



Perera, L., & Hewege, C. R. (2013). Climate change risk perceptions and environmentally conscious behaviour among young environmentalists in Australia.

Originally published in *Young Consumers: Insight and Ideas for Responsible Marketers*, 14(2), 139–154.

Available from: <http://dx.doi.org/10.1108/17473611311325546>

Copyright © Emerald Group Publishing Limited.

This is the author's version of the work, posted here with the permission of the publisher for your personal use. No further distribution is permitted. You may also be able to access the published version from your library. The definitive version is available at <http://www.emeraldinsight.com/>.

# **Climate change risk perceptions and environmentally conscious behaviour among young environmentalists in Australia**

by

**Liyanage Chamila Roshani Perera**

&

**Chandana Rathnasiri Hewege**

## **Abstract**

### *Purpose*

We investigated environmentally conscious behaviour among young individuals in Australia with a special attention given to their climate change risk perceptions.

### *Methodology*

Twenty in-depth interviews were employed in this qualitative investigation. The informants of the investigation are young individuals (aged between 19-25 years) in a major city in Australia. Twenty semi-structured, in-depth interviews ranging from 1.5 - 3 hours were conducted. Purposive and snowball sampling techniques were used to ensure informant diversity and access to 'information rich' cases of youth engaged in environmental groups, activism and environmental behaviour.

### *Findings*

Four thematic categories were derived. They are: unperceived adverse effects of climate change, disassociation between adverse effects of climate change and environmentally conscious behaviour, challenges to the dominant economic model and, redefined environmental paradigm

### *Research limitations/implications*

Based on the implications of the findings, several recommendations for communicating climate change remedial actions and encouraging environmentally conscious behaviour among young individuals are made.

*Originality/value*

The study contributes towards enhancing the understanding of climate change risk perceptions and environmentally conscious behaviour among young environmentalists in Australia where studies on young consumers are scarce. Findings of the study are useful in gaining young individuals' support for the successful implementations of climate change remedial actions.

**Key words**

Climate change risk perceptions, environmentally conscious behaviour, environmental paradigm, young consumers, Australia

## **Introduction**

Climate change is considered to be causing significant environmental problems that lead to several economic, social and political issues around the world. According to some extreme estimates, climate change-related problems could result in a loss of at least five per cent of global GDP each year, potentially creating an economic catastrophe (Stern 2006; 2008). Consequently, it is apparent that many actions have been undertaken worldwide to overcome the adverse effects of climate change problems.

The United Nations Framework Convention on Climate Change (UNFCCC) is an international environmental agreement between 166 countries, which aims at stabilizing green house gas emissions in the atmosphere at a level that would prevent dangerous anthropogenic interference (human interventions) with the global climate system. The UNFCCC members agreed to reduce green house gas emissions to an average of five per cent against 1990-levels over the period 2008-2012.

The identification of anthropogenic green house gas concentrations was one of the key features that received considerable attention at the recent UNFCCC conference that was held in December 2009 in Copenhagen, Denmark. Anthropogenic climate change occurs when green house gas emissions are primarily caused by the business and individual behaviour. Consequently, many governments have initiated climate change remedial actions to control green house gas emissions. In Australia, the Federal Government has recently passed the legislation on carbon tax as a measure to curbing climate change problems. The legislation expects to have a significant impact on businesses as well as on consumers.

Along with the recent discourses around environmental problems such as climate change and frequent environmental catastrophes, calls for mainstream consumers to be environmentally conscious in everyday consumption practices (for example, energy saving) have recently become a common phenomenon. Evidence of the increasing concerns over environmental effects of consumption is also appearing. For example, it is found in a recent online survey that a large majority (66%) of consumers around the world prefer to purchase environmental products. More importantly, nearly a

half (46%) of the consumers prefer to pay extra for environmental products (The Nielsen Company 2012).

According to the Australian Centre for Retail Studies (2011), 46% of regular purchases made by the Australians are based on environmental credentials. These Australians are also willing to pay 5-10% extra for environmental products. Another survey found that 75% Australians (Victoria) are happy to sacrifice personal comfort over energy saving, ensuring the environmental wellbeing (Department of Climate Change 2009). On the contrary, according to the 2010 Lowy Institute poll reports based on an opinion survey of 1,001 Australians, although a large majority (72%) of Australians agreed that Australia should take action to reduce its carbon emissions, one fourth of the respondents (25%) were either only prepared to pay \$10 or less extra per month on their electricity bill to resolve climate change problems or were not prepared to pay anything (33%) (Hanson 2008). Based on this background it is important to investigate how consumers perceive climate change within every day consumption practices.

Johnson et al.(2004) claim that the social consciousness of climate change problems and environmental catastrophes may have influenced consumers to be environmentally conscious. Some other researchers, however, find that consumers are likely to perceive the phenomenon of climate change as a complex environmental problem which is difficult for them to comprehend (Connolly *et al.* 2003; Whitmarsh 2009b). There is also a tendency that consumers disassociate themselves from causes, impacts and responsibility of taking remedial actions for climate change problems and intangibility of the problems is a key impediment in promoting environmentally conscious behaviour (Leiserowitz 2006; Whitmarsh 2009a).

The coexistence of conflicting evidence on increasing incidence of environmentally conscious behaviour and the perceived complexity of understanding climate change among consumers set the foundation of the current investigation. It is intriguing to investigate if environmentally conscious behaviour is promoted by the awareness of climate change and its adverse consequences. The latter is defined as climate change risk perceptions (Leiserowitz 2006). Actions that are taken with the purpose of minimising the adverse environmental effects of consumption can be defined as environmentally conscious behaviour. For example, riding a bicycle instead of

driving a car with the purpose of minimising carbon emissions can be considered an environmentally conscious behaviour.

It is found in previous research that the environmentally conscious behaviour of consumers who engage in environmental group activities is strongly associated with climate change risk perceptions (Brody *et al.* 2008). Further, young individuals are considered more concerned about the environment than older generations are (Royne *et al.* 2011). As such, we articulated the research problem of the study as: how do climate change risk perceptions influence environmentally conscious behaviour among young environmentalists in Australia? We focused on consumer behaviour of young environmentalists in Australia for several reasons. Firstly, it was assumed that the young environmentalists could provide us with rich information based on their real life experiences in engaging in environmentally conscious behaviour. Secondly, young Australians have been brought up in a society where the “good life” is promoted and conveyed through materialistic consumption (Bentley *et al.* 2004b; Fien *et al.* 2004; Hume 2009). It is therefore assumed that the recent environmental problems may have some influence on the young environmentalists’ behaviour. Thirdly, there is a paucity of research on young Australian consumers’ environmental behaviour (Bentley *et al.* 2004a; Fien *et al.* 2008).

