

Sustainability from Multicultural Perspectives at Ginninderry

by

Jessica Smith

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Candidate's Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university. To the best of the author's knowledge, it contains no material previously published or written by another person, except where due reference is made in the text.

Jessica Smith

Date: 8/11/2018

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Abstract

A large proportion of buyers of land at Ginninderry, a new sustainable suburb being built in Canberra, are from diverse cultural and ethnic backgrounds. The academic literature is dominated by “Western” perceptions of sustainability, which leads to a lack of understanding of the environmental worldviews and environmental behaviours of ethnic minority groups. As a result, there was uncertainty about whether Ginninderry’s approach was best suited to a myriad of multicultural conceptions of sustainability. The literature is also unclear on the causes of pro-environmental behaviours and worldviews. As a result, this thesis undertook in-depth qualitative interviews with future residents to create a framework that helps explain the drivers and relationships in systems of environmental behaviours and worldviews in cross-cultural contexts. The findings of this research suggest that culture is a key contributing factor to worldviews and behaviours, but that it is incredibly diverse and nuanced in its impact. People from various cultural backgrounds have varied and different relationships to sustainability, but Ginninderry’s approach seems well-suited to the majority of participants. Ginninderry’s investment in sustainability, community and cutting-edge research in both these fields makes it flexible and inclusive for those who will live there. This thesis also suggests that community cohesion, personal connection to the environment, values, and knowledge are important factors in creating environmental worldviews and behaviours. This is portrayed in an integrative, holistic framework that grounds pre-existing theories in empirical evidence, and suggests a new academic understanding of the matter.

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List of acronyms, abbreviations and terms

- HNR: Human-Nature Relationships, a concept coined by Braitto *et al.* (2017) in their paper introducing it as a framework and model.
 - NDG: Nature Distant Guardian, one of the seven HNRs
- NEP: New Ecological Paradigm
- TBP: Ajzen’s Theory of Planned Behaviour; a theoretical framework that explains how behavioural intent is formed (Ajzen, 1985)
- VBN: Values-Beliefs-Norms theory, a theoretical framework that explains how values are translated into behaviour, created by Stern *et al.* (1999)
- PBC: Perceived Behavioural Control; the amount of control individuals believe they have in choosing their actions.
- PCE: Perceived Consumer Effectiveness; “the extent to which people believe that their actions can make a difference in solving a problem” (Segev, 2015).
- PEB: Pro-Environmental Behaviour
- BAPS: a religious community organisation that forms one of the two sects of Swaminarayan Hinduism
- GJV: Ginninderry Joint Venture

Chapter 1: Introduction

Sustainability as a concept and social movement has largely emerged from a “Western” social, economic and political context (Manning Thomas, 2012). Despite expressing global environmental concerns, critics from the Global South consistently point to the limited Eurocentric worldviews that dominate sustainability discourse (Johnson *et al.*, 2004). While the global critique between North and South is well established, there has been little examination of how sustainability can be pursued when “Western” and “non-Western” perspectives are brought together in a multicultural society. There is very little understanding of the practical, day-to-day implications of the various ways sustainability may be conceptualised, understood and enacted when different cultures come together. With the rise of globalisation and migration, the way culture interacts with sustainability has become increasingly important, particularly in multicultural contexts.

1.1 Context and Background

‘Ginninderry’ is a new sustainable suburb being built in West Belconnen, Canberra. It is being developed in joint venture by the ACT Government and Riverview Developments Pty Ltd. The Ginninderry Joint Venture (GJV) aims to create a 6 star Green Star community, taking a holistic approach to sustainability, addressing environmental, social and economic needs of the area and those who will live there. The development, when complete, will extend across the border between the ACT and NSW, adjacent to the Murrumbidgee River corridor. A conservation corridor has been planned surrounding the river, and around half of the development will be devoted to open space. In order to achieve this vision, the Ginninderry Joint Venture (GJV) has employed both a ‘cultural planning and community engagement manager’ and a ‘sustainability officer’. Ginninderry aims to acknowledge indigenous, white settler and natural heritage through a number of community engagement plans.

Ginninderry’s first 300 blocks of land were sold at the end of 2017. According to the Ginninderry team, approximately 80% of buyers are from cultural backgrounds other than white Australians (Susan Davis 2018, personal communication, February 2018). This was unexpected by the Ginninderry team, who had, at the time, only consulted local Indigenous communities and the wider Canberra community. They considered it important to have an understanding of the diverse sustainability values, beliefs and concerns held by their emerging population, and were concerned that they may not have addressed the priorities, values, aspirations and goals of the multicultural buyers.

Therefore, this Honours thesis examines sustainability aspirations and worldviews of future Ginninderry residents, particularly immigrants and people from ethnic minorities. This thesis will outline how sustainability aspirations and worldviews are formed and expressed. It will explore the factors that may influence sustainable behaviour, and the components required to create a sustainable community from scratch. It does not intend to be a representation of all ethnic minorities, especially as such a representation of a culturally heterogeneous group would not be possible, but to explore variation in environmental worldview across cultural groups, and create an approach more apt at doing so.

1.1.1 Concepts: Race, Ethnicity and Culture

It is important to first understand the meanings of the terms ‘race’, ‘ethnicity’, and ‘culture’. The term ‘race’ has very little biological justification as a classification of human beings, and has been historically used to justify racism, slavery and segregation (Manning Thomas, 2012). ‘Ethnicity’, on the other hand, refers to a dynamic, socially produced collective and individual identification that involves a categorisation of “others” based on cultural differentiation (Jenkins, 2008), and so will be used in this thesis. ‘Culture’ is a set of heterogeneous values, norms and attitudes held by a defined group (Desmet, 2017). Culture is instrumental in shaping the identities of individuals, as we adopt the culture of those around us. Desmet (2017) found that ethnic identity is a significant predictor of cultural values. It is therefore important to understand how ethnicity relates to cultural values, and how these cultural values shape understandings of the environment, sustainability and community.

1.1.2 Environmental Justice

It is also vital to understand the relationship between sustainability and racism. Firstly, the sustainability movement has a deep history of racism and lack of participation by ‘powerless’ groups (Agyeman 2001: 15). The birth of the movement in middle-class white communities in developed countries has led to a lack of representation by ethnic minorities. (Agyeman 2001; Manning Thomas, 2012). Many minority groups have therefore disproportionately experienced harms caused by environmental degradation and natural disasters (Manning Thomas, 2012). It is crucial to recognise the racism and “whitewashing” that has been historically present in the sustainability movement, in order to acknowledge the potential to inadvertently perpetuate this inequality. Secondly, environmental “justifications” are often cited in anti-immigration campaigns worldwide (Neumayer, 2006; Lovelock *et al.*, 2013). In Australia, environmental reasons have been used in the past to ban immigration based on

ethnicity, nationality and religion (Collins, 2006). Understanding the difficulty and prejudice that may surround immigration to Australia is an important precursor to discussions about ethnic minorities and immigrants at Ginninderry. In order to create a harmonious, equal, and socially sustainable society within Canberra and Australia more broadly, it is necessary to ensure that all people are treated with equality, equity and justice.

1.1.3 The Importance of Cultural and Demographic Backgrounds in Consultation and Engagement

In order to effectively engage individuals in sustainability, it is important to understand their values and the things they care about or find interesting (Lebo and Eames, 2015; see Section 2.3.3). Awareness of variance in values and interests across cultures and other demographic groups is important, especially when examining minority populations (Randolph and Troy, 2008). Different cultures have different practices and norms, such as different types of cooking, for example. It is therefore important to understand the requirements of these groups to maintain cultural norms and practices; how culture influences behaviour; and the most effective targets of systematic attempts to employ technology to encourage PEBs (Randolph and Troy, 2008; Lauer *et al.*, 2009). As Lauer *et al.* say, “The demographics, socio-economic status, and life style choices that residents make, have important implications with regards to both community formation and attitudes to sustainability, and the diversity of needs within an urban space.” (2009: 25). It is therefore crucial to engage people in the things that they value, and appeal to their own sense of identity when trying to engage them in PEB.

1.2 Aims and Objectives

This research aims to facilitate an inclusive, consultative and culturally sensitive approach to suburban design and planning by the Ginninderry Joint Venture, by providing much-needed information on how their multicultural stakeholders engage with sustainability¹. It aims to explore the social patterns that have led to this interest in Ginninderry by people with a diverse range of backgrounds, and whether these stakeholders have an interest in, and alignment with, Ginninderry's vision and goals. The research will explore the sustainability interests, attitudes, concerns and priorities of these groups, and demonstrate whether or not they are being addressed by Ginninderry. Recommendations that address possible disparities between resident's and Ginninderry Joint Venture values will be provided where appropriate.

This project also aims to contribute to existing literature on environmental values and concerns of immigrant populations. The existing work in these areas is inconsistent and inconclusive. Systematic racism has been embedded in the history of the sustainability movement worldwide (Manning Thomas, 2012; Hite *et al.*, 2017; Shinew *et al.*, 2004; Lovelock *et al.*, 2013; Johnson *et al.*, 2004). This project aims to avoid this “systematic indifference to difference” through engagement and consultation with minority communities (Agyeman, 2001:15).

¹ Sustainability is defined here as meeting the environmental, social and economic needs of present human populations without compromising the ability of future generations to do the same (Brundtland *et al.*, 1990).

1.3 Research Questions and Approach

Research Questions:

1. How is sustainability viewed by culturally diverse home buyers?
 - a. What are their economic, social and environmental aspirations, and are these reflected in Ginninderry's vision?
 - b. If not, how could Ginninderry adapt their vision and plan to include these aspirations?
2. How could we engage people from a variety of cultural backgrounds in suburban sustainability in a consultative, culturally sensitive and productive way?
3. How can current theory inform a framework to support the assessment of multicultural individuals' sustainability values, beliefs, attitudes, concerns and norms, in the context of suburban development?

This project uses a qualitative and adaptive grounded theory methodology (see Chapter 3) in order to interrogate and understand the complex drivers of sustainability worldviews, attitudes and behaviours. As such, the scope was refined and relevant theories selected after the conclusion of data collection, when dominant themes and theories became evident. A literature review was produced and refined to include only theoretical frameworks that showed to be relevant to the data, and the themes and drivers woven together into a new framework grounded in empirical research.

Chapter 2: Literature Review

2.1 Introduction to the Literature

There are many possible theories that could inform cross-cultural sustainability at Ginninderry. However, it should first be noted that current urban sustainability planning and the associated literature does not include material on ethnic and cultural diversity. This is an important area to research that is currently lacking in the literature. Current theoretical frameworks that explore environmental worldviews and behaviour are varied, vague, and lacking in consensus.

Section 2.2 looks at pro-environmental behaviour and how we perceive the environment. Section 2.3 then discusses the influences of, and effective methods of engagement in pro-environmental behaviour. Section 2.4 follows by exploring the environmental perceptions of immigrants, and Section 2.5 outlines the methods most commonly used within the literature to explore the above. This thesis takes an integrative approach across these topics in order to develop new understandings across this complex subject matter.

2.2 Pro-Environmental Behaviour: Defining the Concepts and Variables

There are a number of terms for environmentally friendly behaviour in the literature. The most common terms are environmentally-friendly behaviour (Pfeffer and Stycos, 2002) and pro-environmental behaviour (Braitto *et al.*, 2017; Dietz *et al.*, 2005). Braitto *et al.* define environmental behaviour as “any behaviour that has a direct or indirect, positive or negative impact upon natural environments.” (2017: 4). Pro-environmental behaviour (henceforth PEB) is therefore “environmental behaviour in the private sphere, to intentionally minimise the negative impact on the natural environment.” (Braitto *et al.*, 2017: 4). This concept allows the examination of a range of behaviours – spanning recycling, energy conservation, support for environmental policies, and others – under a single measure.

There is a broad range of multidisciplinary literature that attempts to explain why people perform PEBs. However, many core works stem from social psychology (Braitto *et al.*, 2017; Dietz *et al.*, 2005; Schultz *et al.*, 2005; Schultz *et al.*, 2004; Schwartz, 1992; Schwartz *et al.*, 2012; Stern, 2000; Stern *et al.*, 1999). As a result, many different variables have been used to explain

how individuals experience the world (see Table 2.2). ‘Values’ are perhaps the most universally applied concept to this field.

| Concept | Definition | Sources |
|--------------------|---|---|
| Values | “(a) Concepts of beliefs, (b) about desirable end states or behaviours, (c) that transcend specific stations, (d) guide selection or evaluation of behaviour and events, and (e) are ordered by relative importance.” | Schwartz and Bilsky, 1987: 551 |
| Attitudes | Positive or negative evaluations of something specific, rather than general values. “Specific cognitive evaluations of objects or targets.” | Hitlin and Piliavin, 2004 Heeren <i>et al.</i> , 2006: 617 |
| Preferences | Even more specific, referring to specific rankings or ratings of possible outcomes from a decision. | Dietz <i>et al.</i> , 2005 |
| Traits | Psychological characteristics that may influence behaviour, and may not be positive, desirable, or the product of reflection and thought. | Dietz <i>et al.</i> , 2005 |
| Norms | Implicit ‘ought to’ statements that are shaped by social influences, and guide society’s actions. | Dietz <i>et al.</i> , 2005 |
| Needs | Biological demands that humans need satisfied in order to survive. | Hitlin and Piliavin, 2004 |
| Beliefs | The ways an individual perceives and understands the world. | Dietz <i>et al.</i> , 2005 |
| Worldviews | Generalised beliefs. “An umbrella concept referring to the interaction of values, beliefs and traditions; overarching system that substantially informs how humans interpret, enact, and co-create reality.” | Dietz <i>et al.</i> , 2005 Braitto <i>et al.</i> , 2017: 5 |
| Roles | Ways of behaving and making decisions that depend on the social situation an individual is in. | Dietz <i>et al.</i> , 2005 |
| Concern | Based in values, and reflects both a sense that something is important, but a belief that it may be a risk. | Schultz <i>et al.</i> , 2004; 2005 |
| Awareness | Refers to beliefs, but takes a less social constructivist approach to knowledge, assuming that there are known truths about the state of the environment. | Dunlap <i>et al.</i> , 1993 |
| Support | Support for efforts to prevent further environmental degradation, and to fix the environmental problems that we have created. | Dunlap <i>et al.</i> , 1993 |

Table 2.2: Different variables used to explain how humans think of and feel towards the environment.

A key finding of this literature review is that the literature uses a wide range of terms, often inconsistently, and reports a wide range of contradictory findings on whether or not immigrants have a higher or lower level of environmental concern than native-born individuals in developed countries. The inconsistency in terminology is a key reason. As a result, this paper will use the definitions outlined by Dietz *et al.* (2005); a seminal work in environmental values.

2.3 Theories of Environmental Behaviour – “Why do people behave the way that they do?”

This section outlines the different theories that explain the influences of behaviour broadly, and more specifically those of PEB. The theories included below are those that have shown to be relevant to the data following analysis; the excluded ones can be found in Appendix 1. This is due to the adaptive grounded theory methodology used in this project (see Chapter 3.1).

2.3.1 Knowledge, Awareness, and the Knowledge-Deficit Model

There is a broad literature base that stresses the importance of the role of knowledge in influencing PEB. The ‘knowledge-deficit model’ is the assumption that unsustainable behaviours are driven by a lack of knowledge of underlying social costs and resulting environmental degradation (Heeren *et al.*, 2015; Irwin and Wynne, 1996). It is thought that when individuals learn about the environment and their impact upon it, they change their behaviour (Lebo and Eames, 2015). However, it has since been shown that while knowledge is helpful, if new knowledge contradicts a deeply held value, an individual is very unlikely to change their behaviour (Dietz *et al.*, 2005). Heeren *et al.* (2015) assessed whether sustainability knowledge influenced increased ‘sustainable behaviour’ in university students, finding no significant empirical support for the knowledge-deficit model. While knowledge is important, attitude towards sustainable behaviours, ability to engage in that behaviour, and perception of what others think about it is shown to be far more important in guiding decisions to act (Heeren *et al.*, 2015; 625). Segev (2015) puts forward a more holistic model for ‘conservation behaviour’ that places values as precursors to concern, and concern as a precursor to knowledge (see Figure 2.3.1). Pfeffer and Stycos (2002) similarly acknowledge the many factors that contribute to environmental friendly behaviours, with knowledge being just one. In summary, the literature concludes that knowledge, education and engagement may be important in shaping PEB, but they are likely not the most potent factors.

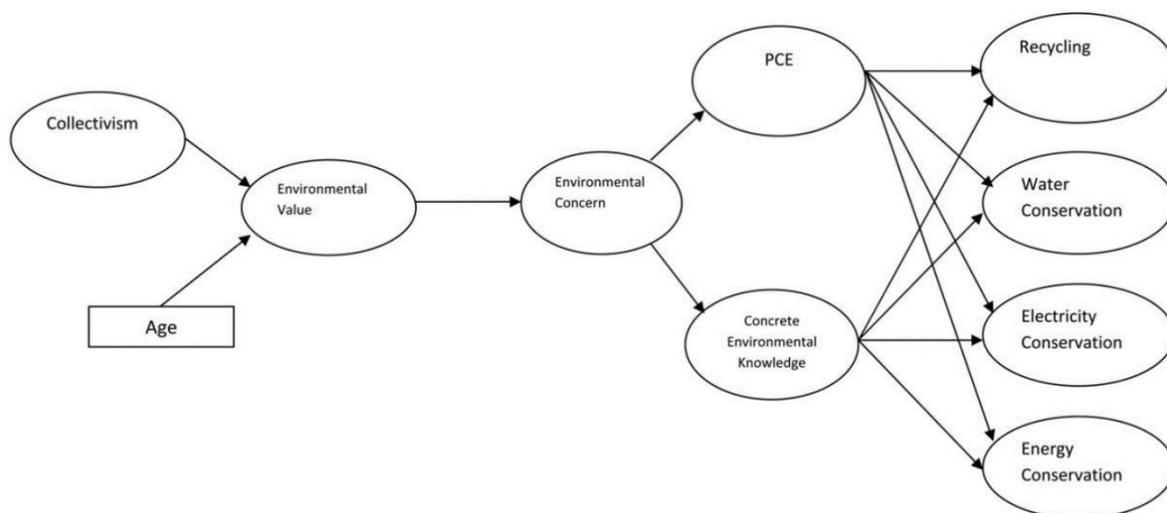


Figure 2.3.1: 'A conceptual model for Hispanics' conservation behaviour' (Segev, 2015: 196)
PCE refers to 'Perceived Consumer Effectiveness', see glossary.

