7	
20. Tenho tendência a comprar artigos que possam ser usados durante muito tempo, mesmo que sejam mais caros, em vez de comprar produtos baratos com maior frequência.		1	2	3	4	5	6	7	
21. Desejo viver uma vida simples em vez de uma vida extravagante.		1	2	3	4	5	6	7	
22. Como uma vida simples é triste, eu não desejo viver esse tipo de vida.		1	2	3	4	5	6	7	

Grupo B. Leia atentamente as seguintes frases e, de acordo com a sua opinião, selecione de 1 a 5 a resposta que mais se adequa, sendo que (1) significa *Discordo totalmente* e (5) *Concordo totalmente*:

	Discordo					Concordo				
	Totalmente					Totalmente				
1. Admiro pessoas que possuem casas, carros e roupas de luxo.	1	2	3	4	5					
2. Alguns dos meus objectivos de vida mais importantes incluem a aquisição de bens materiais.	1	2	3	4	5					
3. Não dou demasiada importância à quantidade de bens materiais que as pessoas têm como símbolo do seu sucesso.	1	2	3	4	5					
4. As coisas que possuo dizem bastante sobre o quão bem estou na vida.	1	2	3	4	5					
5. Gosto de ter coisas que impressionam as pessoas que me rodeiam.	1	2	3	4	5					
6. Não dou muita importância aos bens materiais que as outras pessoas têm.	1	2	3	4	5					
7. Normalmente, só compro os bens que necessito.	1	2	3	4	5					
8. Tento manter a minha vida simples no que diz respeito a bens materiais.	1	2	3	4	5					
9. Os bens que possuo não são nada importantes para mim.	1	2	3	4	5					
10. Gosto de gastar dinheiro em produtos que não são necessários.	1	2	3	4	5					
11. Tenho prazer em comprar coisas.	1	2	3	4	5					
12. Gosto de uma vida com bastante luxo.	1	2	3	4	5					
13. Ponho menos ênfase em coisas materiais do que a maior parte das pessoas.	1	2	3	4	5					
14. Tenho todas as coisas que realmente necessito para apreciar a vida.	1	2	3	4	5					
15. A minha vida seria mais preenchida se tivesse coisas melhores.	1	2	3	4	5					
16. Não seria mais feliz mesmo que tivesse coisas melhores.	1	2	3	4	5					
17. Seria mais feliz se pudesse comprar mais coisas.	1	2	3	4	5					
18. Às vezes aborrece-me um pouco que não possa comprar tudo o que gostaria.	1	2	3	4	5					

Grupo C. Leia atentamente as seguintes frases e, de acordo com a sua opinião, selecione de 1 a 5 a resposta que mais se adequa, sendo que (1) significa *Discordo totalmente* e (5) *Concordo totalmente*:

	Discordo					Concordo				
	Totalmente					Totalmente				
1. Normalmente, faço um esforço consciente para limitar o uso de produtos que são feitos de ou utilizam recursos escassos.	1	2	3	4	5					
2. Não compro produtos que estão empacotados de forma excessiva.	1	2	3	4	5					
3. Quando existe escolha, prefiro sempre o produto que polui menos.	1	2	3	4	5					
4. Se estiver consciente dos danos potenciais que alguns produtos causam ao ambiente, eu não compro esses produtos.	1	2	3	4	5					

5. Troquei produtos por razões ecológicas.	1	2	3	4	5
6. Reciclo o lixo produzido em minha casa.	1	2	3	4	5
7. Faço um esforço para comprar produtos de papel que seja feitos de papel reciclado.	1	2	3	4	5
8. Para lavar a roupa, utilizo detergente com baixo nível de fosfatos.	1	2	3	4	5
9. Convenci familiares ou amigos a não comprar artigos que prejudicam o ambiente.	1	2	3	4	5
10. Comprei determinados produtos porque provocam menos poluição.	1	2	3	4	5
11. Não compro produtos em embalagens com aerossóis.	1	2	3	4	5
12. Sempre que possível, compro produtos embalagens reutilizáveis.	1	2	3	4	5
13. Quando compro produtos, faço sempre um esforço consciente para comprar os que têm menor nível de componentes poluidores.	1	2	3	4	5
14. Quando tenho que escolher entre dois produtos iguais, eu adquiero sempre aquele que prejudica menos as outras pessoas e o ambiente.	1	2	3	4	5
15. Compro papel higiênico reciclado.	1	2	3	4	5
16. Compro lenços de papel reciclado.	1	2	3	4	5
17. Compro toalhas de papel reciclado.	1	2	3	4	5
18. Não compro um produto se a empresa que o vende é ecologicamente irresponsável.	1	2	3	4	5
19. Tento adquirir produtos que possam ser reciclados.	1	2	3	4	5
20. Para reduzir a dependência do petróleo, tento conduzir o meu carro o mínimo possível.	1	2	3	4	5
21. Não compro produtos para a casa que prejudicam o ambiente.	1	2	3	4	5

Grupo D. Leia atentamente as seguintes frases e, de acordo com a sua opinião, selecione de 1 a 5 a resposta que mais se adequa, sendo que (1) significa *Discordo totalmente* e (5) *Concordo totalmente*:

	Discordo					Concordo				
	Totalmente					Totalmente				
1. É escusado que o consumidor individual faça algo para impedir a poluição.	1	2	3	4	5					
2. Quando compro bens, penso em como o seu uso irá afectar o ambiente e as pessoas.	1	2	3	4	5					
3. Já que uma pessoa não tem qualquer efeito sobre a poluição e sobre a resolução de problemas ambientais, aquilo que eu faço não faz qualquer diferença.	1	2	3	4	5					
4. O comportamento de consumo de cada pessoa pode ter um impacto positivo na sociedade através da compra de produtos vendidos por empresas socialmente responsáveis.	1	2	3	4	5					
5. Os seres humanos não precisam de se adaptar ao meio ambiente porque podem alterá-lo de forma a responder às suas necessidades.	1	2	3	4	5					
6. Existem limites ao crescimento, para além dos quais a nossa sociedade industrializada não pode expandir-se.	1	2	3	4	5					

7. O equilíbrio da natureza é muito delicado e facilmente prejudicado.	1	2	3	4	5
8. Quando os seres humanos interferem com a natureza, provocam consequências desastrosas.	1	2	3	4	5
9. Os seres humanos devem viver em harmonia com a natureza, de forma a sobreviverem.	1	2	3	4	5
10. Os seres humanos estão a abusar severamente do meio-ambiente.	1	2	3	4	5
11. Os seres humanos têm o direito de modificar o meio ambiente de forma a que este se adapte às suas necessidades.	1	2	3	4	5
12. As plantas e os animais existem para serem utilizados pelos humanos.	1	2	3	4	5
13. Estamos a chegar ao limite populacional que o planeta Terra pode suportar.	1	2	3	4	5
14. Para manter a economia saudável, teremos que desenvolver uma economia regrada onde o crescimento industrial é controlado.	1	2	3	4	5
15. A Terra é como uma nave espacial, mas com quartos e recursos limitados.	1	2	3	4	5
16. Os seres humanos foram criados para controlar o resto da natureza.	1	2	3	4	5

Grupo E. Leia atentamente as seguintes frases e, de acordo com a sua opinião, seleccione de 1 a 5 a resposta que mais se adequa, sendo que (1) significa *Discordo totalmente* e (5) *Concordo totalmente*:

	Discordo					Concordo
	Totalmente					Totalmente
1. Preocupo-me em poupar energia apenas quando é para baixar as contas.	1	2	3	4	5	
2. Contribuir para as organizações de apoio às comunidades pode melhorar significativamente a vida de outras pessoas.	1	2	3	4	5	
3. Cada indivíduo é responsável pela sua satisfação na vida.	1	2	3	4	5	
4. É meu dever ajudar as outras pessoas quando elas não são capazes de se ajudar a si próprias.	1	2	3	4	5	
5. Muitos dos problemas da sociedade actual resultam de comportamentos egoístas.	1	2	3	4	5	
6. Lares semelhantes ao meu não deveriam ser culpados de problemas ambientais causados pela produção e utilização de energia.	1	2	3	4	5	
7. A minha responsabilidade é cuidar apenas da minha família e de mim.	1	2	3	4	5	
8. A utilização de energia renovável é a melhor forma de combater o aquecimento global.	1	2	3	4	5	
9. As minhas acções pessoais podem melhorar significativamente o bem-estar de pessoas que eu não conheço.	1	2	3	4	5	
10. Gosto de receber convidados em minha casa.	1	2	3	4	5	
11. Gosto de partilhar aquilo que tenho.	1	2	3	4	5	
12. Não gosto de emprestar as minhas coisas, mesmo a bons amigos.	1	2	3	4	5	
13. Faz sentido comprar equipamentos como um cortador de relva em conjunto com um vizinho e partilhá-lo	1	2	3	4	5	
14. Não me importo de dar boleia a quem não tem carro.	1	2	3	4	5	

15. Não gosto que estejam pessoas em minha casa quando não estou presente	1	2	3	4	5
16. Gosto de fazer donativos a instituições de caridade.	1	2	3	4	5

Grupo F. Indique, por favor, as seguintes informações:

1. Sexo: Feminino Masculino
2. Idade:
- a. 18-24 anos
 - b. 25-54 anos
 - c. Mais de 55 anos
3. Zona de residência:
- a. Norte
 - b. Centro
 - c. Lisboa
 - d. Alentejo
 - e. Algarve
4. Grau de habilitações:
- a. Ensino Básico
 - b. Ensino Secundário
 - c. Licenciatura
5. Ocupação
- a. Quadros superiores da administração pública, dirigentes e quadros superiores de empresa
 - b. Especialistas das profissões intelectuais e científicas
 - c. Técnicos e profissionais de nível intermédio
 - d. Pessoal administrativo e similares
 - e. Pessoal dos serviços e vendedores
 - f. Agricultores e trabalhadores qualificados da agricultura e pescas
 - g. Operários, artífices e trabalhadores similares
 - h. Operadores de instalações e máquinas e trabalhadores da montagem
 - i. Trabalhadores não qualificados
 - j. Forças armadas