This paper is organised into six sections. In the forthcoming section, we review extant literature on climate change risk perceptions. Third section consists of three subsections and provides a review of environmentally conscious behaviour. Fourth section presents the methodology of the study. Organised into four subsections the fifth section discusses the findings of the study. The final section presents the concluding comments and implications.

### **Climate change risk perceptions**

Climate change risk perceptions are defined as awareness of the occurrence of climate change and the sensitivity to its adverse effects (Leiserowitz 2006; Weber 2006; Whitmarsh 2008). Consumers’ understanding of the adverse effects of climate change is considered an important factor determining environmentally conscious behaviour (Makover 2011; Ockwell *et al.* 2009).

As noted earlier, many governmental and other institutional actions have been initiated addressing climate change problems. This considerably influences on business and consumer practices. For example, many products with “green” elements are increasingly being introduced into consumer markets along with several other initiatives of promoting environmentally conscious behaviour. The previous section also provided compelling evidence of increasing interests in environmentally conscious behaviour. It can therefore be assumed that climate change risk perceptions should have played a significant role in promoting such behaviour. The extant literature on climate change, however, says otherwise.

According to previous research, consumers do not have a clear understanding of the phenomenon of climate change and its adverse effects. For example, a recent review of research shows that even though 63% of Americans believe that climate change is happening, they are not completely aware of its causes and effects. Lack of knowledge and understanding of the adverse effects of climate change is one of the significant barriers in gaining public support for remedial actions (Ockwell *et al.* 2009). This lack of understanding also negatively influences environmentally conscious behaviour among consumers (Makover 2011).

Inconsistent findings on climate change risk perceptions also coexist in the literature. Leiserowitz (2006) finds that climate change perceptions are associated with the way in which consumers process rational or scientific information about environmental disasters. Even though consumers consider scientific information sources to be reliable in informing their awareness about environmental issues, consumers who have personally experienced environmental disasters tend to perceive climate change more emotionally than those who do not have such experiences (Bulkeley 2000; Leiserowitz 2006). Although many agree with the above research (Loewenstein *et al.* 2001; Slovic *et al.* 2007), Weber (2006) argues that when experiences in climate change-related environmental disasters are scarce, consumers generally do not perceive the adverse effects of climate change.

Providing further evidence for the inconsistency, in a recent research on flood victims, Whitmarsh (2008) finds that personal experiences in climate change-related

environmental disasters have very little impact on climate change risk perceptions. Although this finding is confirmed by several other researchers, they also find there is a significant positive relationship between human fatalities (as opposed to property damage) linked with environmental disasters, and climate change risk perceptions (for example, Brody *et al.* 2008).

As mentioned earlier, consumers may not fully comprehend the phenomenon of climate change and specific details about its causes and impacts. Despite the controversies surrounding the claims about the phenomenon of climate change and its adverse effects in public media, it can be expected that there is a considerable level of familiarity of the notion of climate change due to high media coverage on them. Further, during the past few years, most Australians have seen relatively frequent occurrences of environmental catastrophes. Accordingly, it can be seen that although climate change risk perceptions may not always be associated with environmental disasters, they are strongly associated with many other factors such as human fatalities, physical vulnerability to sea level rise, perceived efficacy in dealing with climate change effects and environmental values (see also, Brody *et al.* 2008; DEFRA 2002).

In summary, since climate change is relatively a new phenomenon, many individuals do not tend to have a clear understanding about it. Some perceive it as a scientific issue, while others perceive it as an environmental issue, a political issue or a social issue. More importantly, we are interested in investigating how environmentally conscious consumers reflect climate change risk perceptions in their everyday consumption.

### **Environmentally conscious behaviour**

Environmentally conscious behaviour has also been a well investigated phenomenon in consumer research over the past decades (for example, Dunlap *et al.* 1978; Milfont *et al.* 2006; Stern 2000; Stevenson 2002) with more recent research focusing on climate change related consumer behaviour (Leiserowitz 2006; Perera *et al.* 2010; Whitmarsh 2009a; Whitmarsh *et al.* 2011).

Overall, research on environmentally conscious behaviour is multifaceted. Some studies are based on the rational assumptions of behaviour models, in particular norm-activation theory (Schwartz 1977) or the theory of planned behaviour (Ajzen 1991).



These studies have examined the value-belief-norms (Stern 2000), individual factors (Axelrod *et al.* 1993), personal values (Guagnano 2001; Schultz *et al.* 2005; Schultz *et al.* 1999; Thøgersen *et al.* 2002), psycho-social determinants (Bamberg *et al.* 2007) and cultural, political and ethical factors (Leonidou *et al.* 2010) of environmentally conscious behaviour. Although these studies are important in explaining the general environmental concerns and behaviour of consumers to a considerable extent, they have not focused on climate change risk perceptions and how these affect environmentally conscious behaviour.

Adding a new research direction to environmentally conscious behaviour, Lorenzoni *et al.* (2007) present a comprehensive review of the barriers that consumers face in adapting behaviour to climate change problems. Further, several other researchers claim that behavioural adaptations due to climate change awareness depend on factors such as consumer values, uncertainty around climate change risk, social and individual factors and experiences of environmental problems (Adger *et al.* 2009).

Some environmental studies tend to relate the negative influence of consumer materialism of modern western societies to environmental issues such as climate change problems (Inglehart *et al.* 2000; Seyfang 2004; Slocum 2004; Stern 1992; Stern *et al.* 1995). Further, a content analysis of some of the US newspapers reveals that a considerable proportion of media coverage on climate-related problems are linked to consumer materialism (Brossard *et al.* 2004).