2.3.2 Postmaterialism vs Awareness due to Exposure

Three key theories debate the causes of environmental concern, and whether these differ between industrialised and non-industrialised parts of the world (Figure 2.3.2). They are postmaterialism, concern as a global phenomenon, and exposure to the environment; the latter two emerged as arguments to the former. There is not consensus within the literature about which is most convincing. As postmaterialism was found to have no relevance to the data of this project, it has been excluded from the main text of this thesis, and can be found in Appendix 1.5. Awareness due to exposure and environmental concern as a global phenomenon showed to be the most convincing, so these theories will be outlined below.



Figure 2.3.2: *Spectrum of explanations of environmental concern within the literature*

Environmental concern may be a global phenomenon rather than just applicable to developed countries (Dietz *et al.*, 2005). Brechin and Kempton (1994), Furman (1998), and Davis (2000) found no statistical significant differences between low- to middle-income countries and advanced industrial economy countries in perceived seriousness of environmental problems. In fact, Dunlap and Mertig (1997) find that there is a greater chance that national wealth is negatively rather than positively related to citizens' environmental awareness and concern. This suggests that as countries industrialise and societies become more distanced and disconnected from their environment, their level of environmentalism drops.

Many argue that immigrants to developed countries may be just as concerned about the environment as native-born individuals, if not more so, due to direct exposure to environmental degradation in their countries of origin. This exposure creates environmental awareness, and ultimately, concern (Pfeffer and Stycos, 2002). This follows the idea that when individuals experience the negative consequences of environmentally damaging behaviour, they are more likely to adopt behaviour that limits that consequence. This helps explain the recent growth of grassroots environmentalism, especially in developing countries (Martinez-Alier and Hershberg, 1992). However, Inglehart (1995) instead asserts that concern in developing countries with degraded environments is expected, but is fundamentally different to concern in developed countries. As a result, immigrants from developing countries may be less likely to engage in PEBs if these PEBs are a result of the culture that they do not identify with (Inglehart, 1995). However, Inglehart's postmaterialist approach is narrow and fails to take into account the nuances and complexities of culture. The world is not a dichotomy of 'developed' and 'developing'.

2.3.3 Socio-Psychological Approach to Values

Sections 2.3.1 and 2.3.2 demonstrate that values are an important influence of PEB. The most used approach to values, particularly within the discipline of social psychology, is Schwartz's Theory of Universal Basic Values (Schwartz, 1992; see Figure 2.3.3). The Schwartz system is a set of basic values that is claimed to be universally held across cultures and societies (Schwartz, 2012). These values are used to help explain individual decision making, attitudes and behaviours (Schwartz, 2012; 664). Literature strongly supports the relationship of certain values to environmentalism (Dietz *et al.*, 2005). People with collective or self-transcendent values are more likely to show altruistic or PEBs than those with self-enhancement values (Schwartz, 1992; Braito *et al.*). Important to note is that cultures may rank the importance of values differently (Dietz *et al.*, 2005). Kempton *et al.* (1995) find a close linkage between environmental values and personal identity. The theory and evidence therefore suggests that values are a key determinants of behaviour.



Figure 2.3.3: “Proposed circular motivational continuum of 19 values with sources that underlie their order.” (Schwartz *et al.*, 2012)

The Value-Belief-Norm (VBN) model is one of two dominant social psychological theories that explains how values translate into behaviour (Stern *et al.*, 1999; see Appendix 1.6 for Azjen’s Theory of Planned Behaviour). The VBN describes the conditions under which values lead to norms, which influence behaviour. When applied to the environment, the VBN follows the idea that values (determined by position in a social structure, and institutional constraints and incentives; see Johnson *et al.*, 2004) influence our environmental worldview, which influences beliefs about the consequences of environmental change on the things we value. This, combined with our perceived ability to reduce the threats to what we value, creates behavioural norms. These norms determine the adoption of PEBs (Dietz *et al.*, 2005).

This section illustrates that values are widely thought to be the cause of PEBs. However, the exact causal mechanisms for this are unclear. As a result, they are one of the key focuses of this research project.

2.3.4 Human Connection to Nature

Other theorists believe that environmental behaviour stems from a strong connection to nature. ‘Biophilia’ is a term that explains the “innate and intrinsic connection and attraction to the natural world by humans” (Kingsley and Townsend, 2006: 527; citing Wilson, 1984). According

to Maller *et al.* (2002), people rely on a relationship with nature to satisfy their intellectual, emotional, physical and spiritual needs. While many believe this connection to be an inherent part of being human, Orr (1994) suggests that humans' attachment to nature is grounded in education and developed through exposure and experience. Either way, it is thought that many individuals are more concerned about the environment because threats to it also threaten human health and wellbeing. Kempton *et al.* (1995) found environmental concern to be strongly linked to religious and spiritual values. This is in direct contrast to the knowledge-deficit model (Section 2.3.1), which assumes that environmental knowledge is the driving factor behind environmental behaviour, and overlooks emotional and spiritual connections to nature. These emotional and spiritual connections to nature likely also differ between cultures (Sodowsky *et al.* 1994 in Johnson *et al.*, 2004; Johnson *et al.*, 2004; Lovelock *et al.*, 2013; Altman and Chemers, 1980). A lot of this work dichotomises the 'West' and the 'East'. This dichotomy lacks nuance and understanding of variation between cultures. Understanding the world as a pluriverse, and multiple approaches to ways of being as valid, is a more appropriate lens for understanding the varied possible relationships between cultural differences and connection to nature (Johnson and Madge, 2016).

2.3.5 Human-Nature Relationships

Recognising the limitations of the Schwartz values (Section 2.3.3), Braitto *et al.* (2017) created the Human Nature Relationship (HNR) model. The HNR assumes that connection to nature is an important influence on PEB (Section 2.3.4). They operationalised HNRs in a series of seven narratives that explain how individuals see human relationships with nature (see Table 2.3.5). The study used quantitative statistical analysis to show that there are strong correlations between HNRs and Schwartz's values, and that PEB is connected to the relationship that individuals have with the environment. HNRs are not mutually exclusive, and it is possible to hold more than one.

| HNR Type | HNR Narrative (scale) |
|----------------|---|
| Master | They think they have the right to alter nature. Technological progress enables them to tame and improve upon nature. They believe they have the right and obligation to protect themselves from natural threats. |
| Steward | They think their actions may have an impact on nature. They feel responsible to protect nature. They think that mankind can be a threat to nature. They would like technological interventions to be regulated in order to minimise negative effects on nature. |

| | |
|--------------------------------|--|
| Partner | Nature is important and enjoyable for them. They try to understand natural processes in order to reflect on their influence on nature. According to them, technological interventions are allowed only in case where both humans and nature benefit. In their opinion, humans and nature are of equal value. |
| Participant | They feel like part of nature. The physical and emotional bond between self and nature is important for them. They think that too few humans recognise the power, value and beauty of nature. According to them, they do not have the right to use technology to alter nature. |
| User | They perceive nature to be a provider for products and services. In their opinion, natural processes enhance economic welfare. They think they have the right to use nature and to enhance natural service provision with technology. They feel responsible to protect nature for today's and future generations' welfare. |
| Apathy | In their daily life, nature does not play a role. They think they are not dependent on nature to survive. In their opinion, their behaviour does not have an impact on nature. They think that engagement for the benefit nature should not be given too much weight. |
| Nature Distant Guardian | Pets, houseplants or urban gardening may substitute for their direct experience in nature. Exclusive engagement in nature protection through media is enough for them to connect with nature. An environmentally-oriented lifestyle may help them to become part of nature without having to leave the city. |

Table 2.3.5: The HNR narratives (Braitto et al. 2017: 9)

The benefits of the HNR model for my research is that it is thematically closer to environmental behaviour than Schwartz's values, which are thematically based in social psychology. It draws from the strengths of the Schwartz approach while synthesising theories discussed previously, but is easier to apply than Schwartz's 19 different value types. Notably, the HNR model includes perceived behavioural control (PBC), referring to the amount of control individuals believe they have in choosing their actions, which plays a role in influencing PEBs (Dietz *et al.*, 2005). Heeren *et al.* (2015) point out that when predicting environmental behaviour, it is important to understand individuals' ability to engage in that behaviour, their attitude towards it, and their perception of what others think about it. This is lacking in Schwartz values approaches, so is a strength of the HNR. The HNR model is appropriate for both quantitative and qualitative use, and as it is a very new concept, work is yet to be done to ensure its rigour in different circumstances and contexts.

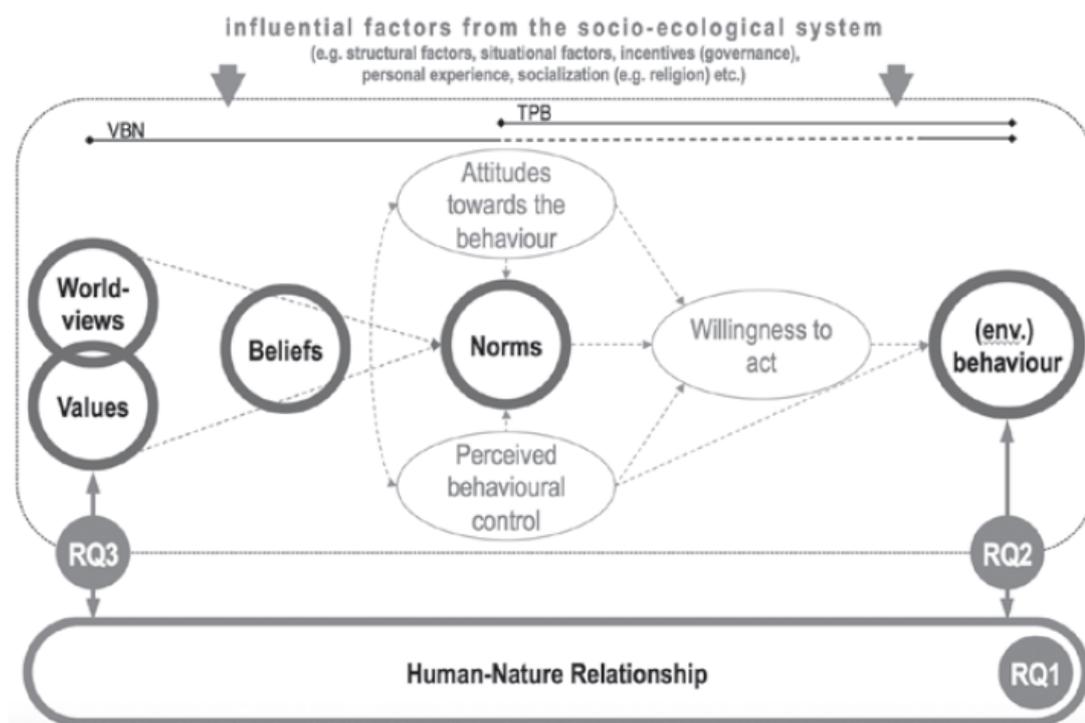


Figure 2.3.5: Braito et al.'s (2017) model of existing socio-psychological theories and how they create the HNR model. 'RQ's refer to research questions of the original article, not those of this thesis.

2.3.6 Structure, Agency and Contextual Drivers

The attitudes, beliefs and values approach dominantly taken in the literature on environmental behaviour is focused on individual agency, and does not account for the role and importance of social structure in determining values and behaviour. For instance, Leiserowitz *et al.* (2006) find a number of structural barriers, like laws, regulations and infrastructure, as well as broader social, economic and political contexts that prevent pro-environmental beliefs and behaviour (Leiserowitz *et al.*, 2006). It is important to acknowledge the role that governing structures play in promoting certain values and behaviours, as “structural and individual behavioural changes are both crucial and often mutually supportive, creating positive feedback and accelerating the rate of social change.” (Leiserowitz *et al.*, 2006: 437). Ginninderry has the opportunity to create social norms and structures that encourage PEB, which should work in connection with public concern to create a more sustainable community.

From an even broader view, it is important to recognise the role that communities play in social-ecological systems. Ostrom (2009) argues that human resource use is part of a complex system where society and the environment interact in multiple different ways on many levels. It

is crucial to analyse how social and economic developments impact and put pressure on the environment in different ways (Braito *et al.*, 2017). Moving human settlement onto the land that will become Ginninderry will have countless effects on the ecosystems, and these ecosystems will in turn affect the community and how it functions.

2.3.7 Community Cohesion, Social Capital and Contact Theory

Considering the role of social structure in sustainability, it is necessary to acknowledge the importance of creating a supportive community and governing structure to oversee sustainability at Ginninderry. The literature suggests that having a cohesive community, and engaging individuals on their values whilst keeping in mind their cultural and socio-economic backgrounds, is the most effective way to create a sustainable community.

Community cohesion is seen as critical to PEB. When people are part of a tightly-knit community, they are more able to share ideas, concerns and values; provide support in achieving particular individual PEBs; and create meaningful group activities and events that support shared goals. This is known in the literature as social capital. Social capital refers to the “networks, norms, and trust” that exist within communities that allow individuals to work together for mutual benefit (Putnam, 1995: 67 in Kingsley and Townsend, 2006: 526). When individuals have high social capital, they have more opportunities, often resulting in a higher quality of life, and reduced inequality (Kingsley and Townsend, 2006; Hite *et al.*, 2017; Shinew *et al.*, 2004). Issues of community cohesion are relevant to Ginninderry, especially as they have a large focus on community planning and cultural engagement.

Sustainability initiatives have been shown to hold the potential to increase social capital and decrease prejudice in diverse communities. Contact theory is the idea that increased positive contact between ethnic groups leads to positive and unprejudiced attitudes, and ultimately the reduction of racism (Shinew *et al.*, 2004). It argues that when people from different groups come together and interact regularly in a positive way, they come to realise that any negative attitudes towards the other group are unjustified. This is thought to lead to positive attitudinal and behavioural change (Shinew *et al.*, 2004). There is a large amount of support for contact theory within the literature (see Aberbach and Walker, 1973; Robinson, 1980; Sigelman *et al.*, 1996; Sigelman and Welch, 1994). Ginninderry will be a very multicultural community, and the idea that physical proximity between people leads to a more accepting and less prejudiced society therefore may be very valuable in creating community cohesion.

2.4 “Do immigrants care about the environment?”

There are widely held, but poorly researched, stereotypes in Australian culture that immigrants are both unaware and do not care about their impact on the environment. Pfeffer and Stycos argue that “fears of immigrants being less likely to engage in environmentally friendly behaviours” are unfounded (2002: 64). Heeren *et al.* (2015) and Dietz *et al.* (2005) both show that conservative political beliefs are negatively related to PEB; it has been demonstrated that immigrants often hold these conservative views (Boston, 1988).

The research on the environmental worldviews and concerns of immigrants and ethnic minorities comes from wide variety of academic disciplines, and as a result, there is no standard approach. The majority of studies have thus far been quantitative survey-based approaches, with the exception of Schmidt and Garland (2012); Kinsley and Townsend (2006); Hite *et al.* (2017); and Dunlap *et al.* (1993). This inconsistency in approach, as well as terminology, has created a body of literature that is very inconclusive in its findings. The following paragraphs outline this literature.

A small body of literature examines the environmental concern of immigrant populations in developed countries. It largely focuses on the question, “Are immigrants more or less concerned about the environment than native-born populations?” The results are inconclusive, but seem to lean towards immigrants having similar or higher levels of environmental concern than native-born residents. As noted in Section 2.4, Klineberg *et al.* (1998) note that a key reason for this variance in results is caused by the inconsistency in terminology and approach used in research. Pfeffer and Stycos (2002: 79) found immigrants to be at least as likely, if not more likely, to engage in consumption behaviours protective of the environment. Their study focused on the behavioural differences between immigrant and native-born individuals in New York. They found immigrants more likely to save water than native-born individuals. This may be evidence of the argument that environmental awareness in developing countries is grounded in direct exposure to degradation, or in the required response to living in scarcity (see Section 2.3.2). Hunter (2000) completed a similar quantitative, survey-based project, also finding that immigrants in the US do express similar attitudes and concerns towards environmental issues as native-born residents. They also found that more recent immigrants expressed higher levels of concern than native-born residents, and were more likely to engage in PEB. The role of time may be an important factor, so it was important to ask interviewees the history of their migration. Manning Thomas (2012: 476) adds to these positive accounts by noting that ethnic minority groups can contribute to creating “healthy, vibrant and sustainable cities”, and contribute positively to the economy.

A number of other theorists claim that the environmental concern of immigrants is very similar to that of native-born individuals, and found no significant difference (see Lovelock *et al.*, 2013; Paraskevopoulos and Korfiatis, 2003; Dunlap *et al.*, 1993; Grant, 2001). They note the importance of understanding context, and that concern may develop for different reasons, but that most people hold environmental concerns. Dunlap *et al.* (1993) argue that environmental concern is a global phenomenon (see Section 2.3.2), and this is why there is very little difference between immigrants and native-born populations.

There is very little support in the literature for the claim that immigrants do not care about the environment. In Klineberg *et al.*'s 1998 study of the environmental concern of ethnic minorities in the USA, it was found that African Americans and Hispanics are less environmentally concerned than white people. While this study was not specific to immigrant minorities, it is possible that the variables that lead to this lack of concern in native-born ethnic minorities may also apply to immigrants. Johnson *et al.* (2004) found that the environmentalism of ethnic minorities was generally "lower" than that of white people in the USA, but also that the way they experience and express it is different. This was largely a quantitative project and as such was not able to fully explore concepts in depth in the way that would be possible with a qualitative approach (see Section 2.5), but it is important to note that different ethnic groups may experience environmentalism differently, due to differences in culture.

2.5 Summary

The breadth of relevant research justifies the use of an adaptive grounded-theory methodology, which has resulted in a less in-depth and much broader summary of the literature. Upon the conclusion of data collection, the initial list of theories that made up the first literature review were combed through for relevance. Those that had the most explanatory value were used in analysis, and included in this final literature review. For excluded theories, see Appendix 1.

It is important to recognise the historically problematic relationship between ethnicity, immigration and the environment, as it has shaped the current socio-political and environmental context that we live in. In order to prevent further whitewashing of the sustainability movement, it is important for all ethnic minorities to be included in planning processes, and consulted and engaged with. The theories presented in this chapter highlight a number of gaps in the literature, namely a holistic and cohesive approach to understanding the environmental worldviews and causes of PEBs for people from minority ethnic and cultural backgrounds.

Chapter 3: Methodology, Methods and Data

3.1 Methodological Approach and Framework

This research is based on the vision of the world as a pluriverse. This way of understanding the world appreciates that “the world is made up of manifold, heterogeneous, dynamic ways of being and knowing.” (Johnson and Madge, 2016: 87). It views all types of knowledge and ways of being as dynamic, changing, and partial, as well as situated and locally produced (Johnson and Madge, 2016: 87). This philosophy therefore takes the centrality and universalism often associated with “Western” knowledge as a result of colonial and postcolonial history away, and places it instead among other knowledges as a locally and socially-constructed way of understanding the world that is fragmented and emerging (Johnson and Madge, 2016: 87). This understanding of ways of being and knowledge as correct and truthful in their own right is highly impactful on this research. It is therefore assumed that there is no one “right” way of understanding and interacting with the environment, and that no one set of knowledge or awareness about it is correct at the expense of all others. This is very important in the multicultural context of this research.