### **Consumer materialism**

Consumer materialism can be viewed from two perspectives. From the first perspective, materialism is viewed as an excessive regard for worldly possessions, a personal trait or a value that directs consumers to accumulate possessions for the purpose of happiness (Belk 1984; Belk 2001; Kasser *et al.* 2004; Richins 2004). From the second perspective, materialism is viewed as a commonly accepted social belief system of a society rather than a personal orientation (Arnould *et al.* 2005; Holt 1998; Mick 1996).

Viewing materialism as a beliefs system is referred to as a paradigmatic worldview, a collective psyche shared by the members of a society. Kilbourne and Polonsky (2005 p.37) define this collective psyche as the dominant social paradigm

which is a shared beliefs system that makes up a society's worldview, and that functions as an ideology. Basically, the social paradigm represents the current market system in which consumers and producers engage in market transactions. This can also be described as the commodity market culture. Kilbourne and Carlson (2008a) show that although beliefs in the dominant social paradigm significantly influence on making consumers not concerned about environmental effects of personal consumption, the paradigm has been largely ignored in previous environmental behaviour research.

Kilbourne and Polonsky (2005) present a multi dimensional view of the dominant social paradigm: political, economic, technological, structural, functional and, human position. In this study, we discuss only two dimensions most strongly related to environmental behaviour: the economic and the human position dimensions. The economic dimension is constructed on notions such as resource allocation through free markets, behaviour motivated by self interest of individuals and economic growth as the ultimate pursuit of society (Kilbourne *et al.* 2008a). Therefore, economic dimension represents the dominant economic system of society.

According to Kilbourne and Pickett (2008b), consumer materialism is institutionalised in and highly valued by the western consumer society. This institutionalisation can also be related to the dominant social paradigm, in particular to the economic dimension in which consumer materialism is considered a sign of prosperity and economic well-being. As noted earlier, a negative relationship exists between consumer beliefs in the dominant economic system and the tendency to engage in environmental behaviour (Kilbourne *et al.* 2002; Kilbourne *et al.* 2008a; Kilbourne *et al.* 2005).

Although materialistic consumers, who believe in the dominant social paradigm and the dominant economic system, are less likely to have environmentally conscious attitudes and to engage in environmentally conscious behaviour, the consumers tend not to be perceived as materialistic consumers who harm the environmental wellbeing. Thus, they strive to bring a reconciliation between the adverse environmental effects of consumption and the widely accepted social beliefs system of materialism as a sign of prosperity (Kilbourne *et al.* 2008b). Thus, it can be argued that when consumer

materialism governs a society as its dominant economic system, consumers in that society are less likely to be engaged in environmental behaviour.

As noted earlier, in this study, we also focus on the human position dimension of the dominant social paradigm. The notion of the human position dimension is similar to the notion of environmental paradigm, which can be defined as the perspective of viewing the relationship between humans and the environment (Dunlap 2008; Dunlap *et al.* 1978). There are two types of environmental paradigms discussed in the literature: anthropocentric and eco-centric perspectives.

According to the human position dimension of the dominant social paradigm, humans are considered the controllers of the natural environment (Kilbourne *et al.* 2005). This is the anthropocentric perspective of viewing the environmental paradigm. On the other hand, many reviews on environmental movements find that consumers tend to view the environmental paradigm from an eco-centric perspective (nature-centred perspective) when there is an emerging environmental movement (Dunlap 2008; Dunlap *et al.* 1978; Johnson *et al.* 2004).

As described earlier, there is a trend among consumers who seek changes in their usual consumption patterns, showing greater environmental concerns. These types of changes in the mainstream consumer behaviour is usually referred to as consumer movements (Kozinets *et al.* 2004). With the emerging environmental movement, it can be assumed that the longstanding assumptions of materialistic consumption practices in the western societies may no longer be fully accepted.

### **Young consumers in Australia**

Young individuals in Australia have been brought up in a society where the 'good life' is promoted and conveyed through materialistic consumption. Materialistic consumption is their means of social interaction, cultural interchange, self-expression and social inclusion (Bentley *et al.* 2004b; Fien *et al.* 2004; Hume 2009). Based on the arguments made earlier, materialistic consumers tend not be environmentally conscious consumers. As such, a study carried out with a sample of Australian and New Zealand young consumers (median age of 21 years), Kilbourne and Polonsky (2005) examine

the four dimensions of the dominant social paradigm (political, economic, technological, structural, functional and, human position) with regard to environmental attitudes and perceptions of environmental behaviour. They find that there is a negative relationship between young consumer beliefs in the dominant social paradigm, and environmental concerns and perception of environmental behaviour.

Hume (2009) also finds that young Australians tend not to reflect their general environmental concern in actual behaviour. In support of Hume's findings, a focus group based study with 16-17 year old students in two cities in Australia finds that the environmental concerns of the students were mixed with frustrations, cynicism and action paralysis, resulting in a certain ambivalence towards intentions to taking environmental actions (Bentley *et al.* 2004b; Connell *et al.* 1999).

More recent studies, however, find that young people are more concerned about the environment than older generations are (Royne *et al.* 2011). More importantly, young consumers are considered change agents of consumers movements such as the emerging environmental movement (Bentley *et al.* 2004a). As such, we focus on environmentally conscious behaviour of young Australians. In particular, we explore how young Australian consumers view climate change, its adverse effects, and how those views affect their environmental behaviour. Several researchers call for studies on consumers' understanding on the phenomenon of climate change, its adverse effects, how consumers deal with climate change perceptions and, the barriers consumers face in dealing with climate change in their everyday consumption practices (for example, Ockwell *et al.* 2009; Whitmarsh 2009b).

Many argue that research that focuses on consumer experiences as opposed to antecedents of behaviour provides better understandings of consumer behaviour (for example, Arnould *et al.* 2006; Connolly *et al.* 2008). Thus, in this study we focus on climate change risk perceptions among young environmentalists who engage in various environmental activities. We believe that the research that focuses on this group will be more useful in gaining a deep understanding of the relationship between climate change risk perceptions and environmental behaviour.

## **Methodology**

We employed an interpretive methodological approach as it provides for a deep understanding of the study phenomenon. The informants of the investigation are young individuals (aged between 19-25 years) in a major city in Australia. Twenty semi-structured, in-depth interviews ranging from 1.5 - 3 hours were conducted. Purposive and snowball sampling techniques were used to ensure informant diversity and access to “information rich” cases of youth engaged in environmental groups, activism and environmental behaviour (Patton 2002). Appendix 1 shows the detailed profiles of the informants.