‘Grounded theory’ refers to an approach to research whereby theory is derived from the data collected (Strauss and Corbin, 1998). An exploratory and inductive approach, data is systematically gathered and analysed in a “recursive and reflexive fashion” which allows the researcher to identify themes and trends to build a new theory that is “grounded” in “reality” (Hay, 2016; Strauss and Corbin, 1998).

On the scale of methodologies from hypothesis-testing, deductive approaches to inductive, theory-producing approaches such as grounded theory, ‘adaptive theory’ sits in the middle. Adaptive theory results in research that is partially shaped by existing theory, and partially shaped by the data that it produces (Layder, 1998). When conducting data analysis, the researcher may return to the original theories that were thought to be relevant, and adjust or ‘adapt’ them to be more suitable to the situation.

The methodology employed in this project was a type of adaptive theory, on the side of the scale closest to grounded theory. A list of possible relevant theories was generated, and this formed the initial literature review. The data was relied on to show the most relevant theories from the initial literature review, and these were integrated with emergent themes to form a new

framework for understanding environmental worldviews from cross-cultural perspectives in the discussion. Grounded theory helped to “offer insight, enhance understanding, and provide a meaningful guide to action” (Strauss and Corbin, 1998:12) at Ginninderry, while adaptive theory helped to narrow the possibilities and give guidance to the final concepts, whilst drawing on the work that has previously been done in this area.

Critical reflexivity was an important part of this project. As it was so subjective and inductive, it was important for me to constantly reflect on my influence on the data and outcomes (Hay, 2016). My presence in interviews, my interpretation of participants’ responses, and my systematic coding of data all left room for subjectivity and error that were addressed throughout this project.

The qualitative approach taken in this research project helped prevent the generalisation of culture of participants. Being able to look specifically at individual lived experiences, attitudes and beliefs without the need to generalise to a broader population was hoped to reduce the “us and them” dialogue that is often produced within academic work looking at ethnicity. It also made it easier to avoid homogenising the “West” and the “East”, as has previously been done in similar literature.

3.2 Data Collection Methods

The methods employed in this project were qualitative, which allowed for in-depth analysis and understanding of the values, attitudes and priorities that people of different cultures hold. Due to the exploratory nature of this research, the design and plan were highly flexible. Information and knowledge that I learned from semi-structured interviews with stakeholders influenced the research questions, scope, methods and literature review greatly. Semi-structured interviews allowed me to respond and ask new questions if an interesting theme emerged that required further exploration, so that the findings of the project were not limited by the original framing.

3.2.1 Sampling

Participants were selected in two stages. Stage one participants were individuals who had stated in a survey previously conducted by Ginninderry Joint Venture that they were interested in being involved in further research. Four groups of individuals agreed to participate in this study. Due to low intake rates from this first round of calls, a second stage was undertaken. Ginninderry Joint Venture provided their list of land purchasers, and I created a new recruitment list of people with names from various cultural backgrounds, as this was the only indication of ethnic background. As this list was extensive, participants were selected using a random number generator, and contacted via phone call. This process was less successful than the first, and resulted in two new participants in the study.

Eight stakeholders were interviewed in six interviews (two couples participated together). The small sample allowed the project to explore in depth individual worldviews and perceptions and how they can differ between cultures, rather than attempt representativeness of the whole Ginninderry population or of any cultural group. Given the limited timeframe and the depth I hoped to engage people in, this number of participants produced substantial data. Interviews ranged in length from thirty to ninety minutes. Given the recruitment process, it is highly likely that the data is influenced by self-selection bias, as participants opted in or out of the study after hearing a brief description of it.

3.2.2 Semi-structured interviews of stakeholders

The interviews were developed in partnership with Susan Davis, the Community and Cultural Planning Manager at GJV, who also participated in the majority of the interviews.

Susan's involvement offered a direct interface with GJV to enable uptake of research findings, and access to participants. However, it cannot be discounted that the GJV involvement in data collection may have resulted in self-censorship of participants, due to the resulting power dynamics. To counter this, full ethical protocols were followed, and all GJV input into the methodological approach and methods was assessed by the ANU supervisory team. For more information on Susan's involvement in the project, see Appendix 4.

Participants were given an information sheet and consent form prior to the start of the interview. The information sheet clearly outlined what all gathered information was used for, and explained that participants' identities would remain confidential and that they would not be named in this research. Pseudonyms have been applied. Interview transcriptions were emailed to participants if they so desired. This research method was approved by the ANU Human Research Ethics Committee, and is registered as protocol 2018/145. Susan followed the correct ethical guidelines required by GJV.

3.3 Data Analysis Methods

Audio recordings of interviews were transcribed using Transcription Module, and then analytically coded to key themes, or ‘nodes’ in NVivo. The coding approach was modelled from (Cope, 2016). These nodes included key concepts from the theoretical frameworks presented in the literature review, and a number of emergent codes were added throughout the process, following an inductive approach. The data was then further interpreted and analysed through the use of systems diagrams (Levy *et al.*, 2018). Levy *et al.* use mental models in the form of cognitive maps to improve the accuracy of systems thinking in representing complex perceived realities. Accordingly, an approach to systems diagrams was taken in this research that produces models of individuals’ narratives of their environmental worldviews and PEBs. There are some differences in the conventions used in the diagrams, as I thought it important to clearly show all feedback loops, and this was not a priority of Levy *et al.*’s approach. Then the themes were revised and refined to the current literature review to highlight and document linkages and connections.

The intended outcomes of data analysis were:

- Suggestions and recommendations for Ginninderry Joint Venture to consider, to engage multicultural individuals in sustainability in a consultative, culturally sensitive and productive way
- An understanding of some of the social, environmental and economic sustainability worldviews held by participants
- An understanding of the relationship between ethnicity and the environment in the context of immigration to developed countries

Chapter 4: Results

4.1 Participant Summaries

This section includes very brief summaries of each participant. Extended narratives can be found in Appendix 3, and include systems diagrams specific to each individual, outlining their creation of their narrative of environmental concern and PEBs. These diagrams have been used to generate a holistic, integrative systems diagram that applies to all participants (Chapter 5.1.3).

Figure 4.1 shows the PEBs that participants have said that they engage in. This is not an exhaustive summary, and it relies on their memories and what they decided to share during the interviews. All items were presented by participants as PEBs, even though some (e.g. cycling for fun) may not be considered a PEB in line with the academic literature. These were included in order to represent participants' narratives of their own PEBs.

| | Ranbir | Daniel | Thomas | Kewullay and Tenneh | Petra | Samir and Preeti | Total participation |
|--|-----------------------|-----------|-------------------------|---------------------------|----------------------------|-----------------------|---------------------|
| Age bracket | 25-34 | 18-24 | 25-34 | 45-54 | 45-54 | 35-44 | |
| Household | Couple with one child | Single | Couple with no children | Couple with five children | Couple with three children | Couple with one child | |
| Country of birth | India | Australia | Australia | Sierra Leone | Bosnia and Herzegovina | India | |
| Community-run sustainability activities | | | | | | | 1 |
| Cycling for commuting | | | | | | | 1 |
| Environmental volunteering | | | | | | | 1 |
| Recycling and green waste disposal beyond curbside collection | | | | | | | 1 |
| Socialising outdoors | | | | | | | 2 |
| Public transport | | | | | | | 2 |
| Home automation | | | | | | | 2 |
| Low energy temperature control in the home | | | | | | | 3 |
| Picking up street rubbish | | | | | | | 3 |
| Pro-environmental consumer behaviour | | | | | | | 3 |
| Reducing meat consumption | | | | | | | 3 |
| Reducing waste (e.g. plastic, electricity, water, etc.) | | | | | | | 4 |
| Cycling for fun | | | | | | | 4 |
| Sustainable technologies in the home (e.g. water collection, solar panels) | | | | | | | 4 |
| Walking for fun | | | | | | | 4 |
| Growing plants/gardening | | | | | | | 5 |
| Other outdoor sports and activities | | | | | | | 5 |
| Total number of PEBs | 4 | 5 | 8 | 9 | 10 | 12 | |

Figure 4.1: Demographics of, and PEBs performed by each participant.

4.1.1 Ranbir

Ranbir said that he is not particularly interested in sustainability. He interpreted many sustainability questions as being about community instead. He is somewhat knowledgeable and aware of environmental issues, due to his exposure to environmental degradation, primarily pollution, in India. As a result of this experience, he is currently trying to grow plants to combat degradation and beautify his environment, and he picks up rubbish and disposes of it when he finds it on the street. Ranbir also cycles for fun and exercise, but not for commuting; he needs his car to transport goods for work. Ranbir sees time and convenience as the biggest barriers to PEBs, as he is very busy running his business and supporting his family, who are his first priority in life. Having said this, Ranbir believes he has a strong connection to nature, and appreciates it greatly for its views and aesthetic. He believes the environment to be beneficial for human health, and for building relationships and community. Nature makes Ranbir happy, and this is the main reason for his purchase at Ginninderry.

4.1.2 Thomas

A keen technophile, Thomas professed to be very interested in sustainability and solving environmental challenges. He thinks that this interest stems from two factors. The first is his understanding of environmental science, and when prompted, he agreed that he thinks that knowledge and awareness are key drivers in environmental concern and PEBs. Secondly, his childhood was spent between suburbia and a rural farm. He mentioned that conditions on the farm were rough: soil was degraded, and they rarely got rain. This exposure to scarcity and degradation has shaped his environmental awareness, values and concern. Thomas also identifies as having a strong connection to nature. He has always done a lot of outdoor sports and activities, greatly enjoys spending time outside, and understands the importance of looking after the environment. As a result, Thomas does what PEBs he can (See Figure 4.1 for complete list). In addition to cycling to commute to work, Thomas uses a car, because, “I don’t love public transport, especially buses,” preferring to “move under my own power and direction.” Personal agency and power is very important to him, and so he probably will not use public transport in the future. Thomas said that doing sustainable behaviours makes him think more about the environment and his impact on it. By adopting these behaviours from family members, friends and legislation, he is prompted to change his patterns of thought and attitude, rather than his thoughts and attitudes prompting his behaviour as suggested by the literature. Thomas feels disillusioned by the lack of real-world impact that his PEBs have, but still tries his best to make a difference.

4.1.3 Daniel

Daniel is somewhat interested in the environment. He greatly enjoys outdoor activities and events, and sports like cycling and hiking help him connect with nature. Daniel feels a connection to the environment, but in wilderness places rather than in Canberra. Being in places like The Brindabellas makes him feel relaxed and happy. This has been developed by his family's passion for the outdoors, and by Australian social norms around sports. Sustainability was also encouraged in his school, and he has a level of environmental concern. Daniel wants to protect the environment for utilitarian purposes. However, this concern is only reflected in his behaviour to an extent. Daniel loves spending time outside, and does what PEBs he can easily adapt into his day-to-day life. He does not go out of his way to find new PEBs, actively increase his knowledge or awareness, or advocate for the environment. Daniel joined a Canberra-based Rural Fire Brigade as a volunteer after seeing his father involved. Daniel feels that being a volunteer firefighter connects him to his current community. Being in the brigade makes him feel like he is supporting his community, rather than them supporting him, and he greatly enjoys this. He says, "It feels good to do my bit." This sense of community is mostly gained by Daniel from social media, through the Brigade Facebook page and the online support it receives from the area's residents.

4.1.4 Samir and Preeti

Samir and Preeti are very interested in sustainability, and think that they are more so than average. They showed a good knowledge and awareness of environmental issues, concern for the environment, and a motivation to fix the problems. Samir thinks that his interest in sustainability stems from his exposure to scarcity in India when he was growing up. In his childhood, electricity was often cut for a number of hours a week. Samir now views electricity as a precious resource, and says, "It would be a waste if we just use it without use." His father was very innovative and interested in sustainability. Samir's father built a submersible well in their house, so they never had scarcity of water, but many other members of their community did. Samir's father also took him to poorer villages to see the scarcity there, because he wanted him to value resources. "So I've seen those kind of scarcity as well, so we appreciate the value of things." His father's ingenuity and interest in technology influenced Samir's interest in sustainable technology, which is evident from their house. When asked about pro-environmental or sustainable behaviours, Samir always came back to technological interventions. Samir and Preeti's house is a fully automated smart home with solar power, and extensive energy conservation and temperature control technology. Samir says that adopting PEBs is a small step, but it adds up: "Whatever we

can do, we definitely should do.” See Figure 4.1 for the complete summary of their PEBs. Samir noted the power of social media in sharing knowledge and awareness, thereby creating social change for sustainability. Samir and Preeti both feel connected to nature, and do a lot of travelling to forested wilderness places to enjoy the atmosphere. When asked how they feel about nature, Samir said, “I love it, and that’s why I’ve got a house just in front of the park.” Hinduism’s values and attitudes towards nature have been closely adopted by the family, and they respect the land.

4.1.5 Petra

Connection and care for the environment is very important to Petra. She grew up in a community that was very protective of their environment. Environmental education was an important part of school programmes and extra-curricular activities, and Bosnia’s waste management and other systems were very effective. Petra says, “It is important – how you grow up and what you learn through your schooling and from your parents, and what community you come from.... You carry that with you.” She believes that the way she grew up, with pro-environmental values and heightened knowledge and awareness of the environment, is what has influenced her current behaviours. Petra and her family are very invested in sustainability, and practice many PEBs (see Figure 4.1 for complete list). “I think one of the reasons why we do a lot of stuff [PEBs] is because it was inbuilt into us when we were little.” Like her parents, Petra is a keen gardener, saying that growing plants relaxes her and keeps her sane. She says that “if you wanna have a garden, and you wanna have this stuff, it seeks commitment and time.” She is very happy to make this sacrifice, as it makes her feel happy and responsible for her actions. She loves nature and greenery, especially tree-lined streets, and would love to see that at Ginninderry. Petra believes that humans should “adjust to the nature, not adjusting nature to us,” in order to protect it. She believes that “this environment, we are leaving it for future generations,” and so need to take care of it. Media consumption such as watching the Discovery channel on television increases her knowledge and awareness of environmental issues, which increases her concern. Overall, Petra has a very close connection to nature, and experiences it through gardening, media, and PEBs.

4.1.6 Kewullay and Tenneh

Sustainability and connection to the environment are very important for Kewullay and Tenneh. They think they are more interested in sustainability than average, and believe that their background has given them a high knowledge and awareness of the environment. As a result, they perform a number of PEBs (see Figure 4.1 for complete list). Both of them but especially

Kewullay, are very interested in a community garden at Ginninderry, and would prefer to use it instead of their own garden. Kewullay said, “A community garden is not that you want to produce your own food, but it’s some place you can go and meet people, and talk.” Time and social and sports commitments are a constraint to PEB in the family’s day to day lives. Kewullay and Tenneh feel very connected to the environment, and they think that this connection is beneficial to human health and happiness. They think that in Africa, the understanding of the benefits of nature on the human psyche is already well understood and reflected in day-to-day life. Kewullay and Tenneh believe that their upbringing and the culture they were raised in has influenced both their connection to the environment and their interest in sustainability, which are closely interlinked. “So yeah, it’s just part of our psyche. And that’s why they think, ‘you can take the African out of the bush, but you can’t take the bush out of the African.’ Furthermore, the relationship between community and the environment is very strong in Kewullay and Tenneh’s eyes. Tenneh explained that communities that have the same values work towards common goals efficiently, and pass these values onto their children to continue to strive towards. When asked about how sustainability will be achieved, Tenneh said, “People power! It’s very important. I mean, it starts with small communities like this.”

4.2 Participant Ideas for Ginninderry

Participants raised a number of ideas aimed to facilitate engagement with sustainability and community at Ginninderry. They are presented in Table 4.2.

| Participant | Concept | Related theme/theory |
|---|---|---|
| Kewullay, Petra | Good leadership team | Community cohesion |
| Samir, Preeti, Kewullay, Tenneh, Daniel, Thomas, Ranbir | Community events and activities | Community cohesion |
| Kewullay, Tenneh, Petra | Community centre attractive to different demographics | Community cohesion |
| Everyone | Parks, sports fields and playgrounds on Belconnen Landfill Site | PEBs, community cohesion, use of public space |
| Ranbir, Samir, Preeti | Well-designed barbeque areas in parks (including wind shades for all seasons, and taps near barbeque) | Community cohesion |
| Samir, Daniel, Petra | Social media group | Community cohesion, environmental knowledge and awareness |
| Samir, Preeti | Space for religious gatherings and practices, including facilities like commercial kitchens | Religion, community cohesion |
| Daniel, Ranbir, Samir | Well-designed and maintained cycle paths | PEBs |
| Daniel, Brian | Good lighting of public spaces at night | PEBs, use of public space |
| Samir, Preeti, Daniel, Petra, Kewullay, Tenneh | Convenient and efficient public transport | PEBs, transport |
| Kewullay and Tenneh | Community garden | PEBs, community cohesion |

Table 4.2: Ideas for planning and design at Ginninderry, raised by participants in interviews

It was a general consensus that community cohesion is beneficial for sustainability. As a result, and for the purposes of making people happy, participants thought that community cohesion is important. They think it is important to have places to discuss environmental and sustainability knowledge and understandings, and to make public spaces as inviting and attractive as possible to encourage their use. Participants like Ranbir noted that being outdoors helps build relationships between people, so encouraging people to spend time outside will be beneficial to creating community. Participants noted the importance of catering to different demographics, and making sure to engage everyone from families with children to the elderly on their interests. They noted that having a community centre like Ginninderry will be perfect for that, as if it is effectively designed, it can attract lots of people with different interests.

4.3 Emergent Themes and Synthesis

The results of this study show that there is great variation between individual's environmental worldviews and narratives, and no clear relationship between this variation and cultural background, ethnicity or immigrant status. Though levels were different, all participants expressed some concern at the state of the environment, and some desire to reduce their impact. All participants believe their actions to have real-world impacts on the environment, and most participants note that the Australian government needs to take a more proactive approach to sustainability. Everyone believes there to be a strong mutually beneficial relationship between community cohesion and the environment.

Some comparisons between participants:

- Daniel and Ranbir are the least inclined to adopt new PEBs.
- Samir, Petra and Thomas are the most interested in sustainable technology and raised this as a solution to environmental problems.
- Kewullay and Tenneh, and Petra show the deepest evident connections to nature.
- All participants believe that what environmental concern they have, and their environmental worldviews more broadly, have been shaped by their upbringing.
 - Ranbir did not appear to have a strong pro-environmental worldview; all other participants who have immigrated to Australia did.
 - Thomas and Daniel were both born in Australia, but hold very different environmental worldviews.