As noted in the first section, it is found in previous research that the environmentally conscious behaviour of consumers who engage in environmental group activities is strongly associated with climate change perceptions (Brody *et al.* 2008). All of our informants have been engaged in environmental activities (for example, protesting or engaging in awareness building programs about environmental issues) in various activists’ groups for approximately three to four years. The experiences of engaging in environmental practices are, however, varied among the informants of the current study. Some have an environmentally conscious life style due to the influence of family background (for example, parents who value the natural environment or who own farms) while others have been exposed to environmental disasters such as cyclones or severe droughts in rural Australia. Others have various social, cultural and religious experiences as they have been extensively travelling into developing countries such as Thailand, India or Cambodia.

The interviews were audio recorded and transcripts were made. The data analysis of the study was carried out according to the grounded theory approach postulated by Straussian School of thought (Corbin *et al.* 1990; Strauss *et al.* 1997, 1998). Firstly, a line-by-line analysis or microanalysis on the interview transcripts was manually carried out through open, axial and selective coding. The analysis began with carefully reading the interview transcripts. This helped the researchers gain a general idea of “what is going on in the field”. Secondly, the open coding was carried out. In open coding, qualitative data analytically broke down while comparing events/actions/interactions of the informants. Based on the similarities and differences

of the open codes, categories and subcategories were formed. The first round of line-by-line analysis was completed after the first 12 interviews to refine the interview protocol for subsequent cases. Completing the analysis of data collected in all 20 interviews, several thematic categories (Strauss *et al.* 1990) were derived. Properties, dimensions, and the relationships among the categories were noted.

The thematic categories were tested with informants in member check interviews that were carried out with 12 informants mostly via telephone conversations for approximately 30 minutes. A summarised note of the thematic categories was sent via emails to other three informants who were unable to be contacted via telephone. The informants' comments received during the member check interviews were useful in confirming the findings of the study. These comments served as a mechanism of checking the validity of the findings of interpretive research (Wallendorf *et al.* 1989).

### **Findings and discussion**

Despite the high level of awareness about the term of 'climate change', most of our informants did not have a clear understanding about climate change nor its adverse effects. In particular, they found it difficult to clearly describe their views on the adverse effects of climate change in the local environment. There was a tendency among many informants to believe that developed countries will not be adversely affected by climate change problems. The informants, however, expressed concerns for the citizens of other countries who are affected by climate change (for example, Bangladesh).

We also found that instead of being influenced by the climate change risk perceptions and its adverse effects, environmentally conscious behaviour of the informants seem to be highly motivated by the negative attitudes they have towards the dominant market system and the environmentally unfriendly company practices in Australia. This will be further discussed below.

#### ***Unperceived adverse effects of climate change***

Prior to investigating informants' perceptions on adverse effects of climate change, we investigated how the informants comprehend the phenomenon of climate change.

Surprisingly, regardless of considerable engagement in environmental activities with a high level of environmental concerns, the informants could not properly explain the personal meaning of the phenomenon of climate change. For example, Anita (5F) tried to explain climate change:

Climate change means that, [umm], I don't know it's a big unknown, I guess we don't know what's exactly going on.

Another informant, Rihana (12F) said:

It's pretty hard to imagine because you know, because the kind of effects of climate change are pretty catastrophic and I think [its] pretty hard to imagine

Previous studies find that individuals face cognitive, affective and behavioural barriers in understanding climate change and its adverse effects (Lorenzoni *et al.* 2007). As shown in the above excerpts, terms such as "it's a big unknown (Anita) and "it's pretty hard to imagine" (Rihana) show the cognitive barriers that these informants face in understanding the phenomenon of climate change. The influence of these barriers in understanding the adverse effects of climate change is inevitable. As such, when explaining about effects of climate change to Australia, another informant, Babra (1F):

[umm] to Australia? Well, for me Australia means the nation. I think like [laugh] yeah, it's not going to be, it's not going to be [umm] yeah, relatively, it not going to be hit too bad.

As shown earlier, Rihana (12F) explained how difficult it is to predict the adverse effects of climate change. Yet, she believes that wealthy countries and individuals will not be as badly affected as those in the poor countries will:

I would say that some countries that are poorer would be a lot more affected by it than I would because I live in a rich country and, because my family is relatively better off than other people in Australia.

It can be seen that most informants promptly related environmental disasters in other countries to climate change related environmental issues. Explaining about adverse effects of climate change, an informant, Bella (18F) said:

Well, I don't know, Bangladesh brings to mind, that seems to be very concerned about climate change because of the, I think it's in very low line[coastal area] and so it's more likely to be affected if, umm, the sea level [rises].

According to Will (11F), the adverse effects of climate change makes him recall other countries that are vulnerable to climate change problems. Thus:

...the islands that are appealing to nations, like Australia to take them in because they are [...], because their islands are going under water.

It can be seen in the above excerpts that similar to previous research findings, there is an association between physical vulnerability (for example, sea level rise) and climate change risk perceptions (for example, Brody *et al.* 2008).

Whitmarsh (2009b) finds that there is a tendency for consumers to dissociate themselves from climate change related environmental issues. Further, according to a national survey carried out by Leiserowitz (2006), Americans perceive climate change as having a moderate risk. These moderate risk perceptions, however, appear to be driven primarily by the awareness of the danger to geographically distant people and places. Confirming these previous research findings, the current research study also finds that the informants tend not to expect the adverse effects of climate change in their immediate environment. They tend to dissociate themselves from adverse effects of climate change and relate the effects to other, especially poor nations which may not successfully be able to deal with climate change problems.

According to Whitmarsh (2008), the relationship between environmental disasters and adverse effects of climate change may be indirect and mediated by environmental values. Although four of our informants had personal experiences with environmental disasters, they were reluctant to relate those experiences to climate change problems. An informant, Drew (17F) said:



I guess [...] I mean this is a kind of thing I don't know if you could say that it's climate change related or not. I think, New South Wales quite often gets floods at least once year or so.

The informants of the current research engage in environmental activities and are affiliated with various environmental groups. Therefore, it can be easily assumed that they value the environment and are aware of climate change problems more than the other consumers who do not engage in these activities (Brody *et al.* 2008). However, according to the findings of the current research study, neither environmental values nor experiences in environmental disasters appear to have significantly influenced the understanding of the phenomenon of climate change and its adverse effects.