4.3.1 How Participants Relate to PEBs

Participants engaged with PEBs for a number of different reasons, some of them not environmental. Other factors that influence individuals taking up an activity that could be seen as pro-environmental include enjoyment, curiosity, and interest. For example, Daniel and Ranbir both enjoy cycling, and do so for fun, and do not view this as a PEB. Daniel suggested that efficient bike paths at Ginninderry will motivate him to cycle more, but Ranbir noted that he does it when he can but is often too busy with work and family commitments. Thomas and Samir are both very interested in technology, and have jobs in the field, so apply this to their homes to make them more efficient and therefore sustainable. Gardening is something that some participants and their parents visiting from overseas find fun and relaxing, and do it primarily for this reason rather than sustainability or food security. It has been made clear from this research that activities that may be seen as PEBs also have other motivations. Trying to encourage these behaviours without

necessarily engaging people on PEBs may be a successful way to get people without particularly strong motivation to perform PEBs involved in them regardless, such as Ranbir and Daniel.

4.3.2 Importance of Family

Family showed to be an important factor in both how individuals engage with communities, and in their environmental worldviews. Firstly, the values held by participants' parents influenced the involvement they had with their community growing up, and their exposure and relationship to the environment. Petra, whose parents love for gardening translated to her, referred to sustainability as something that she was taught from an early age, as did Kewullay and Tenneh, who described sustainability as something that was, "just born and bred." Samir's father took him to remote villages in India to experience scarcity and develop an appreciation for finite resources, and Daniel's father got him involved in voluntary firefighting, bushwalking and other outdoor activities. Petra summed the influence parents have on their children as "... important – how you grow up and what you learn... from your parents, and what community you come from."

The interviews also showed that the inverse is true; the environmental worldviews and PEBs of participants with families are influenced by their children. Kewullay and Tenneh, and Samir and Preeti noted that if we do not take a hard stance and deal with climate change now, our children and further descendants will have to deal with the consequences of our actions. This was a very big driver of environmental concern for them, especially for Samir. Some participants also noted the influence of their children's education on their environmental awareness and adoption of PEBs. Multiple participants raised the success of school sustainability programmes, and school gardens in particular. Petra told me about unsustainable tourism practices in the Great Barrier Reef that she learnt about from her daughter, showing that educating children may be an effective way to influence adult awareness, concern and behaviour. However, children were often cited as a reason for high use of private transport, as the public transport system in Canberra is not conducive to busy school and extra-curricular schedules.

Children also make it easy for families to connect with each other within communities, as they act as a common ground and make friends with other children easily. Kewullay and Tenneh said, "... kids have a way of connecting families." This enforces the need for communities like Ginninderry to both utilise this to the advantage of encouraging community cohesion, by facilitating the interaction of children from different families, as this will help them form relationships. It also highlights the need to find points of connection for people without families, as it may be harder for them to find common ground than it is for families. As Petra said, "People

with young families, for example, would get that connection through the kids... but I think trying to find the bridge in between generations, and also ethnic groups, it would be a challenge.”

4.3.3 Immigrant experience and racism

A theme that emerged was the drastically different experience of immigration that participants born outside Australia had. Kewullay and Tenneh were the only participants to raise experiences of social exclusion and prejudice based on their migrant status. This heavily affected their connection to their local neighbourhood community, forcing them to look for community engagement elsewhere. However, it did not affect their environmental worldviews or behaviours, ruling out Social Exclusion Theory, which posits that being excluded from social groups leads marginalised individuals to not adopt behaviours seen as ‘desirable’ by the majority (see Appendix 1.1 for more detail). They were also the only participants who did not raise whether or not other people from the same cultural background as them live nearby. All other participants from migrant backgrounds noted that they have friends nearby who come from the same cultural background as them, and that this is very beneficial in terms of having close relationships within close proximity. Ranbir’s family even moved to Moncrieff from Mawson to be closer to others from their cultural background, and this is a key reason for moving to Ginninderry for both Ranbir’s family, and Samir and Preeti’s family. Petra too noted that having people from her ethnic background in the same suburb was nice because she had friends nearby, and this was one of the reasons she does not want to move to Ginninderry. The experience of migration and adapting to a new society is a complex one, and the data seems to suggest that people from migrant backgrounds enjoy and benefit from having close relationships with others from their background, and that it is helpful for creating a sense of community. This is promising for Ginninderry, as it suggests that having a common background, such as migration or shared cultural background, helps individuals form relationships and create community. It also means that as many of the buyers understand the experience of migration and have experienced cultural differences, it is possible that residents who have had experiences like Kewullay and Tenneh will find that neighbours hold less prejudice towards them.

Petra was the only participant from a migrant background to discuss acculturation, or as she described it, ‘assimilation.’ She suggested that some people from migrant backgrounds do not adopt PEBs that they see here due to habit, but that they should, and that it is important for immigrants to become engaged and immersed in Australian culture. However, because of the similar proportion of individuals with interest in sustainability between both immigrant and non-immigrant participants, it is unlikely that this is related to sustainability. Furthermore, it should not be assumed that ‘Australian’ sustainability discourses are the only right ones, so the theory of

acculturation is one that is fraught with cultural bias and ethnocentrism, and therefore not fitting for this study (see Appendix 1.1).

4.3.4 Community Cohesion

There were differences in how important it was for participants to have a close relationship to their community. Samir and Preeti, and Kewullay and Tenneh thought it was essential to be part of a closely-knit community, and this is reflected in their current connection to community. It is interesting to note that they are both closely connected to their religious organisations, and Samir and Preeti are also connected to their neighbourhood community, but Kewullay and Tenneh are not. Everyone else said that they think it is very important to be connected to community, but this is not as evident in their day-to-day lives. Daniel is connected to his community through firefighting and Petra through occasional everyday interactions, but both Thomas and Ranbir have very little connection to their current community. They both believe that this is because they are too busy. Ranbir prefers to have a large network of trusted family members in his home, so that he is not reliant on the wider community for support. The way that individuals build and relate to community therefore very clearly differs, for the most part due to factors of religion and available time, rather than cultural background. Connecting to their neighbourhoods seems to be somewhat difficult for all participants, and this may be a reflection on urban spatial planning, social norms, lack of organisation or leadership, or lack of common ground between residents over which to bond.

The following section further discusses the trends that were apparent in the data in relation to community cohesion. Firstly I discuss broad trends of how community was conceptualised differently by participants depending on cultural background, and then more on to perceptions of community and the household. From there the barriers to community cohesion are discussed, including transience, and ethnicity and cultural differences. Then the possible solution of social media is explored briefly, and the section is concluded with a commentary on the possibility of religion as a relevant contributing factor to community cohesion and environmental worldviews.

4.3.4.1 Concepts of ‘community’

The way ‘community’ was self-defined by participants varied depending on background. Samir and Preeti, Kewullay and Tenneh and Ranbir all thought that ‘their community’ referred to people from the same cultural, ethnic or religious group as them, whereas Daniel, Thomas and Petra assumed it meant the people living in their neighbourhood. This distinction indicates

interesting community values, and suggests that culture, ethnicity, immigrant status or religion are critical in their identity and sense of belonging to a group. It also raises the question of why people conceptualise community differently in different cultures. Based on interviewees' backgrounds, it may be a result of immigration and may raise some interesting points about how immigration and conception of community relate to one another. However, this cannot be confirmed in this study, and so should be further explored. Furthermore, this difference in understanding was unpredicted, and should be taken into consideration in future research. This finding demonstrates the need for social research, especially cross-cultural research, to clearly define the term 'community' to avoid confusion of findings and to limit the possibility of misinterpretation by the researcher.

4.3.4.2 Community, the Household and Sustainability

Participants applied 'sustainability' to different social spheres. When asked about sustainable behaviours that they perform or would like to see at Ginninderry, some participants started discussing sustainable technology in their house, others raised PEBs in their home and family life, and other discussed PEBs within the wider community. Perception of what 'sustainability' most refers to and which realm participants identify it with clearly differs. Most participants discussed the sustainability features of their home, but Daniel and Ranbir needed to be prompted to do so. Samir and Preeti brought attention to BAPS as a way that they engage with PEBs, and Kewullay and Tenneh discussed a range of community-oriented behaviours like community gardening and clothes recycling that they would love at Ginninderry. Petra on the other hand did not discuss any community-oriented PEBs except education. There is very clearly a relationship between how closely individuals connect with their communities and whether they perceive sustainability solutions to be in the public or private realm. The data suggests that people who are more involved with a community see sustainability solutions as a more communal effort, whereas those who are less involved see it as an individual effort.

4.3.4.3 Transience as a Barrier to Community

Transience was raised by participants as a key barrier to community cohesion. Kewullay and Tenneh, and Petra, have all been in their homes for eleven years, and have seen neighbours come and go. They all think that they are the residents who have lived there for the longest, and cite this movement as a factor that prevents a strong sense of community in a neighbourhood. Tenneh said, "However, people come and go. The other neighbours, they moved out, got new ones. And because Canberra is just- is it transience, they call it? People come and go? So it's so hard." Petra

adds to this, saying that, “Where I come from, your community would stay the same since your grandfather was there, because you normally would grow up with the people that are in the same neighbourhood. However, Australia is more... people move more. ... And the neighbourhood has changed. People come and go.”

Canberra is well-documented as being a highly transient city, with many students and public servants migrating from inter-state and overseas to study and work in the ACT. This is evident in the average age profile of Canberra and the ACT compared to the national average (see Appendix 2). Canberra has had a long history of both in- and out-migration, and this continues today (Young, 1985). High levels of migration have been cited as key barriers to community cohesion in other countries (Bertotti *et al.*, 2012; Desjardins *et al.*, 2002; Government", 2010; Mullen, 2009), but no work has been done on this relationship in Canberra.

Transience is a concept that will come into play at Ginninderry, so must be addressed. In the short term, transience will directly affect new residents, who are by definition transient as they move to the new suburb. This move will have impacts on their previous neighbourhoods, and this communal sense of transience will likely positively impact how residents behave towards each other at the beginning, as they try to build relationships in their new space. In the long term, transience may become a barrier to community cohesion, especially in the Flexi series, which may be largely bought as a first home like Thomas or Daniel, and properties that have been bought as investments. These groups of properties are likely to have people move in and out of them much more often, and this change in composition of the community will impact community cohesion. This movement of people may also result in future residents who have very little interest in sustainability. To combat the possible negative effects of transience on community cohesion, Ginninderry should consider very inclusive, well-advertised and relatively frequent events and activities, and to create a social norm of being involved with the community. Having this strong social structure will help the community remain cohesive despite the coming and going of residents.

4.3.4.4 Ethnicity and Cultural Differences as Barriers to Community

When asked about what they perceived to be the largest barriers to community cohesion, several participants noted the role of ethnic and cultural differences. Kewullay and Tenneh believe that some “Australians” have “this fear of migrants bringing all their bad tricks”, and that this can create fissures in communities. They think that inclusive, understanding leadership is therefore incredibly important in helping to bridge these gaps. They also believe that having a lot of events and activities that attract people from many different cultural backgrounds will help bring people

together, therefore showing those who may hold prejudice against migrants that there is nothing to fear. This idea is known in the literature as Contact Theory, and has indeed been shown to be very successful in bridging gaps between ethnic and cultural groups (Aberbach and Walker, 1973; Robinson, 1980; Shinew *et al.*, 2004; Sigelman *et al.*, 1996; Sigelman and Welch, 1994)

Identifying as white Australians, Daniel and his father Brian approach this matter from a different perspective again. Instead of being wary of prejudice towards them, they think that cultural differences may make it hard for people to relate to each other. They expressed the concern that sometimes people who follow different cultural or religious beliefs get offended when they say, “Merry Christmas” and so forth, and they think that this sensitivity is a barrier to forming relationships. They think that as a result, it is very important to have leadership to bring everyone together, irrespective of background, and that people make an effort to learn each other’s cultures. Brian said, “And that’s the give and take, it’s important for us to learn other cultures, and for them to learn our cultures.”

Having lived through the Bosnian War (1992-1995), Petra is very conscious of conflict between different ethnic groups. She is concerned that having pockets of isolated ethnic groups leads to increased tensions between them, and thinks that it is important to have a “mix” of different ethnic groups in one place to avoid that tension. She also thinks that it is important for immigrants to make an effort to embrace their new identity as ‘Australians’, and the culture that comes with that. She thinks that it is beneficial for people to continue to experience their traditions in the home and through food and dance, but to also try to experience other cultures and the variety that being in a multicultural society brings. Petra thinks that it is the onus of immigrants to be open and accepting, and that ‘Australian’ society will accept them in return, resulting in cultural diversity and peace.

In accordance with the data collected in this study and the literature on Contact Theory, Social Capital and environmental racism, it is important to create both social and physical spaces that are inviting to people from all represented cultural and ethnic backgrounds. This will help people expose themselves to variety in culture, and as a result both learn tolerance and acceptance, and enrich their own worldview. It is important for people to make an individual effort to participate in community, but Ginninderry Joint Venture will have a role in promoting this participation. Finding ways to bridge difference through inclusive and diverse activities and events will be crucial, and fun for everyone involved.

4.3.4.5 Social Media as a Community Meeting Place

Social media was raised by participants as a key contributor to community cohesion. MyGungahlin is a business that distributes news and information about Gungahlin to residents via social media and their website. It showcases businesses, advertises events, and is a place for residents to connect. The key aim is to develop a sense of community within the Gungahlin region. In contrast to MyGungahlin, which is operated as a business, the 'Moncrieff Residents' Facebook page is organised by residents living in the suburb. Mingle also assists community activity planning with its 'Moncrieff Mingle' Facebook page. Both of these services were raised by interview participants as effective ways of engaging residents in community activity and creating a strong sense of community. In this sample there appeared to be no relationship between cultural background and likelihood of engagement with social media.

4.3.4.6 Religion: Its Influence on Environmental Worldviews and Community Cohesion

Kewullay expressed concern that the decline in the observance of religious rites in Australia has meant that fewer people go to church, and therefore fewer people participate in that kind of community. He thinks that this has led to a decline in community cohesion, and that this has negative effects on individual and group wellbeing. He thinks that it is very important for a different kind of community organisation to take over this role in organising events, activities, and providing spaces for individuals to form relationships and communities. Kewullay has strong hopes that a residential group and the GJV leadership team can fill this role.

Samir and his family's membership to the BAPS and identity as Swaminarayan Hindus is a key driver in their environmental worldview. Participation in community PEBs, adoption of religious and cultural pro-environmental values, and observation of religious rules to respect nature heighten their connection to the environment and increase their awareness and knowledge of environmental issues. This in turn increases their concern about the state of the planet, and leads to an increase in their PEBs. They are tightly connected to the BAPS community, and this makes their environmental worldviews more pro-environment.

Ranbir is a Sikh, and though Sikhism is traditionally very pro-environment in its attitudes, this does not translate into knowledge, awareness, concern or PEB in Ranbir's life. While he feels very connected to nature, this part of his life is separate from his religious life in his narrative. This disconnect is interesting, and is likely a case of individual values and priorities, but

considering the cases of Samir and Ranbir and their vastly different experiences whilst both in traditionally pro-environmental religions, this suggests that the influence of religion and values on PEB is diverse.

Petra, Kewullay and Tenneh all self-identified as Christians, the former Orthodox and the latter unspecified. Their religion seems to influence their attitudes towards community, particularly Kewullay and Tenneh, but has little direct and noted influence on their environmental worldviews. Daniel and Thomas did not state their religions, and religion therefore seemed to play no part in their connection to nature, level of environmental concern or participation in community. Daniel and Thomas are much younger than all other participants, and are also the only interviewees both born in Australia, so this may have an influence on their distant relationship with religion.

Chapter 5: Discussion

Section 5.1 will first explain how the interview data related to the literature presented in Chapter 2. Sections 5.2 and 5.3 then introduce the new proposed framework for understanding PEB and environmental worldviews from cross-cultural perspectives. From there, Section 5.4 will discuss the implications of the data and framework for Ginninderry.

5.1 Drawing from the literature to explain pro-environmental behaviour

This section will discuss how key theories that are dominant in the literature have emerged in the data. Due to the grounded-theory approach this project has taken, the theories that are being discussed in this section are those that the data have shown to have the most relevance. Those theories that were problematic or irrelevant can be found in Appendix 1.

It should first be noted that ‘environmental concern’ was the way participants described their anxiety about risks to the state of the environment, and that this was a key driver of behaviour. Many models explained below do not encapsulate concern, but the data often related to it. The term ‘environmental concern’ encompasses the fear of loss of things that individuals care about, but also other fears such as loss of nature’s intrinsic value. This makes more sense cross-culturally, as people value the environment for different reasons across different cultural contexts.

5.1.1 Community Cohesion and Social Capital

This research suggests that community cohesion is beneficial for building social capital and sharing knowledge and awareness about sustainability, which results in individuals engaging in more PEBs and being more happy and content. This finding is consistent with the literature outlined in Section 2.3.7.

All participants believed that community cohesion leads to increased engagement with sustainability. Numerous participants thought that community cohesion facilitates discussion and knowledge sharing about sustainability, which results in more people adopting PEBs. This influence of social capital was both in informal and formal settings. For example, Daniel thought that having a forum such as a marketplace, or sustainability events facilitated by the community

would be a good way to share knowledge and awareness. On the other hand, Samir used first-hand experience of how educating his friends about solar panels by showing them his lead to many of them installing their own. The theory of community cohesion encouraging PEBs makes the assumption that knowledge and awareness of the environment influence PEBs, and this was indeed a trend in the data, as explained in Section 5.1.3. Community cohesion also makes running outdoor activities more rewarding for individuals, resulting in exposure to environmental beauty, degradation and scarcity. These kinds of exposure facilitate emotional connections to nature, which in turn influences environmental concern, pro-environmental values, and PEBs (see Sections 5.1.2 and 5.1.5). Normalising these exposing activities is important, especially for children, as they carry them into adulthood and adopt more PEBs, as Petra, Kewullay, Tenneh, and Samir have done. Therefore, the data shows that community cohesion is indeed beneficial for sustainability, as predicted by the literature, and should be encouraged at Ginninderry.

5.1.2 Human Connection to Nature

Human connection to nature has shown in this project to be one of the most promising theories to explain environmental worldviews and PEB (see Section 2.3.4 for literature). This concept does not refer to beliefs about the environment or the role of humans in it, but rather to the positive benefits that humans receive from spending time in nature, and the spiritual or emotional relationship they as individuals have with the environment. Participants in this study all claimed that they had a strong connection to nature, even though these relationships differed greatly from each other. These connections were often made through experience in nature, and led to concern about the impacts of environmental risk on their connections, which often resulted in PEBs.

Many participants noted the beneficial effects of nature on mental and physical health. Petra feels a very strong connection to nature, and she uses time in nature to “keep me sane!” Tenneh brought up scientific studies that have shown that spending time in natural places is good for mental health and eyesight, and Ranbir noted that people are physically healthier when they spend more time outside. These links from the data to the concept of biophilia is very clear. How people connect to and value the environment and how they form their environmental worldviews is very closely related to the individual benefits that they receive from it. A number of participants also explained that they believe people are more willing to protect the environment when they perceive a risk to the environment as a risk to something that they value. The narratives of participants like Thomas and Daniel showed that when people can connect the decline in the state of the environment to a risk to things that they value, they become more concerned about the environment and act accordingly by adopting PEBs. This shows a very strong and evident

relationship between personal connection to nature and environmental concern. With the exception of Johnson *et al.* (2004), the majority of the literature does not explain how human connection to nature interacts with the other variables. In reality, peoples' emotional connections to nature are a key driver in shaping how they respond to external factors and shape their worldviews and behaviours.

5.1.3 Knowledge, Awareness and the Knowledge-Deficit Model

Knowledge and awareness of the environment also played a large part in the narratives individuals told about what influences sustainability (see Section 2.3.1 for literature). Participants who were particularly interested in PEBs and reported having adopted a number of them were particularly convinced that knowledge and awareness of the environment is crucial for understanding, which then creates concern. These participants include Petra, Samir and Preeti, Kewullay and Tenneh, and Thomas. They framed it as knowledge, awareness or understanding of the environment, indicating that they viewed it as an objective truth rather than a human construction. In this society we are taught to take the word of scientists and we view knowledge as a concrete facts that exist regardless of human beings (Mansvelt and Berg, 2016: 402). However, pluriversal views argue that instead, knowledge is a social construction, and is inherently subjective and dependent on the ways of being and knowing that are accepted within different cultures (Johnson and Madge, 2016). For this reason, previous frameworks have framed 'knowledge, awareness, or understanding of the environment' as 'beliefs about the environment'. However, this academic discourse is not how participants understand the world or express their worldviews. In order to create a framework that is as accurate as possible of individual's narratives of themselves and their lives, it is important to employ their own understandings of knowledge, with a caveat that it exists within their social and cultural context. Furthermore, in a cross-cultural context, 'beliefs' are too easily confused with 'religious, cultural or spiritual values.' To avoid this confusion and remove the jargon barrier between academia and broader society, it is best to use the terms 'knowledge and awareness', and acknowledge that knowledge is partial, emerging, socially constructed, and not necessarily a true reflection of the environment (Johnson and Madge, 2016).

5.1.4 Awareness of the Environment due to Exposure

Exposure to the environment appears to be a key factor leading to connection to the environment (Section 5.1.2), and knowledge and awareness of environmental problems (Section 5.1.3), which both result in environmental concern and PEB. Kewullay and Tenneh, Samir and

Preeti, and Thomas all explained exposure to scarcity as a key cause of their environmental concern and a number of their PEBs. In particular, Thomas drew special attention to how growing up on a farm in rural Western Australia with limited access to water and degraded soil has very much influenced his current understanding of the environment, and his desire to protect and nurture it. Samir talked about how although his family was well-off and did not experience scarcity first-hand, his father made sure to take them into villages that were experiencing scarcity, so that they would not take their resources for granted. Ranbir, Daniel and Petra added that exposure to degradation such as pollution is a key cause of awareness, concern and PEBs for them. These are just some examples of the monumental effect first-hand exposure to environmental ills can have on individual's environmental worldviews. Seeing environmental scarcity and degradation leads individuals to become more aware of the state of their environment and their impact upon it, and this in turn leads to concern, and in some cases if the constraints do not outweigh the intention to perform, PEBs.

In addition, the data showed that exposure to beauty also contributes to creating connections to nature and environmental concern. Experiencing and appreciating nature's aesthetic was an important factor that led participants to adopt PEBs. Petra is the prime example of this; she grew up in a town on a protected river in the scenic Bosnia and Herzegovina. Nature was all around her and was an important part of how she was raised, and this exposure to natural beauty is a critical part of her connection to the environment, and therefore her environmental concern. Petra appreciates nature for the activities and time she gets to spend in it, and wants to protect it so she can continue to do so. All of the participants expressed the same sentiment, albeit to differing degrees. This could be seen as an expression of the postmaterialist approach, in that beauty is often a feature of landscapes that are already protected, due to postmaterialist values, however this is not the case. It is the time that individuals spend appreciating nature that makes the difference, and participants have shown that the beauty of natural places is not limited to postmaterialist societies. Exposure to beauty functions much in the same way as exposure to scarcity or degradation. These factors seem to compound as well; individuals who experienced more than one of these three factors seemed more concerned than their counterparts.

5.1.5 Values

In addition to the variables and relationships discussed previously, and as predicted by the literature (Section 2.3.3), values showed to be very influential in shaping the environmental worldviews and PEBs of participants in this study. Participants valued the environment for a number of reasons, including intrinsic value, the benefits of their connection to nature, and understandings of environmental systems and ecosystem service benefits. Therefore, there are

reciprocal relationships between pro-environmental values, connection to nature, knowledge and concern. The term ‘value’ is used here very broadly; instead of taking a Schwartz or NEP approach, I am discussing the extent to which individuals place importance on a certain thing or concept. Schwartz’s approach proved too difficult to adapt into a small-scale qualitative study, as it is better suited to a quantitative survey method. I tried to ascribe values to individuals post-interview, but this was too open to uncertain interpretation. The approach to values that was taken was closest to the NEP (see Appendix 1.4). The NEP itself was not used because, as predicted, it was too simplistic and ethnocentric to accurately represent the worldviews narrated by participants. Instead, a ‘cares about theme’ to ‘does not care about theme’ dualism was used, where the theme was a specific thing that could be valued. This dualism was useful in that it was able to highlight values towards specific themes and concepts that emerged in the data rather than a pre-set list, and when applied to very specific things it can be effective at representing non-Western experience. However, it is less useful at doing this for broad concepts like ‘sustainability’, because it may be perceived differently between cultures. This dualism is not complex enough, and is not an entirely accurate way of perceiving values, but it was the most effective that could be employed given the constraints of this project.

This study found that people who value the environment very highly are also likely to adopt PEBs, but that it still contingent on the individual’s perception of constraints. For example, Petra, Samir and Preeti, Kewullay and Tenneh and Thomas have very pro-environmental values and perform numerous PEBs, however for Daniel or Ranbir, pro-environmental values do not translate into PEBs. This is due to perceived constraints, which include other values that are not pro-environmental and are a result of external social, cultural, economic and political factors. Daniel’s lack of day-to-day PEBs is a result of valuing convenience, comfort and efficiency above the immediate effects of PEBs. Ranbir values family more than he values the environment, and the financial pressure and lack of time caused by his value of family results in a comparatively smaller number of PEBs. Values impact PEBs directly, but also through other variables such as environmental concern, and knowledge and awareness, which could both be interpreted as beliefs under a VBN approach. However, values were not the only important factor guiding behaviour, and therefore theoretical frameworks like the VBN (Section 5.1.6) are too simplistic to be meaningfully applied to real situations.

The ‘Eastern’ and ‘Western’ dichotomy of values present in the literature (Section 2.3.4) was not evident at all in the results of this project. Daniel and Thomas were both born in Australia but conceptualise the environment differently and have varied interest in the environment, and the same applies to Samir and Ranbir, who were both born in India. The specific context individuals were raised in is more important than generalised culture of the whole nation, and other factors like exposure to scarcity and degradation, social, economic and political context,

and constraints like financial position were presented as more of a factor in influencing environmental worldview and PEBs. There is therefore a need to adopt broader and less ethnocentric approaches to understanding sustainability, that account for the vast range of cultures, experiences and worldviews that exist throughout the world.

5.1.6 Value-Belief-Norm Theory

The VBN (see Section 2.3.3) is a useful starting point for understanding the relationships between values, beliefs and behaviours in the literature, but is limited in connecting these variables with other ones explained in Sections 5.1.1 to 5.1.4. The influence of values on beliefs was evident within the data. For example, pro-environmental values, connection to the environment, and other values contribute to environmental concern and knowledge, which may be seen as beliefs. However, the use of ‘norms’ as an output of values and beliefs rather than a driver seemed too withdrawn from reality. Societal norms influenced behaviour, but the behaviour of individuals often differed so far from societal norms and changed so frequently that the term ‘norm’ does not fit adequately. The VBN also assumes a linear causation from beliefs to values to norms, not taking into account complex feedback loops that occur in reality, or the influence of norms on beliefs and values. Dietz *et al.* and Johnson *et al.*’s approaches to the VBN were more applicable, especially Johnson *et al.*’s addition of social structure and institutional constraints. However, even with these additions, the VBN is too simplistic by itself.

5.1.7 PBC

Another shortcoming of the VBN is that it does not include PBC, which was a factor that was applicable to participants’ adoption of PEBs (see Section 2.3.3). Most clearly was Samir and Preeti’s inability to install a solar water heater because their builder had ordered all the regular parts in bulk, so it was not possible. However for the most part, the couple believes that they have control over their behaviour and decisions, with the exception of external factors. Transport showed to be the area that gave participants low PBC. All participants except for Thomas felt like they had to use their car as there was no viable alternative. Ranbir cited needing it to transport work goods, Samir referred to the lack of public transport in Moncrieff, and Daniel explained how much faster and easier it is to drive instead of cycle. Petra’s family of five tries to car share, but they do not use public transport due to inconvenience, similarly to Kewullay and Tenneh’s family. Thomas commutes to work by bicycle but uses his car the rest of the time, because he “prefers to move under his own power and direction.” All of the participants drive due to perceived constraints of lack of convenience, comfort and speed. They feel like they do not have

a choice but to drive, and this is strongly influenced by urban planning and the public transport system in Canberra. The term ‘constraints’ implies a value-based choice or decision whereas PBC is vaguer and does not have this implication, and therefore I argue that ‘constraints’ is a more suitable term.

5.1.8 Social Norms

The VBN also does not include social norms as a driver of values and beliefs, but instead only as an output (see Section 2.3.6). This study showed that social norms influence PEB through their impact on values and beliefs, and underlined the importance of external factors in shaping the worldviews of individuals. The reinforcing feedback loop between social norms and socio-cultural structures and the influence of this on values, beliefs and behaviours means that social norms and background culture must be understood and taken into account when trying to understand an individual’s causes of worldview and behaviour. Culture is incredibly complex, and should not be generalised, especially in the case of immigrants as their worldviews are shaped by multiple, often conflicting, cultures and social norms. The individual social and cultural backgrounds of people and the norms evident within these systems influence them and their values, beliefs, concerns and behaviours, so social norms must be accounted for in any explanatory model.

5.1.9 Human-Nature Relationship Model

The closest model to the framework proposed in Section 5.3, and therefore to the data, was the HNR model (see Section 2.3.5). While its ordering of the variables was different to that found in the data from interviews, the inclusion of factors such as structural influences, worldviews, values, beliefs, norms, PBC, and the framing of behaviour as ‘environmental behaviour’ depicts a narrative similar to that described by participants, making it more useful than the VBN alone. Another strength of the HNR model is the focus on relationships to the environment, and the connection between these relationships and values and environmental behaviour. The biggest shortcoming of other models is that they do not factor in the emotional, mental and spiritual connection that many people, from various cultural backgrounds, have with the environment. The focus of HNRs on relationship also frames how people’s narratives interact with the environment. However, the narratives themselves were found to be insufficient to describe relationships found in this research (see Appendix 1.2). The HNR also misses important variables such as knowledge and awareness (assumed to be encapsulated under ‘beliefs’) and exposure to the environment (Sections 5.1.3 and 5.1.4). It also assumes the weaknesses of the PBC as explained above.

5.2 Key drivers, why they might differ

The above emergent themes and themes from the literature have uncovered a number of variables that influence environmental worldview and PEB. These include:

- Environmental concern
- Connection to nature (and biophilia)
- Cultural upbringing and values held by community
- Knowledge and awareness
- Personal values
 - Pro-environmental
 - Not directly pro-environmental (e.g. family, convenience, comfort, speed, technology)
- Exposure to:
 - Scarcity
 - Degradation
 - Beauty
- Political, social and economic context
- Perceived institutional and systematic social constraints (e.g. financial pressure, available time)
- Education

These drivers are factors drawn from data that reflect a number of different theories, and therefore interact differently than explained in previous literature. ‘Environmental concern’ and ‘knowledge and awareness’ have both been teased out of ‘environmental beliefs’ as previously used in the literature (Dietz *et al.*, 2005), for reasons explained in Section 5.1.5. Connection to nature showed to be an important factor influencing worldview and behaviour, as did exposure to nature in various capacities. Structural factors and the interactions between them were also important in shaping worldviews.

These factors are applicable across cultures. The systems explained in Chapter 4 can all be explained using these drivers, resulting in a framework that can be applied cross-culturally. This is not to say that environmental worldviews are homogenous across cultures; they are not. They vary greatly, and the influences of behaviour are specific to the individual. The system in which an individual creates their environmental worldview and their behaviour is different for everyone, and dependent on a number of highly local and individual factors. The way these factors have been explained does not mean that they form one homogenous worldview, but that different cultures can be explored through them to create different understandings of experience.

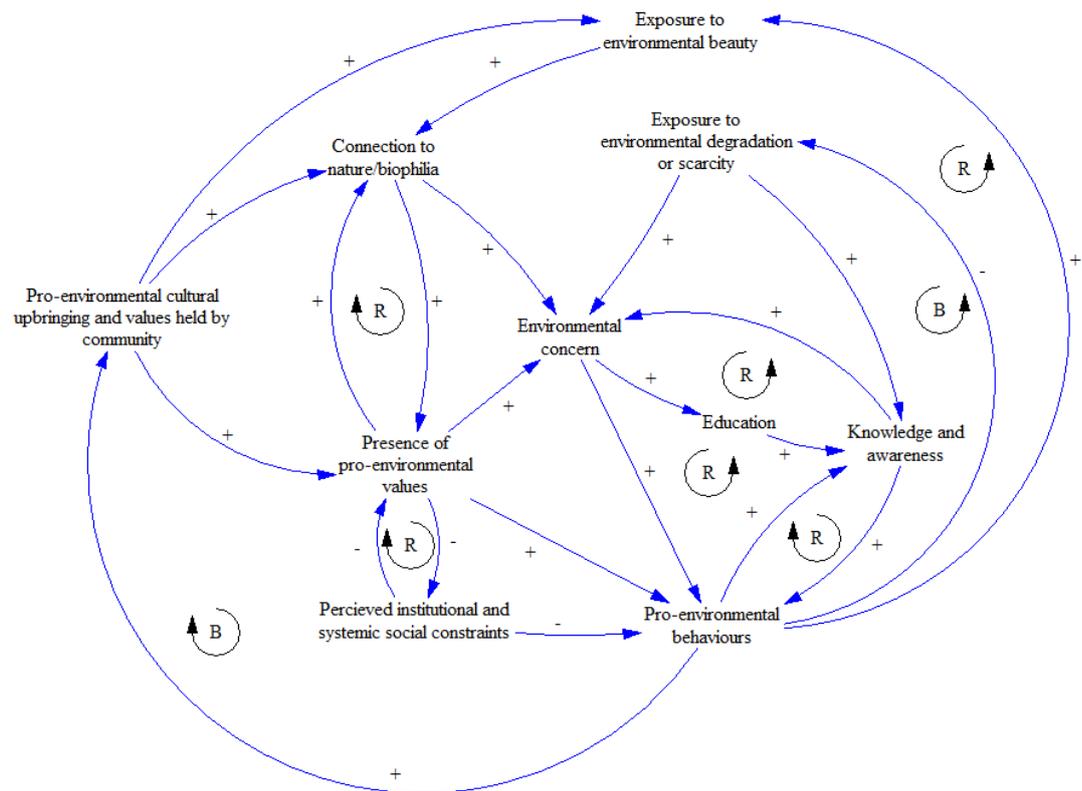


Figure 5.2: Systems diagram showing the overarching relationships between drivers and outputs of PEBs, drawn from participant systems and applicable to all individuals interviewed.

Figure 5.2 is a systems diagram showing the relationships between these factors, based on the conceptual diagram approach of Levy *et al.* (2018). It is a complex system, so has been simplified here to distil key points. This diagram fills the gap left by previous frameworks that fail to acknowledge the feedback loops caused by PEB. PEBs often cause individuals to search out further understanding, knowledge and awareness of the environment, and often gain greater environmental concern as a result. People like Thomas have found that doing PEBs leads them to think more about their impact on the environment, increasing their knowledge and awareness, and feeding back into concern and additional PEBs. ‘PEB’ is such a broad category, and includes both activities that do and do not result in direct exposure to nature. Those that do influence concern and awareness, as well as exposure to beauty, scarcity or degradation in some cases. This often feeds back into PEBs through various variables.

5.3 Framework

It has been shown thus far that consultation with minority groups is of extreme importance in urban planning. However, in the current literature there is no holistic and complete framework that addresses the creation of environmental worldviews and PEB and can be applied across diverse backgrounds. The framework in Figure 5.3 fills this gap. It is a simplified version of the systems diagram explained in the previous chapter, and it should be noted that many of the relationships evident in Figure 5.2 are not outlined here. The purpose of this framework is to outline more specifically how PEBs are created in the narratives given to me by interview participants in a simple manner that is applicable to other contexts and between cultures.