In summary, despite the engagements in various environmental activities, the informants find it difficult to imagine the adverse effects of climate change. Climate change risk perceptions among the informants are based on the adverse effects of climate change in other countries, especially in those countries that struggle to cope up with the effects of economic hardships. The informants perceive a low risk of being influenced by the climate change effects in their home country. Accordingly, similar to previous research findings (for example, Leiserowitz 2006; Weber 2006; Whitmarsh 2008), it can be seen that these informants also consider the likelihood of them experiencing the adverse effects of climate change, to be remote.

### ***Disassociation between climate change perceptions and environmental behaviour***

We also found that environmental behaviour among the informants is not associated with climate change perceptions due to two reasons. First, as noted earlier, they perceive climate change as a complex, non-local issue. Therefore, it is difficult for them to relate climate change risk perceptions to environmental behaviour. Second, all the informants have negative attitudes towards some of the climate change related actions taken by the state governments of Australia (for example, political debates, policies and other initiatives) and private companies (for example, profit driven environmental practices). They also have negative attitudes towards the role of media in distributing information about climate change and related actions. Julie (15F) said:

I think there were really big media waves talking about climate change. I think it's really gone now. I don't think they are talking much about it as they did and I think it's after Copenhagen. People kind of think, 'oh! nothing happening; governments aren't really doing [anything]. I think people now move away from bigger government things. Also moving away from trying to make big changes. They just go back to the communities and start up things in a small way there.

We found that negative attitudes towards climate change remedial actions tend to influence the informants toward disassociating their environmentally conscious behaviour from climate change risk perceptions. Similar to Julie (15F), many informants emphasised the importance of engaging in environmental practices individually and collectively, rather than relying on actions on climate change problems by governmental or other institutional agencies. Samantha (10F) emphasised the importance of individual environmental actions: "Accountability [...] people are more able to be accountable for their own life styles than whole countries or whole businesses". The informants also emphasised the importance of engaging in environment-related collective actions as well. Timothy (7M) said:

I think there are lot of people doing a lot of things outside the government and the corporate (private companies) field, people are fed up with politicians being worried about getting elected, corporations being too involved in making their dollar or in getting their golden hand shake...that's why they are called corporations... On the other hand, individually and collectively, people are engaged in Transition Town Movement (community group), the permaculture stuff, and the Share-hood[a community group]. This is really cool.

As noted at the outset of this paper, anthropogenic climate change problem has been the prominent theme taken by many of the recent conferences on climate change. National governments of many countries around the world are focusing on carbon emission reductions. Also, various climate change remedial actions have been initiated. The success of those actions is largely dependent on public support. Therefore, it can be seen that a great emphasis is given to communicating about climate change, its adverse effects and the importance of environmental behaviour. According to the findings of this study, however, the informants are largely moving away from believing in and

supporting remedial actions initiated by the governments and other institutions such as private companies.

Disappointments with existing remedial actions motivated the informants to search for actions that can be carried out either individually or collectively. As Jessica (16F) said, “it’s a bottom up approach, without waiting for the government to take actions”. As previous researchers highlighted, there are tensions between top-down, behaviour-forcing approaches and bottom-up, participatory approaches (Ockwell *et al.* 2009, p.1). As shown in Timothy’s excerpt above, the informants are forming collective organisations and are organising community projects that are more reliable than the climate change remedial actions of the governments and private companies are.

### ***Challenges to the dominant economic model***

As explained earlier, the economic dimension of the dominant social paradigm (the dominant economic model) is related to consumer materialism, a sign of prosperity and also being considered negatively associated with environmental attitudes (Kilbourne *et al.* 2005). The informants of the study have unfavourable attitudes towards the economic dimension of the dominant social paradigm. Although materialistic consumption is a vehicle of expressing self identities and a mechanism for socially connecting among young Australians (Fien *et al.* 2004), the informants criticised the materialistic life styles of other young consumers. For example, referring to life styles of her generation, Ellen (8M) explained:

My generation, I think, it’s very much caught up into consumerism and [umm] like the advertising that has been thrust upon by corporations so forth. It’s really hard to escape the dominant economic model that we have now, As you know it’s hard to pull yourself from that if you want to stay within that society. Yeah, you just can’t escape advertising; you can’t escape going shopping.

The informants have taken up the challenge of changing their life styles into a non-materialistic one. An informant, Betty (20F) said:

I feel like especially after becoming more aware of environmental issues, I'm kind of glad that I am not into shopping much because I feel it will probably be harder for someone who is really into shopping to change.

Timothy (7M) who identifies himself with environmentalists gave an example of environmentalists' preferred way of enjoyment differentiating from mainstream consumers:

They are interested in working on less destructive ways of having fun. They don't necessarily need to fly to Bali to have a holiday but may be catch a bus down [pointed toward a bus stop] and go bush walking.

We also found that some of these informants take collective actions to make other consumers aware of 'commercial campaigns' that may promote excessive materialistic life styles. Such actions suggest that these young consumers have the potential to be change agents (for example, Bentley *et al.* 2004b) in promoting environmentally conscious behaviour.

### ***Redefining the environmental paradigm***

Despite the high regard for leaving the natural environment untouched, we found that informants have mixed views on the environmental paradigm. As elaborated earlier, previous research studies find that there is a negative relationship between one's beliefs in the dominant social paradigm and attitudes towards the environment (for example, Kilbourne *et al.* 2005). In particular, the human position dimension of the dominant social paradigm is referred to as anthropocentric perspective which views humans as the controller of the environment. Although the informants resist the dominant economic model of the society, several informants view the relationship between humans and the environment from an anthropocentric perspective. Smith (6M) said:

You can always plant trees, obviously a rain forest you want to keep because they are beautiful but there is nothing inherently amazing about the natural environment.

He further emphasised that the natural environment is like a tool, "a hammer"

that can be used as much as humans wish, and humans have full control over deciding whether to preserve or use it. Anna (19F), added a similar view:

People need to be aware of the intrinsic value of the all those other non-manmade and billions of other species of flora fauna. We need to look after the environment for what it can provide because we need it to survive.