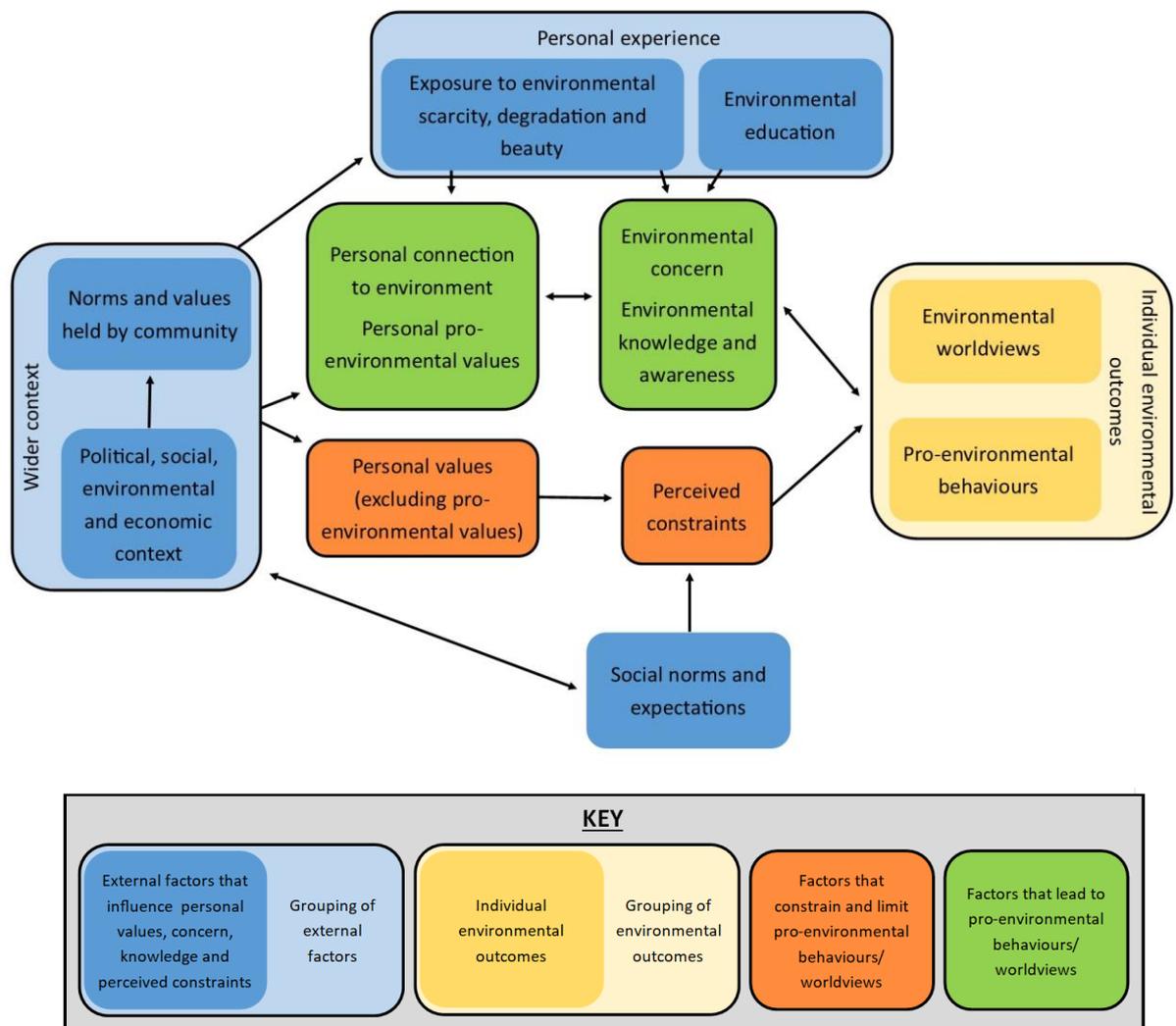


Figure 5.3: Framework drawn from the data and literature that explains relationships and causes of PEBs and environmental worldviews, applicable cross-culturally.

This framework is roughly based off the HNR model, which includes the VBN and TPB. However, this model includes reciprocal relationships, which are severely lacking in the linear models aforementioned. This framework is an extended, modified take on the VBN and HNR approach to values and beliefs, breaking the concept of values into personal connection to environment, personal pro-environmental values, and other personal values. The concept of beliefs is also broken into environmental concern, environmental knowledge and awareness, and perceived constraints. Blue external factors influence the values and beliefs, which inform PEBs and environmental worldviews. The green boxes are pro-environmental, whereas the orange are not. The orange and green variables interact to cause a value judgement on behalf of the individual, which results in behaviour and worldview.

This framework is designed for use for two purposes: firstly by consultancy groups to understand better the context-specific drivers that influence their stakeholders' environmental worldviews and PEB, and give greater insight into means for engagement; and secondly in an academic context to gain a deeper understanding of how individuals create environmental narratives and behaviours more broadly. Underpinning the framework is the need for consultation with stakeholders or study groups, as it is impossible to understand how individuals frame their connection to the environment, their values, and their levels of environmental concern and knowledge without discussion. This conversation also provides greater clarity about the drivers that individuals believe influence these factors, because people have different, but equally valid ways of knowing and being. This fact is demonstrated in the individual systems diagrams in Appendix 3, as they all demonstrate different importance placed on the different drivers in this framework.

5.4 Implications for Ginninderry

This framework has a number of implications for Ginninderry. It functions to explain the diversity in environmental worldviews that will be evident at Ginninderry, the main drivers of PEB in the community, and the best ways to engage individuals in further PEBs. Ginninderry is already engaged and investing in, and planning for a number of effective measures that will encourage community cohesion and sustainability that fit in with the framework. These include:

- Building effective, inviting public spaces that are versatile, flexible, well-designed and cater for people with differing interests.
- Ensuring safe places for children to interact and form relationships, as this will help families engage and bond.
- Organising events and activities, particularly cultural ones. This will help people share their cultures, and will involve the whole community in multiculturalism in an effective and enjoyable way, hopefully breaking down ethnic prejudices and stereotypes.
- Ensuring a good community leadership team that is able to connect with individuals from different cultures easily.
- Investing in infrastructure for PEBs, such as good cycle paths, well-lit open spaces for night time, etc.
- Ensuring efficient and effective public transport connections to hubs from the start.
- Including nature and greenery in urban design wherever possible, in order to produce the mental, emotional, physical and spiritual benefits of connection and exposure to nature.
- Creating forums for discussion and environmental knowledge-sharing. These can be events and activities, community gardens, market places for selling home- or community-grown produce, and so forth. These will be particularly effective if means mentioned above to create a cohesive community are successful.

Other measures that may not have been considered in full, or will be implemented once residents have moved in include:

- Creating an effective social media group for residents to interact, with input from a community organisation group (such as Mingle and the ACT Government Suburban Land Agency).
- Finding means of encouraging PEBs in ways that are not based on assumed pro-environmental values. Given the emphasis of Ginninderry on sustainability in marketing, it is likely that the majority of Ginninderry residents hold pro-environmental worldviews, although these will differ greatly from each other.

However, in order to engage individuals like Ranbir and Daniel, it is best to do so by encouraging PEBs based on other merits, like creating good cycle paths so that they can enjoy riding their bicycles more. Finding new ways to engage this audience will become particularly important after the initial phase of settling-in and exploring the suburb.

- Possible: space for a multi-faith gathering place, with access to facilities like commercial kitchens. This may be the Community Centre, but either way will help people from religious groups at Ginninderry interact with each other in positive, local ways.

Although the multiculturalism that will be present at Ginninderry came as a surprise to the development team, it is most likely that the measures they are already planning and implementing will be effective at ensuring community cohesion and engagement in sustainability for everyone, regardless of ethnic or cultural background. Individuals in this study from immigrant backgrounds were all very interested in becoming part of a tight-knit community, and many of them were also very interested in sustainability. This was very similar to those from white Australian backgrounds. Therefore, the most important thing will be facilitating relationships between people from different backgrounds once they move into their new homes.

Chapter 6: Conclusions

The environmental worldviews of Ginninderry land purchasers have shown great variation, independent of cultural background. Ginninderry's vision and plan appears well suited to the worldviews of participants in this study, as long as it continues to allow room for flexibility, consultation and cross-cultural understanding. Community cohesion is an effective means of engaging individuals in PEBs, and allows individuals to share their cultures and learn more about their multicultural community. The current literature on the origins of PEB and the environmental worldviews of immigrant populations in developing countries is limited and inconclusive, and the framework proposed in this research bridges gaps and disparities between different theories. It proposes a new means of understanding individuals' environmental worldviews and their practical implications for sustainability in a cross-cultural, holistic manner.

6.1 Significance and Broader Context

This project has three main points of significance for urban and community planning. Firstly, it highlights the need to challenge stereotypes about ethnic minority and immigrant populations. This project showed that the concerns around immigrant environmental worldview and adoption of PEBs were not reflected in this sample.

The framework may be used to help understand the environmental worldviews of people from diverse backgrounds in other urban and community planning contexts. It highlights the importance of cultural values and the possible constraints to PEBs, and if both of these are understood, they may both be harnessed to encourage successful engagement in sustainable behaviour in Ginninderry and elsewhere.

This project also has significance in wider academic context. Previously, there had been little work done to summarise the broad range of academic disciplines, terminologies, frameworks and theories in one place. This research brings together various different works and theoretical frameworks into an approach grounded in empirical context. It takes the views of real people into consideration, making it a practical framework, and is a tool for exploring cultural variation.

6.2 Limitations and suggestions for further research

There are a number of limitations associated with this research. The sample size of eight was smaller than expected. While participants are from a broad range of backgrounds and this helps show the diversity in environmental worldview between and within cultures, the study would perhaps be richer if the sample size were larger. Further research must identify and address issues with recruitment processes. It would be beneficial to test the framework in other contexts, particularly for the purposes of consultation with stakeholders.

The subjective nature of this project is another limitation. While I employed many methods and techniques to be as rigorous in data analysis and interpretation as possible, it is still possible that my interpretation of results was incorrect. Language barriers between myself and participants with a non-English first language exacerbate this issue. I made clarifications and recorded interviews so that unclear sections could be returned to, but this issue may never be fully addressed in further research. While I undertook thematic coding and the creation of several iterations of systems diagrams compared with raw transcript data, it must be noted that qualitative research is always fundamentally interpretive.

Similarly, my own position as a researcher undoubtedly influenced the results. As a young, white, female environmentalist from the Fenner School, participants may have answered questions depending on what they thought I wanted to hear, or because of our different life experiences. The results may have been different if I was, for example, from an ethnic minority. While I am an immigrant, this is not clear upon initial impressions, and this may have had an impact on how I was viewed and interacted with by participants.

Interviewing alongside Susan Davis, while overall more beneficial to the project, also had limitations. The presence of multiple interviewers and participants often resulted in interruptions, which were difficult in transcription. Concern was also raised that Susan's involvement in interviews as an official representative of GJV would create a power dynamic between her and interviewees that resulted in a change of results. It is possible that participants might have felt like they had to self-censor their comments. We tried to avoid this by Susan very clearly explaining her role, which is to ensure effective community planning and represent the residents to the wider planning committee, but it may have influenced the findings of this research. It should also be noted that Susan is also a white woman, and this may have exacerbate issues with diversity mentioned previously. Finally, organising interviews that Susan, the interviewers and myself were all able to attend was logistically difficult, and this slowed the recruitment and interview process down. Susan was overall a great asset to this work, and her contributions should be noted.

It is important to understand and incorporate the values, beliefs and relationships of people from diverse backgrounds in community planning and in sustainability more broadly, in order to change the trajectory of the movement to be more inclusive, consultative and accepting of multiculturalism. Consulting with ethnic minorities and coming to see their ways of being, knowing, and understanding sustainability as equally as valid as traditionally “Western” views is an important step in overcoming racism in the sustainability movement.

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Appendix 1: Excluded Theoretical Frameworks that Exist in the Literature

1.1 Acculturation and Social Exclusion Theories

1.1.1 Explanation of Acculturation Theory

Acculturation is a theory that is commonly used in discussions about the environmental beliefs, concerns and behaviours of immigrants. Acculturation is the idea that as time goes by, immigrants start adopting the practices, feelings and dominant paradigms of the culture around them (Lovelock *et al.*, 2013). Pfeffer and Stycos (2002) refer to “immigrant environmental acculturation”, a term coined by Hunter (2000), which explains the process of immigrants adopting over time the environmental attitudes and behaviours of the society they join. It can be expected that immigrant norms are initially different to those of native-born individuals, but that these differences will change and decrease as immigrants “adapt to the local culture and acquire a knowledge base shared with the native-born individuals” (Pfeffer and Stycos, 2002: 67).

While this makes sense in theory and is fairly widely used, there is very little evidence to support acculturation. In their 2013 study of the environmental values of immigrants and native-born New Zealanders, Lovelock *et al.* (2013) found that immigrants’ level of acculturation was unrelated to their environmental attitudes. Deng *et al.* (2006) had similar results of their study of Chinese immigrants in Canada, finding that level of acculturation does not impact environmental values. They instead concluded that ethnicity plays a more important role in determining environmental values than acculturation does, which is an important reason for studying the environmental values of ethnic minorities at Ginninderry (Deng *et al.*, 2006). Furthermore, Schultz *et al.* (2000) observed a significant negative relationship between acculturation and pro-environmental environmental worldviews in their study of immigrants in the US. They found that less acculturated Latino immigrants were in fact more ecocentric (held environmentally-inclined values) than acculturated ones. Johnson *et al.* (2004) had very similar results, pointing to an interesting set of environmental values inherent in many Latino cultures. Therefore while acculturation theory is popular in the literature, there is evidence to the contrary.

Acculturation theory also has theoretical strengths and weaknesses. Its key strength is that it acknowledges that culture is dynamic, fluid and can change. The fact that acculturation theory is not static acknowledges the process of socialisation as important in shaping individuals, and is highly constructivist. On the other hand, acculturation theory does not clearly show that cultures

are not mutually exclusive. In such a global, multicultural world, it is important to understand that cultures can fuse into each other, and change according to individual circumstances. It is important to understand the role that acculturation theory plays in the literature surrounding this topic, but it is most likely not applicable to the case study of Ginninderry. This research is interested in the differences between cultures and what that means for the needs of Ginninderry's future residents, rather than the similarities between all cultures. Acculturation theory overlooks the unique differences that people bring from their own cultures to Australia.

1.1.2 Explanation of Social Exclusion Theory

A number of studies claim that social exclusion, rather than ethnicity or immigration status, is what causes ethnic minorities in developed countries to be less engaged in PEB. According to Grant, the socially excluded cease "to share the same values, goals and perspectives of the incorporated members of society" (2001: 83). The idea is that when people are excluded from mainstream society, they tend to deviate from the norms, and these may include environmental norms. They are also less likely to have the time and resources to achieve high on Maslow's hierarchy of needs. Studies that support this hypothesis include Grant (2001), Paraskevopoulos *et al.* (2003), and Bohon *et al.* (2008). Lovelock *et al.* (2013), on the other hand, found little evidence in their study of immigrants in New Zealand to support this hypothesis.

1.1.3 How Acculturation and Social Exclusion Theory Related to the Data

Other theories that were dominant in the literature include acculturation theory, and the theory of social exclusion. These were included in the initial list of theoretical frameworks that have been applied to the study of the environmental worldviews and practices of immigrant populations in developed countries, but did not emerge from the data collected in this project. As such, they were not included in the final literature review. Acculturation is a concept that is problematic in its assumptions about culture and immigration, in that it presumes a mutually exclusive dichotomy between an individual's 'native' culture and the one that they migrated to. This kind of dichotomy was not visible in the data collected. The data also did not indicate any relationship between social exclusion and environmental worldview. Only Kewullay and Tenneh discussed social exclusion as a barrier to their community cohesion in their current neighbourhood; it was otherwise not seen as a barrier to any behaviour or attitude, including environmental ones.

1.2 Human-Nature Relationship Narratives and Associated Problems

Human-Nature Relationship Theory is a newer theory that has emerged most recently of those discussed, and has a lot of potential to be a powerful analytical tool. At the beginning of this project it was thought that it would be the easiest to apply to the data gathered. However, at this point in its development in the literature, the narratives were found to be too complex to apply to this study or the data.

The nuance in each of and between the narratives is powerful and a key strength of this framework, as it accurately reflects the nuance in human thought and feeling. However, this nuance makes interpreting interview data into narratives very difficult, as it would require in-depth discussion of said narratives to make them explicitly clear to interviewees. Given the aims of this project, hour-long interviews were too short to include this kind of conversation. This meant that the data gathered would require a lot of interpretation on my part to fit into narratives, and could easily be misconstrued or misunderstood. The best way to avoid the problem of needing to ask specific questions with specific wording and get them understood easily, especially by people from non-English speaking backgrounds, is in a written survey format where they can clarify meaning with you if they do not understand, but the onus is primarily on the text. This minimises the risk of researcher misinterpretation. Therefore at this stage, contrary to what Braito *et al.* (2017) proposed, the HNR is most useful as a quantitative tool, which can be used to supplement qualitative research but is not itself a complete qualitative tool yet.

Furthermore, attempting to apply the HNR to the data gathered showed some weaknesses in the narratives proposed. Firstly, the negative attitude towards technology that the ‘Master’ narrative implied was problematic. This narrative more than any other seemed to be in complete contrast to others such as the ‘Participant’, and though it may have been unintentional, framed technology as a potential harm to the environment rather than a potential solution. This opinion differed greatly among participants. Thomas explicitly said that he thought technology would solve our sustainability crisis. Samir, expressed a deep concern about the use of artificial fertilisers and pesticides but strongly believes in the use of other technologies like solar panels. Both individuals believe that they care a lot about sustainability and the environment, and actively perform a number of PEBs to reduce their impact. ‘Technology’ is such a broad concept with so many different things encapsulated under its umbrella that it cannot be grouped together, and all these different things cannot be conceptualised in the same way.

The ‘Nature Distant Guardian’ narrative was also problematic, in that it made a judgement of what constitutes as ‘nature’ (see Table 2.4.5 for detailed narrative). It makes an artificial separation of what ‘nature’ is, that is not universal. For example, Petra expressed that she experiences nature in her everyday life through gardening and growing plants, and did not differentiate between the plants that she grows and those found further afield. She likes “green,” and likes to see it in her home, her garden, her streets, and wider surroundings. To dismiss her experience and how she views nature and her relationship to it would be a misinterpretation and would result in an inaccurate representation of her. The definition the ‘Nature Distant Guardian’ provides is more accurate for people like Samir and Preeti and Daniel, who travel to experience what they determine to be ‘nature.’ However, it cannot be universally applied to everyone and most likely differs between cultures and how they understand nature.

The model used to explain how HNRs are formed (Figure 2.3) does not include ‘environmental concern’ as a variable, which seems to be an inaccurate representation of reality. ‘Concern’ could be placed under ‘beliefs,’ but this disregards the inherent sense in ‘concern’ that something is important but the understanding that it may be at risk, or itself be a risk (Schultz *et al.*, 2004; 2005). The sense of worry and apprehension that is implied by ‘concern’ is not clear in ‘belief,’ and is a key driver of PEBs that must be identified and explained. All participants who said that they perform many PEBs and are interested in sustainability measures think, feel and behave this way at least in part because they are worried about the state of the environment. It could be said that they think, feel and behave this way because of their belief about the state of the environment, but this does not accurately reflect the perception that the environment is at risk.

1.3 Perceived Consumer Effectiveness

PCE was not a factor that contributed to PEB in the narratives told by these participants. All interviewees felt that their actions made a difference to the environment, and they either increased their PEB as a result, or referred to constraints such as convenience, comfort and time that took priority in their lives. Thomas was the only participant who expressed discouragement at his lack of visible impact on the environment, but performs PEBs anyway. Four out of six participants believed that the government needs to take a stronger role in providing leadership, incentives and education for sustainability. Samir and Petra noted the immense power that the government has, especially with social media available for advertising, and think that they should use this power to spread awareness and knowledge about both environmental problems and solutions. Tenneh thinks that this change will occur when the public puts pressure on the government for change, but Thomas was more cynical in his opinions and thinks that the government will only become more effective when the current younger, less conservative generation takes power. This strong

belief in their own power to make a change is most likely due to the participants either having already adopted a number of PEBs that they can see the implications of, cultural background, or a lack of PEBs and so the impact being an unknown quantity.

1.4 The New Ecological Paradigm

The New Ecological Paradigm (NEP) is a means of assessing environmental values. The concept is that until the 1960s, Western societies were influenced largely by the Dominant Social Paradigm, which was characterised by an anthropomorphic emphasis on nature domination and resource extraction (Dunlap, 2008; Taylor, 2000). The late 1960s saw the rise of the modern environmental movement, with fundamental shifts in peoples' attitudes towards nature in the Western world (Johnson *et al.*, 2004). A new paradigm emerged: the New Ecological Paradigm. It measures a 'folk ecology', or "layperson's view of relationships in the natural world" (Stern 2000, cited in Johnson *et al.*, 2004). It can also be seen as a polarisation between 'ecocentric' orientations, meaning centred on the environment, or 'anthropocentric' orientations, meaning focused on humans (Braito *et al.*, 2017). It is widely used in the literature, with many academics recommending its usefulness as an indicator of environmental belief (Dietz *et al.*, 1998; Lovelock *et al.*, 2013). However, while the NEP's "pro versus anti-environmentalism dualism is merely an analytical concept to serve as a general guide" (Johnson *et al.*, 2004: 163), it has also been highly criticised for its simplicity (Braito *et al.*, 2017). It is likely to overlook complexity, and considering that this project is looking at the cultural differences from a number of backgrounds, this Western dualism is not a correct methodological fit. Data analysis may show that the NEP values align well with those of my participants, in which case I will adopt it, but at this stage a framework with more room for complexity is required.

1.5 Postmaterialism

Postmaterialism is a dominant theory in discussions of immigration and environmental concern, positing that environmentalism is a product of postmaterialist values. Inglehart (1995), who first presented this argument, suggests that countries that have industrialised have significantly different values from those that have not. According to Inglehart, "individuals pursue various goals in hierarchical order – giving maximum attention to the things they sense to be the most important unsatisfied needs at the time" (Inglehart, 1997: 991). This means that once industrialisation has occurred and basic needs are met, immediate survival is no longer the priority, individuals have more time to spare and worry about other things, such as their

environment. As a result, peoples' priorities and values shift, resulting in environmentalism (Dietz *et al.*, 2005). As explained by Lovelock *et al.*, "under this scenario we may expect recent migrants from less developed countries to exhibit lower levels of environmental concern and for this to change as they become more settled and economically secure over time in their new host society." (2013: 404). Many different academics use postmaterialist theory as an explanation for higher levels of environmental concerns in "richer" countries.

A major shortcoming of the research into postmaterialism is that it does not take into account the variation in socio-economic status within countries, which is greater than that between countries (Franzen and Meyer, 2010). People migrate for different reasons, and different categories of immigrants may emerge from different class backgrounds. It therefore cannot be assumed that all immigrants from the same country were raised in the same culture. It is also unreasonable to assume that all immigrants from developing countries share the same values and attitudes towards the environment (Lovelock *et al.*, 2013).

The literature displays postmaterialism and exposure to scarcity as reasons for environmental concern and PEBs on a dichotomous scale. However, this project has shown this to be false. While exposure to scarcity (and degradation and beauty) showed to be highly influential in shaping environmental concern, postmaterialism did not. Postmaterialism as a theory for environmental concern in developed countries did not show to be the case in this study.

Main points of evidence:

- Thomas lives in a postmaterialist country but gained his concern from exposure to scarcity and degradation.
- Daniel has concern, stemming from his enjoyment of the outdoors, and while this could be interpreted as postmaterialist, his lack of motivation and PEBs mean that his concern does not translate into behaviour.

Furthermore, it is difficult to define values, communities, societies or individuals as "postmaterialist," as definitions vary and it is a highly ethnocentric term. It does not take cultural variation into account, and views development as a linear trajectory, which has shown not to be the case (find lit). The postmaterialist to non-postmaterialist dichotomy is too simple, and fails to account for cultural variance within countries, or between countries within the same level of development. The theory assumes that all immigrants from developing countries have the same environmental values, but the data in this project has shown this to be false. Postmaterialist theory does not acknowledge that culture and values are fluid and can change, or account for exposure to scarcity and degradation within postmaterialist societies. It is much more likely that

environmental concern is a global phenomenon, as predicted by some of the literature (Dunlap and Mertig, 1997), or due to exposure to environmental scarcity, degradation or beauty.

However, while the findings of this study suggest that postmaterialist theory is not adequate for explaining pro-environmental worldviews or behaviours, this project does not provide enough supporting evidence, as values were not measured in terms of postmaterialism.

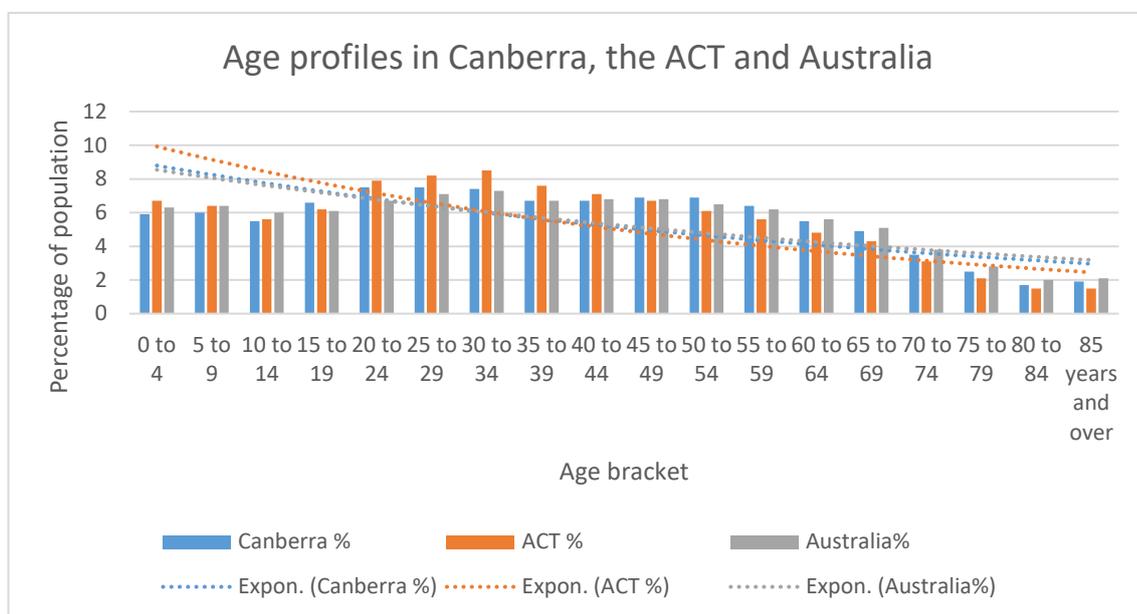
1.6 Azjen's Theory of Planned Behaviour

Azjen's Theory of Planned Behaviour (TPB) is one of the two most dominant social psychological theories that explain how values translate into behaviour, the other being the VBN (Heeren *et al.*, 2015; Azjen, 1985). It argues that behaviour is determined by behavioural intention, which is a result of the combination of attitudes, subjective norms, and Perceived Behavioural Control (PBC). This theory has been used widely in the literature, including when applied to environmental contexts (see Heeren *et al.*, 2015 for sources). However, the TPB focuses on attitudes rather than values, meaning that it assesses individuals' more specific feelings and thoughts rather than the general ones.

The TPB was not found to be useful in understanding participants' narratives of their environmental worldviews and the causes of their environmental behaviour. The theory's focus on attitudes rather than values does not reflect the way individuals make decisions in reality. An explanatory framework needs to include general values, knowledge and awareness, connection to the environment and environmental concerns, rather than specific attitudes towards things. All of the former drivers influence attitudes, but focusing on attitudes alone is too narrow a scope and too simplistic.

However, the TPB has some strengths as well. The use of PBC is an attribute to the framework, though it is more accurate to term it 'perceived constraints' than 'perceived behavioural control,' and it has been treated as a separate theory in this research. The inclusion of norms is also beneficial, and more akin to reality. Behavioural intention is an interesting concept, but contributes a deeper understanding and level of psychology outside the goals of this project. These strengths do not make the whole model applicable to the context required for this research, and other models such as the VBN are much better suited.

Appendix 2: Age profiles of Canberra, the ACT, and Australia



The above figure shows the age brackets of residents of Canberra, the ACT and Australia, courtesy of data from the Australian Bureau of Statistics (ABS, 2017). It demonstrates that Canberra and the ACT have more young people than the rest of the country, and fewer older people, suggesting the in-migration of people for study and work purposes.

Appendix 3: Participant Summaries

This appendix contains extended narratives of all participants in the research. A systems diagram has been made for each set of participants, outlining how they create their narrative of environmental concern and PEBs. Green variables are the most common and evident in every diagram, purple variables are only in some diagrams, and black variables are unique to that individual. These diagrams have been used to generate a holistic, integrative one that applies to all participants, which can be found in Chapter 5.1.3.

3.1 Ranbir

Ranbir is a man in his mid-twenties to early-thirties, with a wife and a two-year-old daughter. Born and raised in Haryana, in the north of India, Ranbir moved to Melbourne in 2007 to study culinary arts. After achieving his qualifications to be a professional chef, Ranbir moved to Canberra in 2010, and now owns a car washing business.

Ranbir and his family recently moved to a new home in Moncrieff. When asked why they bought there so soon to their move to Ginninderry, Ranbir explained that it was to be closer to ‘his community,’ meaning people from his cultural background. Ranbir, his wife and their daughter previously lived in Mawson, and while Ranbir loved it, there were very few people from the same cultural background as them living nearby. This caused his family, especially his relatives visiting from India, cultural isolation and they felt lonely without the connection to people from the same cultural and language backgrounds as them. The desire for his family to be content, combined with Ranbir’s wish for his daughter to learn his culture, is what prompted them to buy in Moncrieff, with its higher proportion of Indian residents. However, Ginninderry was always the end goal for Ranbir; he is very excited by the Belconnen area, the proximity to the landscape and the views this will entail, and the proximity to other people from ‘his community’ that have also bought there. Their current house in Moncrieff was a temporary solution to the problem of cultural isolation that his family struggled with.

Ranbir said that he is not particularly interested in sustainability. Many of the sustainability questions asked to him, he interpreted as being about community instead. He is somewhat knowledgeable and aware of environmental issues, due to his exposure to environmental degradation, primarily pollution, in India. As a result of this experience, he is currently trying to grow plants to combat degradation and beautify his environment, and he picks up rubbish and

disposes of it when he finds it on the street. Ranbir also cycles for fun and exercise, but not for commuting; he needs his car to transport goods for work. That is the extent of his current PEBs. Ranbir sees time and convenience as the biggest barriers to PEBs, as he is very busy running his business and supporting his family. Having said this, Ranbir believes he has a strong connection to nature, and appreciates it greatly for the views and aesthetic. He believes the environment to be beneficial for human health, and for building relationships and community. Nature makes Ranbir happy, and this is the main reason for his purchase at Ginninderry.

Family is the thing that is most important to Ranbir. He grew up in a house with four families living in it, and very much values the support and network that this gave him. He wants to create the same thing here, with his extended family. Ranbir is quite distrusting of people, and said, “Because these days, people are a little selfish, as well. If you have other family members, you don’t need the community. You have a community in your home, stay with that.” Ranbir has a best friend who is also moving to Ginninderry, but is otherwise not closely connected with his community, due to his lack of time. However, he is still very much supportive of events and activities being run for the community at Ginninderry, so that his wife, daughter and extended family can participate. Ranbir also noted that he socialises with family and friends outside, in parks with barbeque areas and playground equipment for kids.

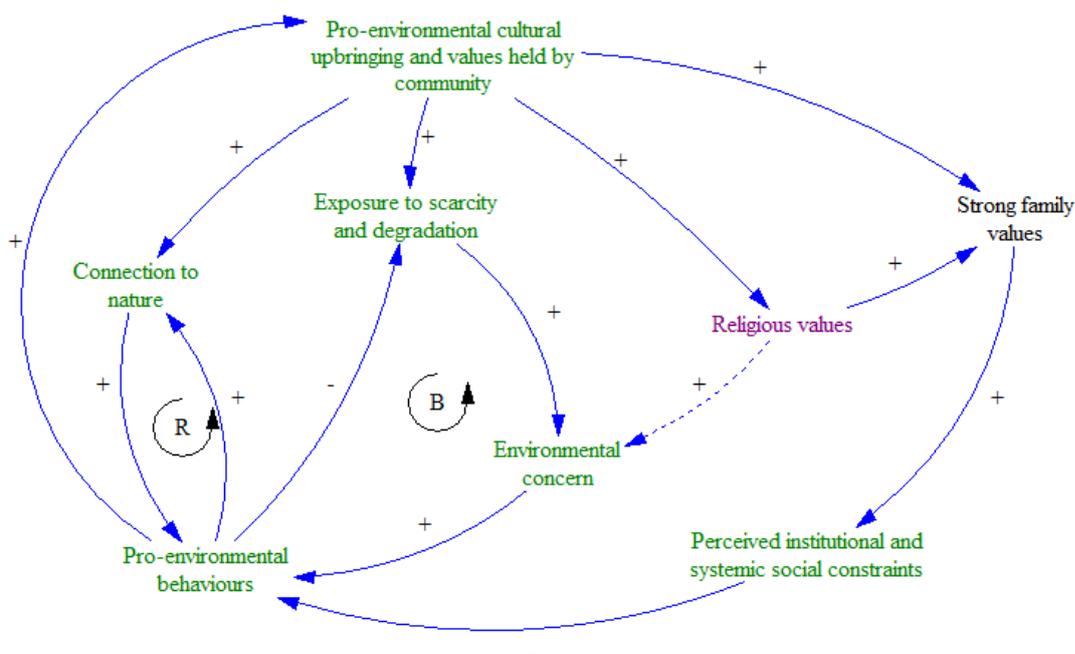


Figure A3.1: Systems diagram showing Ranbir's narrative of his environmental concern and PEBs

Figure A3.1 outlines the system that Ranbir described as the way he creates PEBs and concern. In his case, the constraints that he perceives come largely from the pressure he feels to financially provide for his family. It is also interesting that as a Sikh, which is a highly environmentalist religion, Ranbir's religious values do not influence his environmental worldview that he told me. The majority of his PEBs are a result of exposure to degradation in India.

3.2 Thomas

Thomas is a young man in his 20s, born in Perth, Australia. He has a girlfriend, also in her 20s, and they have no children. They have bought a flexi at Ginninderry, and will be owners and occupiers of their first home. They currently live together in a one-bedroom apartment in Woden. Thomas is currently a student, studying exercise science and IT.

A keen technophile, Thomas professed to be very interested in sustainability and solving environmental challenges. He thinks that this interest stems from two factors. The first is his understanding of environmental science, and when prompted, he agrees that he thinks that knowledge and awareness are key drivers in environmental concern and PEBs. Secondly, his childhood was spent between suburbia and a rural farm. He mentioned that conditions on the farm were rough: soil was degraded, and they rarely got rain. This exposure to scarcity and degradation has shaped his environmental awareness, values and concern. Thomas also identifies as having a strong connection to nature. He has always done a lot of outdoor sports and activities, greatly enjoys spending time outside, and understands the importance of looking after the environment. As a result of these things, does what PEBs he can (See Figure 4.1 for complete list). In addition to cycling to commute to work, Thomas uses a car, because, "I don't love public transport, especially buses," preferring to "move under my own power and direction." Personal agency and power is very important to him, and so he probably will not use public transport in the future. Thomas said that doing sustainable behaviours makes him think more about the environment and his impact on it. By adopting these behaviours from family members, friends and legislation, he is prompted to change his patterns of thought and attitude, rather than his thoughts and attitudes prompting his behaviour as suggested by the literature. Thomas feels disillusioned by the lack of real-world impact that his PEBs have, but still tries his best to make a difference.

Thomas has well developed opinions about the barriers and solutions to sustainability. When asked about barriers to sustainable behaviour, Thomas responded that the "mindset of the aging population" is the biggest factor, because they are unwilling to make the investment of time,

energy and money into new technology, and they are unwilling to learn new skills. He thinks that it will be easier for younger generations to make the changes necessary for sustainability, because current political and corporate power bases are conservative, and do not like to divert from what works. Younger people have a “better attachment to technology, and are better at adapting with it,” so will be more successful. Thomas also thinks that technology will solve all sustainability problems, stating that he very strongly believes that “electric-everything is the future.”

Thomas is not currently very connected to his community. He moved into his girlfriend’s apartment, which is in an area of Canberra that he was unfamiliar with, so felt less comfortable there. He knows some neighbours, but does not feel connected to the community. He thinks this is because he works and studies a lot and so is not home very much. Despite not being connected currently, he thinks community cohesion and support is very important. Thomas thinks that getting the balance of proximity between residences right, and good road planning are essential features for creating a strong sense of community and limiting social conflict at Ginninderry. He also thinks that the proposed environment at Ginninderry will make people feel more relaxed and happy, so they will spend time outside and interact with each other more. “Being in the environment creates happier people,” and in turn, people enjoying the environment will be beneficial to the environment. Thomas thinks that when people enjoy things, they want to protect them so they can continue doing the same activities. Therefore, enjoying the effects of nature and the outdoors will mean that people will protect the environment more.