According to previous research on environmental behaviour (for example, Dunlap *et al.* 2000; Dunlap *et al.* 1978) most environmentalists view the environmental paradigm from an ecological perspective. According to the ecological perspective, the relationship between humans and the environment is mutual and harmonious. This rejects the anthropocentric perspective of the dominant social paradigm. Further, environmentalists believe that human actions could change the balance of nature and therefore there should be a limit to growth of number of people in the society. Nevertheless, as Betty (20F), explained:

We [humans] are nature. It's not like we are part of it, it's not, it's not us and them [natural environment]. I think there is a misconception.

This view can be considered different from the ecological perspective. Rather it resembles a naturalistic perspective in which humans are considered an embedded element of the natural environment. Overall, findings reveal that among our informants, there are mixed views on the relationship between humans and the natural environment.

## **Conclusions and Implications**

This study investigated climate change risk perceptions and their effects on environmentally conscious behaviour of young environmentalists in an Australian major city. Having employed a qualitative methodology using in-depth interviews as the main instrument, four thematic categories were derived consequent upon the data analysis. Based on these emerging themes, we found that,

- (1) Despite the perceived high level of familiarity of the term “climate change”, young environmentalists do not tend to perceive the risks associated with the

climate change and its resultant adverse effects within their consumption practices.

- (2) There is a tendency for the young environmentalists to believe that developed countries can escape the adverse effects of climate change and should be companionate toward people of the poor countries
- (3) Environmentally conscious behaviour of the young environmentalists is largely motivated by the negative attitudes toward the dominant market system and the environmentally unfriendly company practices of Australian companies. Climate change risk perceptions tend to have a low level of influence on the environmentally conscious behaviour among them.
- (4) In regards to the anthropocentric perspective of climate change, young environmentalists have mixed views as to whether humans are the controller of the environment or whether humans are a part of the interconnected web of the overall ecological system.

One major implication of the study is that it is of paramount importance to developing climate change awareness among young individuals in order to encourage their engagement in climate-friendly consumption. Since the young individuals are considered the change agents of the emerging environmental movement, it is essential to have their support in mitigating climate change repercussions. Our findings, however, reveal that the young individuals are disappointed with the existing climate change remedial actions and hence, it is important to design programs to obtain their support for the existing climate change remedial actions. Further, according to the study, collective actions such as community groups seem popular among them. Thus, these collective actions could be used as means of promoting awareness about climate change and gaining young individuals' support for the remedial actions. In conclusion, it can be observed that negative attitudes towards the dominant economic system of the Australian society do have a greater influence on motivating the environmental behaviour of young individuals than climate change perception or adverse effects of climate change do.

Intriguing future research directions do emerge from this study. This study focused on the relationship between climate change risk perceptions and

environmentally conscious behaviour of a group of young environmentalists. This triggers the need for further studies on young individuals' understanding of the phenomenon of climate change, its adverse effects, how they deal with climate change perceptions and, the barriers in dealing with climate change in their everyday consumption practices. Further, climate change risk perceptions may differ across nations, cultures and gender/age groups. As such, exploratory and causal (quantitative) studies focusing on these differences would also be beneficial.

## References

- Adger, W.N., Dessai S., Goulden M., Hulme M., Lorenzoni I., Nelson D.R., et al. (2009). "Are there social limits to adaptation to climate change?". *Climatic change*, 93(3), 335-354.
- Ajzen, I. (1991). "The Theory of Planned Behaviour". *Organizational Behaviour and Human Decision Processes*, 50(2), 179-211.
- Arnould, E.J. and Epp A. (2006). "Deep engagement with consumer experience". In Rajiv, Grover & Vriens Marco (Eds.), *The handbook of marketing research: Uses, misuses, and future advances* (pp. 51-83). California: Sage Publications, Inc.
- Arnould, E.J. and Thompson C.J. (2005). "Consumer culture theory (CCT): Twenty years of research,". *Journal of Consumer Research*, 31(4), 868-882.
- Axelrod, L.J. and Lehman D.R. (1993). "Responding to Environmental Concerns: What Factors Guide Individual Action? ". *Journal of Environmental Psychology*, 13(2), 149-159.
- Bamberg, S. and Möser G. (2007). "Twenty years after Hines, Hungerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behaviour". *Journal of Environmental Psychology*, 27(1), 14-25.
- Belk, R.W. (1984). "Three Scales to Measure Constructs Related to Materialism: Reliability, Validity, and Relationships to Measures of Happiness". In Thomas Kinner, Provo, UT: Association for Consumer Research (Ed.), *Advances in Consumer Research* (Vol. 11, pp. 291-297).
- Belk, R.W. (2001). "Materialism and you". *Journal of Research for Consumers*, 1(1).
- Bentley, M., Fien J. and Neil C. (2004a). *Sustainable consumption: Young Australians as Agents of Change* (No. 0975249843). Canberra: Department of Family and Community Services on behalf of National Youth Affairs Research Scheme.
- Bentley, M., Fien J. and Neil C. (2004b). "Sustainable consumption: Young Australians as agents of change". *National Youth Affairs Research Scheme, Australian Government Department of Family and Community Services, Canberra, Australia available from <http://www.facs.gov>*.

*au/internet/facsinternet.nsf/aboutfacs/programs/youth-sustainable\_consumption.htm*.

- Brody, S., D., Zahran S., Vedlitz A. and Grover H. (2008). "Examining the relationship between physical vulnerability and public perceptions of global climate change in the United States". *Environment and Behavior*, 40(1), 72.
- Brossard, D., Shanahan J. and McComas K. (2004). "Are issue-cycles culturally constructed? A comparison of French and American coverage of global climate change". *Mass communication & society*, 7(3), 359-377.
- Bulkeley, H. (2000). "Common knowledge? Public understanding of climate change in Newcastle, Australia". *Public Understanding of Science*, 9(3), 313-334.
- Connell, S., Fien J., Lee J., Sykes H. and Yencken D. (1999). "If It Doesn't Directly Affect You, You Don't Think About It': a qualitative study of young people's environmental attitudes in two Australian cities". *Environmental Education Research*, 5(1), 95-113.
- Connolly, J. and Prothero A. (2003). "Sustainable consumption: consumption, consumers and the commodity discourse". *Consumption, Markets and Culture*, 6(4), 275-291.
- Connolly, J. and Prothero A. (2008). "Green Consumption: Life-politics, risk and contradictions". *Journal of Consumer Culture*, 8(1), 117.
- Corbin, J.M. and Strauss A. (1990). "Grounded theory research: Procedures, canons, and evaluative criteria". *Qualitative sociology*, 13(1), 3-21.
- DEFRA. (2002). Survey of Public Attitudes to Quality of Life and to the Environment-2001, London: DEFRA.: Department for Environment, Food, and Rural Affairs.
- Department of Climate Change. (2009). Australian Government action on climate change. <http://www.climatechange.gov.au/about/publications/fs-overview.html>.
- Dunlap, R., Liere K.V., Mertig A. and Jones R.E. (2000). "Measuring endorsement of the new ecological paradigm: a revised NEP scale". *Journal of social issues*, 56(3), 425-442.
- Dunlap, R.E. (2008). "The New Environmental Paradigm Scale: From Marginality to Worldwide Use". *Journal of Environmental Education*, 40, 3-18.
- Dunlap, R.E. and Van Liere K.D. (1978). "The New Environmental Paradigm: A Proposed Measuring Instrument and Preliminary Results". *Journal of Environmental Education*, 9, 10-19.
- Fien, J., Neil C. and Bentley M. (2008). "Youth can lead the way to sustainable consumption". *Journal of Education for Sustainable Development*, 2(1), 51.
- Fien, J. and Skoien P. (2004). *Towards sustainable consumption among Australian young people*: United Nations Educational Scientific and Cultural Organization UNEP United National Environment Programme.
- Guagnano, G.A. (2001). "Altruism and market-like behavior: an analysis of willingness to pay for recycled paper products". *Population & Environment*, 22(4), 425-438.



- Hanson, F. (2008). "Australia and the world". *Lowy Institute for International Policy*, <http://www.lowyinstitute.org/Publication.asp>.
- Holt, D.B. (1998). "Does Cultural Capital Structure American Consumption?". *Journal of Consumer Research*, 25(1), 1-25.
- Hume, M. (2009). "Compassion without action: Examining the young consumers consumption and attitude to sustainable consumption". *Journal of World Business*.
- Inglehart, R. and Baker W.E. (2000). "Modernization, cultural change, and the persistence of traditional values". *American Sociological Review*, 65(1), 19-51.
- Johnson, C.Y., Bowker J.M. and Cordell H.K. (2004). "Ethnic variation in environmental belief and behavior: An examination of the new ecological paradigm in a social psychological context". *Environment and Behavior*, 36(2), 157.
- Kasser, T., Ryan R.M., Couchman C.E. and Sheldon K.M. (2004). "Materialistic values: Their causes and consequences". *Psychology and consumer culture: The struggle for a good life in a materialistic world*, 11-28.
- Kilbourne, W.E., Beckmann S.C. and Thelen E. (2002). "The role of the dominant social paradigm in environmental attitudes: a multinational examination". *Journal of Business Research*, 55(3), 193-204.
- Kilbourne, W.E. and Carlson L. (2008a). "The Dominant Social Paradigm, Consumption, and Environmental Attitudes: Can Macromarketing Education Help?". *Journal of Macromarketing*, 28(2), 106-121.
- Kilbourne, W.E. and Pickett G. (2008b). "How materialism affects environmental beliefs, concern, and environmentally responsible behavior". *Journal of Business Research*, 61(9), 885-893.
- Kilbourne, W.E. and Polonsky M.J. (2005). "Environmental attitudes and their relation to the dominant social paradigm among university students in New Zealand and Australia". *Australasian Marketing Journal (AMJ)*, 13(2), 37-48.
- Kozinets, R.V. and Handelman J.M. (2004). "Adversaries of consumption: Consumer movements, activism, and ideology". *Journal of Consumer Research*, 31(3), 691-704.
- Leiserowitz, A. (2006). "Climate Change Risk Perception and Policy Preferences: The Role of Affect, Imagery, and Values". *Climatic Change*, 77(1), 45-72.
- Leonidou, L.C., Leonidou C.N. and Kvasova O. (2010). "Antecedents and outcomes of consumer environmentally friendly attitudes and behaviour". *Journal of Marketing Management*, 26(13), 1319-1344.
- Loewenstein, G.F., Weber E.U., Hsee C.K. and Welch N. (2001). "Risk as feelings". *Psychological Bulletin*, 127(2), 267-286.
- Lorenzoni, I., Nicholson-Cole S. and Whitmarsh L. (2007). "Barriers perceived to engaging with climate change among the UK public and their policy implications". *Global Environmental Change*, 17(3-4), 445-459.
- Makover, J. (2011). Earth Day and the Polling of America 2011.
- Mick, D.G. (1996). "Are Studies of Dark Side Variables Confounded by Socially Desirable Responding? The Case of Materialism". *The Journal of Consumer Research*, 23(2), 106-119.

- Milfont, T.L., Duckitt J. and Cameron L.D. (2006). "A cross-cultural study of environmental motive concerns and their implications for proenvironmental behavior". *Environment and Behavior*, 38(6), 745.
- Ockwell, D., Whitmarsh L. and O'Neill S. (2009). "Reorienting climate change communication for effective mitigation". *Science Communication*, 30(3), 305.
- Patton, M.Q. (2002). *Qualitative research and evaluation methods*: Sage.
- Perera, L. and Hewege C. (2010). Public understanding of climate change in Australia: Dominance of Politicians' Voice over Scientists' and Environmentalists, *Academy of Marketing Conference*. United Kingdom.
- Richins, M.L. (2004). "The material values scale: Measurement properties and development of a short form". *Journal of Consumer Research*, 31(1), 209-219.
- Royne, M.B., Levy M. and Martinez J. (2011). "The Public Health Implications of Consumers' Environmental Concern and Their Willingness to Pay for an Eco Friendly Product". *Journal of Consumer Affairs*, 45(2), 329-343.
- Schultz, W., P., Gouveia V., V., Cameron L.D., Tankha G., Schmuck P. and Franek M. (2005). "Values and their relationship to environmental concern and conservation behavior". *Journal of Cross-Cultural Psychology*, 36(4), 457.
- Schultz, W., P. and Zelezny L. (1999). "Values as predictors of environmental attitudes: Evidence for consistency across 14 countries". *Journal of environmental psychology*, 19(3), 255-265.
- Schwartz, S.H. (1977). "Normative influences on altruism". *Advances in experimental social psychology*, 10, 221-279.
- Seyfang, G. (2004). "Consuming values and contested cultures: a critical analysis of the UK strategy for sustainable consumption and production". *Review of Social Economy*, 62(3), 323-338.
- Slocum, R. (2004). "consumer citizens and the Cities for Climate Protection campaign". *Environmental and Planning A*, 36, 763-782.
- Slovic, P., Finucane M.L., Peters E. and MacGregor D.G. (2007). "The affect heuristic". *European Journal of Operational Research*, 177(3), 1333-1352.
- Stern, N. (2006). *The Economics of Climate Change; The Stern Review*. New York: Cambridge University Press.
- Stern, N. (2008). "The economics of climate change". *American Economic Review*, 98(2), 1-37.
- Stern, P.C. (1992). "Psychological dimensions of global environmental change". *Annual review of psychology*, 43(1), 269-302.
- Stern, P.C. (2000). "Toward a Coherent Theory of Environmentally Significant Behaviour". *Journal of Social Issues*, 56(3), 407-424.
- Stern, P.C., Kalof L., Dietz T. and Guagnano G.A. (1995). "Values, Beliefs, and Proenvironmental Action: Attitude Formation Toward Emergent Attitude Objects". *Journal of Applied Social Psychology*, 25(18), 1611-1636.
- Stevenson, N. (2002). "Consumer culture, ecology and the possibility of cosmopolitan citizenship". *Consumption, Markets and Culture*, 5(4), 305-319.
- Strauss, A.L. and Corbin J. (1990). *Basics of qualitative research*: Sage Newbury Park, CA.

- Strauss, A.L. and Corbin J.M. (1997). *Grounded theory in practice*: SAGE Publications, Inc.
- Strauss, A.L. and Corbin J.M. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory*: Sage Publications, Inc.
- The Australian Centre for Retail Studies. (2011). Australia gaining on global e-commerce standard: Staff Writers.
- The Nielsen Company. (2012). *The Global, Socially-Conscious Consumer*: The Nielsen Company.
- Thøgersen, J. and Ölander F. (2002). "Human values and the emergence of a sustainable consumption pattern: A panel study". *Journal of Economic Psychology*, 23(5), 605-630.
- Wallendorf, M. and Belk R.W. (1989). "Assessing trustworthiness in naturalistic consumer research". *Interpretive consumer research*, 6984.
- Weber, E.U. (2006). "Experience-based and description-based perceptions of long-term risk: Why global warming does not scare us (yet)". *Climatic Change*, 77(1), 103-120.
- Whitmarsh, L. (2008). "Are flood victims more concerned about climate change than other people? The role of direct experience in risk perception and behavioural response". *Journal of Risk Research*, 11(3), 351-374.
- Whitmarsh, L. (2009a). "Behavioural responses to climate change: Asymmetry of intentions and impacts". *Journal of environmental psychology*, 29(1), 13-23.
- Whitmarsh, L. (2009b). "What's in a name? Commonalities and differences in public understanding of "climate change" and "global warming" ". *Public understanding of science*, 18(4), 401.
- Whitmarsh, L., Seyfang G. and O'Neill S. (2011). "Public engagement with carbon and climate change: To what extent is the public carbon capable?". *Global Environmental Change*, 21(1), 56-65.

## Appendices

### *Appendix 1 Detailed Profile of the informants*

Number -Male or female (M/F)	Name*	Age (years)	Duration of engagement in various environment related activities (years)
1 F	Babra	22	3-4
2 M	Charlie	25	5

3 M	Miles	25	5
4 F	Kim	25	2 1/2
5F	Anita	22	2 1/2
6M	Smith	21	3
7M	Timothy	24	6
8M	Ellen	21	6
9F	Jackie	21	2-3
10F	Samantha	22	2-3
11M	Will	23	2-3
12F	Rihanna	22	2-3
13M	Damian	23	4-5
14M	Sid	18	1 ½
15F	Chalie	25	5 (on and off)
16F	Jesica	22	2
17F	Drew	22	2
18F	Bella	22	5 (on and off)
19F	Anna	21	2
20F	Bianca	21	1 1/2

\*Pseudonyms are used for informants for purposes of confidentiality

## *Appendix 2 Interview questions*

- Research Problem: How do climate change risk perceptions influence environmentally conscious behaviour among young environmentalists in Australia?

- Initial setup Questions

- How long you have been a member in .....environmental group?
- What made you to be a member of \_\_\_ environmentalist group? Is there any special reason?
- Tell me about your experience as a member of this group.
- What do you think about the members of the group? Can you describe about them?

- Environmental paradigm

- Referring back to the *story/reason* that influenced you to be a member of this group.....,
- To you, what does the natural environment mean?
- What is your opinion about protecting the natural environment? Do you think that the natural environment needs protection? Why?
- In your opinion, what should be the relationship between human and natural environment? Who or what is the most important?

- Climate change

- Have you heard about 'climate change' how and what have you heard?
- To you, what does 'climate change' mean?
- In your opinion, what would be the most adverse consequence of climate change? How it could affect you, Australia and, the world (develop and developing countries)
- What do you think about climate change remedial actions? Are you happy about

them?

Do you think those actions will be sufficient to solve the climate change problems?

- Environmentally conscious behaviour
- Do you consider yourself as an environmentally conscious consumer? if so why, In what ways do you think that your consumption is environmentally conscious?
- What are the environmentally conscious products/services or other actions that you can recall? Can you give me some examples?
- How about the opposites (products/services/actions that may harm the natural environment)? Examples?

What will be other changes that you wish to do in your current consumption? Why do you think those changes are important?

- Does our consumption influence the natural environment? Why (why not) do you think so?
- *(if the respondent believe there is an adverse impact of consumption on the natural environment)*
- Do you think that we need to change our current way of consumption to sustain environmental well being? If so, in what ways (If not, why?)
- What are the benefits of your environmentally conscious consumption to you?
- Can you recall any special reason or an incident that has made a significant impact on you to concern about the natural environment and change your consumption accordingly?
- Concluding questions/summary of the interview