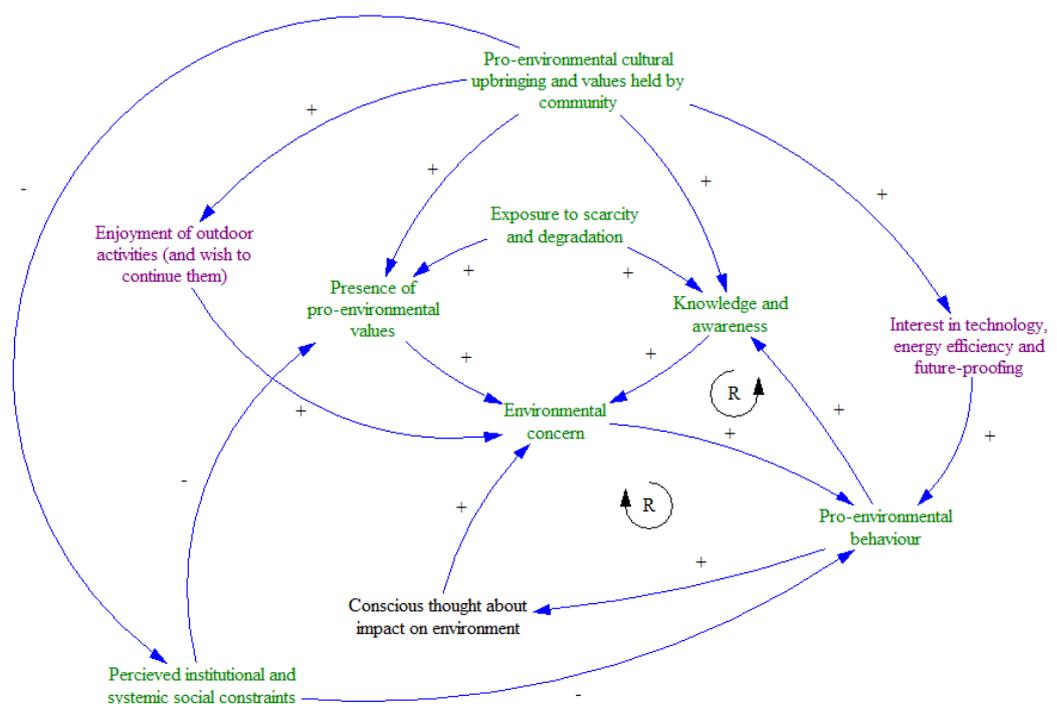


Figure A3.2: Systems diagram showing Thomas’s narrative of his environmental concern and PEBs

Figure A3.2 outlines the system that Thomas described as the way he creates PEBs and concern.

3.3 Daniel

Daniel is a young single man in his early 20's who has bought a flexi at Ginninderry to get into the housing market early. Daniel was born and raised in Canberra. The things that appealed to him most about Ginninderry were the price, location and landscape. He is very excited for Ginninderry, especially due to the opportunities to plan and build a variety of interesting things.

Daniel is somewhat interested in the environment. He greatly enjoys outdoor activities and events, and sports like cycling and hiking help him connect with nature. Daniel feels a connection to the environment, but in wilderness places rather than in Canberra. Being in places like the Brindabellas makes him feel relaxed and happy. This has been developed by his family's passion for the outdoors, and by Australian social norms around sports. Sustainability was also encouraged in his school, and he has a level of environmental concern. Daniel wants to protect the environment for utilitarian purposes. He says, "Yeah, I guess I would care about the environment. Obviously because I live in it and I don't want it to be corrupted, I guess.... I'd say I have a care for it in the sense that there's me and then there's future generations that wouldn't want it just to end all of a sudden, and not experience what I can experience going out into the mountains and that sort of stuff." However, this concern is only reflected in his behaviour to an extent. Daniel loves spending time outside, and does what PEBs he can easily adapt into his day-to-day life, but does not go out of his way to find new ones, actively increase his knowledge or awareness, or advocate for the environment. He does not have motivation to pursue sustainability, as evidenced by his attitude towards transport. He says that he should ride his bicycle to and from work more, but struggles to find the motivation. He finds public transport too inconvenient.

Having a sense of community is important for Daniel. Daniel joined a Canberra-based Rural Fire Brigade as a volunteer after seeing his father involved. Daniel feels that being a volunteer firefighter connects him to his current community. Being in the brigade makes him feel like he is supporting his community, rather than them supporting him, and he greatly enjoys this. He says, "It feels good to do my bit." This sense of community is mostly gained by Daniel from social media, through the Brigade Facebook page and the online support it receives from the area's residents. Daniel is also excited for the community at Ginninderry. He thinks that having a new suburb with a brand new community is a great chance for community cohesion, because everyone

is moving to a new and unfamiliar place together. When asked about the relationship between community and the environment, Daniel said that he thinks that community is helpful for sustainability because it encourages discussion and influence between people. Having a forum for people to have “sustainability chatter” and discuss issues will be beneficial. He agrees with his father that cultural differences may be a barrier to community cohesion, if some people’s beliefs clash with others, and agreed that everyone will need to be open-minded and supportive of each other. Multicultural events will help create this kind of acceptance.

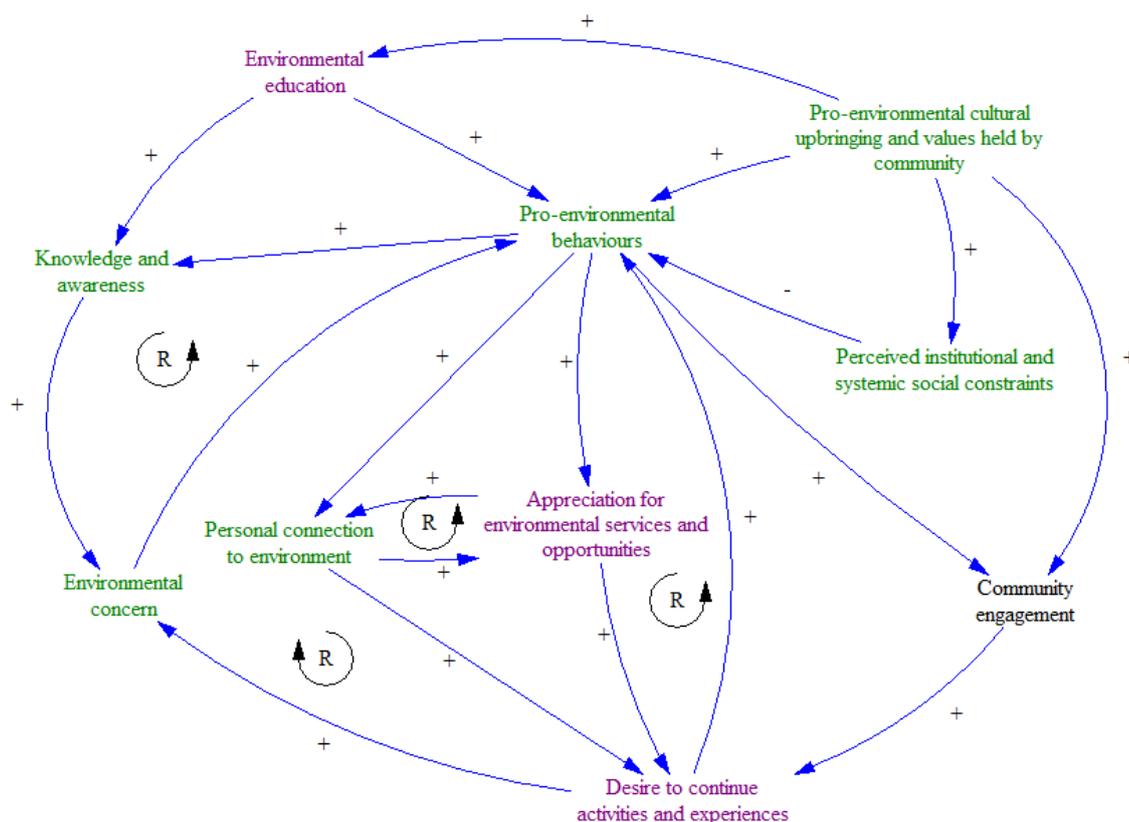


Figure A3.3: Systems diagram showing Daniel’s narrative of his environmental concern and PEBs

Figure A3.3 outlines the system that Daniel described as the way he creates PEBs and concern. It should be noted that because firefighting was included as a PEB, this system is indicative of the feedbacks that that creates, which is very different to that of other PEBs. This was done because of his perception of firefighting, and the lack of other PEBs he engages in.

3.4 Samir and Preeti

Samir and Preeti are a couple in their thirties with one young daughter. They have been in Australia since 2007, hailing from Gujarat, India. Samir's job brought them to Canberra two years ago. He is a senior systems engineer, and Preeti works in childcare. In 2015 they bought land in Moncrieff after being selected by ballot, and then were also selected by the Ginninderry ballot system more recently. Once their house is built in Ginninderry, they will move there. Their main reasons for purchasing at Ginninderry are that it was planned ten years in advance so has a great deal of thought put into it, and that they have friends close by. They moved into their newly finished smart home in Moncrieff in 2018. Samir and Preeti are Swaminarayan Hindus, and this is an integral part of their identities, activities and beliefs. They will build a prayer room with a small temple in their house at Ginninderry.

Samir and Preeti are very interested in sustainability, and think that they are more so than average. They showed a good knowledge and awareness of environmental issues, concern for the environment, and a motivation to fix the problems. Samir thinks that his interest in sustainability stems from his exposure to scarcity in India when he was growing up. In his childhood, electricity was often cut for a number of hours a week because the government could not afford to give the whole population electricity 24/7. Samir now views electricity as a precious resource, and says, "It would be a waste if we just use it without use." His father was very innovative and interested in sustainability. Samir's father built a submersible well in their house, so they never had scarcity of water, but many other members of their community did. Samir's father also took him to poorer villages to see the scarcity there, because he wanted him to value resources. "So I've seen those kind of scarcity as well, so we appreciate the value of things." He thinks that people having no value of resource and not understanding the environment because they have never witnessed scarcity of resources is the biggest barrier to sustainable behaviour. Samir is also very concerned about climate change, "because we have got kids. When they grow up, if temperature goes up by just two degrees, it will be a horrible place to live."

His father's ingenuity and interest in technology influenced Samir's interest in sustainable technology, which is evident from their house. When asked about pro-environmental or sustainable behaviours, Samir always came back to technological interventions. A lot of research into sustainable technologies has informed their new house in Moncrieff. Samir says that these sustainable technologies save money in the long term, but the main reason for installing them is concern for the environment. Samir and Preeti's house is a fully automated smart home with solar power, and extensive energy conservation and temperature control technology. Both of them, but especially Preeti, are very supportive of public transport, especially trams, and will use them

where possible. Public transport is currently not available in Moncrieff, and they find this difficult. Samir says that adopting PEBs is a small step, but it adds up: “So yes. Whatever we can do, we definitely should do.” See Figure 4.1 for the complete summary of their PEBs. They also think that both the government and individuals should take more responsibility for sustainability, and Samir noted the power of social media in sharing knowledge and awareness, thereby creating social change for sustainability. Samir and Preeti also both feel connected to nature, and do a lot of travelling to forested wilderness places to enjoy the atmosphere. When asked how they feel about nature, Samir said, “I love it, and that’s why I’ve got a house just in front of the park.” Hinduism’s values and attitudes towards nature have been closely adopted by the family, and they respect the land. They follow rules outlining the proper way to behave towards the environment, and participate in traditions such as Annkut.² The whole family follows Hindu vegetarianism, but they identified this as a religious obligation rather than a PEB.

Community is really important to Samir and Preeti, and has largely shaped their decision to purchase at Ginninderry. When they started looking for land, they looked in places where they could have “their community”, meaning people from their religious organisation, and friends nearby. They said that community is really important for people from India, and that it is very important for them to have close relationships with their neighbours. Samir and Preeti currently feel completely involved in and supported by their community. They partially attribute this sense of community to the fact that the Moncrieff community arranges a lot of activities, such as moon-watching in the park and Diwali, and this makes them feel connected and included. Events and activities are organised through the Moncrieff Facebook Page, largely by volunteers, with the help of Mingle and the ACT Government. Samir and Preeti both think that having pages and platforms for people to engage on is very helpful in creating community. They also think that having a closely-knit community makes a positive impact on the environment, as it allows individuals to share their knowledge and awareness. The BAPS community³ is also very important to Samir and Preeti, and they are highly active within it. The community connects them with their religion, and people from the same background as them, and allows them to participate in community-run environmental activities and volunteering.

² A religious ceremony practiced in Swaminarayan Hinduism, consisting of an offering to God of vegetarian dishes that the community has grown and prepared.

³ The *Bochasawnwasi Akshar Purushottam Swaminarayan Santha* (BAPS organization) is a religious and social community within the Swaminarayan branch of Hinduism, founded in Gujarat. Social and environmental values and community service, ensuring tight-knit communities, and valuing networks and kindness are important parts of the community. They hold events, activities, educate children, and so forth. The community revolves around the temple.

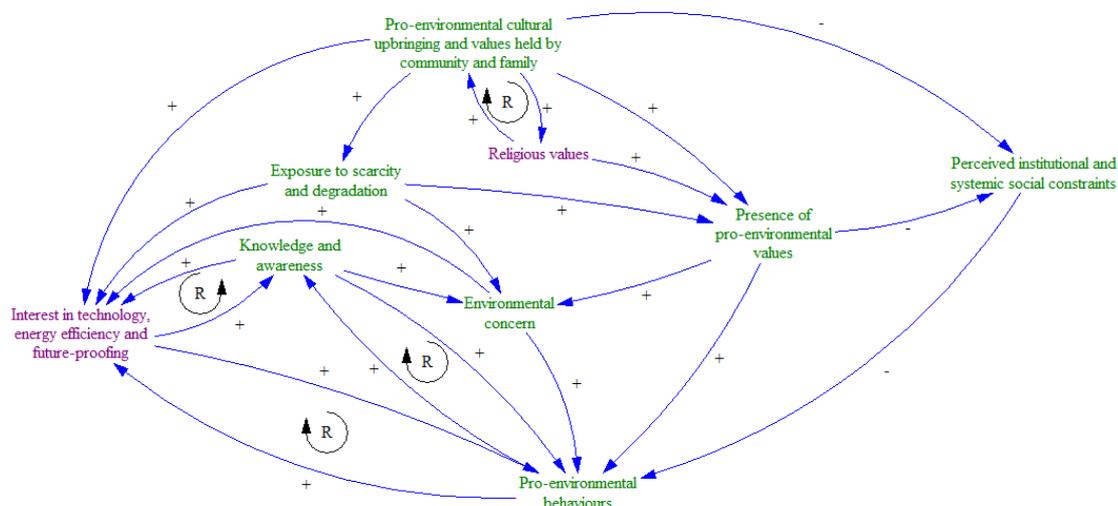


Figure A3.4: Systems diagram showing Samir and Preeti's narrative of their environmental concern and PEBS

Figure A3.4 outlines the system that Samir and Preeti described as the way they create PEBS and concern.

3.5 Petra

Petra is a married woman with three children, who migrated to Australia with her family from Bosnia and Herzegovina in 2003. Two of her daughters are in their early 20s and the other is 10 years old; all live at home with their parents in Ngunnawal. As Bosnian Serbs, Serbian is the main language spoken in their household. Petra works for Defence, and while her husband was a civil engineer in Bosnia, he decided to be a builder when they immigrated, as this was a faster way of making an income for their children. They are most likely going to use the new house in Ginninderry as an investment property, but this will likely change, and it may become a home for one of their daughters, or Petra and her husband in retirement. The things that attracted them to buy at Ginninderry are the proximity to the City, the affordability, the value for money in terms of block size, and the lack of building restrictions and flexibility for design. In addition, Petra really likes the landscape and would like to be near the river and the nature reserve, and she thinks the suburb will be great for young families. The reasons they are currently not planning on moving to Ginninderry are the space requirements for Petra's husband's work, the connection they have to their current community, and their enjoyment of the Ngunnawal area.

Petra thinks that having a day-to-day relationship with her neighbours and community is important, but she and her family are too busy with work and study to get involved in wider community activities and events. She values good relationships with her neighbours and open communication with them. The family's current suburb provides this for them. When asked what she thinks the barriers to community cohesion are, Petra discussed the importance of addressing the demographics of a community, and finding a point of connection between people with different priorities and interests. She thinks that trying to bridge generations and ethnic groups can be a challenge, and that it needs to be a personal, individual effort to do so. The best way to overcome this is to create an inviting community centre with activities that cater to many different interests. Petra also thinks that transience is a barrier to community cohesion, as it means that her current neighbourhood has completely changed in the eleven years they have lived there. It is hard to maintain a sense of community when the members change so often. When asked about ways to help encourage community cohesion, Petra suggested event and activity advertising. She noted that even if people are not engaged and posting on social media, they read and absorb information. She raised MyGungahlin as a shining example.

Petra raised some interesting points about her immigration experience, and about ethnicity. She thinks that in order to create a peaceful and harmonious society, it is best to have a mixture of many different ethnic groups in an area. Her opinions are drawn from her experience in the Bosnian War.⁴ Because of these experiences, she is wary of one ethnic group dominating a community. She said that, "whenever you have a concentration of the same ethnic group, people tend to live their own way, as they were at home." She also thinks that a lot of people from overseas bring certain "feelings" to Australia and reproduce that here, and she strongly disagrees with that. "Here, I'm Australian, and I accept the behaviour and laws of this country, and I think everybody should. I have a freedom to keep my tradition and culture at home, and food, but I think we shouldn't be isolating ourselves." Petra thinks that people have a lot of opportunities to embrace their culture and tradition in Canberra, so can share their culture, but need to also get involved in wider society. Petra believes that because Australia gives people so many opportunities, "assimilating with the society around you and having an opportunity to experience different people, cultures and views – it's great."

Connection and care for the environment is very important to Petra. She grew up in a community that was very protective of their environment. Environmental education was an important part of school programmes and extra-curricular activities, and Bosnia's waste

⁴ Ethnic conflict and civil war from 1992-1995.

management and other systems were very effective. Petra says, “It is important – how you grow up and what you learn through your schooling and from your parents, and what community you come from.... You carry that with you.” She believes that the way she grew up, with pro-environmental values and heightened knowledge and awareness of the environment, is what has influenced her current behaviours. Petra and her family are very invested in sustainability, and practice many PEBs (see Figure 4.1 for complete list). “I think one of the reasons why we do a lot of stuff [PEBs] is because it was inbuilt into us when we were little.” Like her parents, Petra is a keen gardener, saying that growing plants relaxes her and keeps her sane. She says that “if you wanna have a garden, and you wanna have this stuff, it seeks commitment and time.” She is very happy to make this sacrifice, as it makes her feel happy and responsible for her actions. She loves nature and greenery, especially tree-lined streets, and would love to see that at Ginninderry. Petra believes that humans should “adjust to the nature, not adjusting nature to us,” in order to protect it. She believes that “this environment, we are leaving it for future generations,” and so need to take care of it. Media consumption such as watching the Discovery channel on television increases her knowledge and awareness of environmental issues, which increases her concern. Overall, Petra has a very close connection to nature, and experiences it through gardening, media, and PEBs.

The barriers to PEB perceived by Petra demonstrated great thought on the matter. Firstly, Petra thinks that people do not engage in PEB because they are not educated or aware of the state of the environment. She says, “A lot of people are probably not aware, depends where they come from. Not only from outside Australia, but also what family they come from in Australia.” Petra also believes that when people immigrate to Australia, they sometimes do not adopt more sustainable practices that have become normalised here because they prefer to stick to habits. She also thinks that consumerism and the importance of travel in the Australian psyche are an important barrier. Similarly, Petra believes that “in this rush for money,” people often are too busy with work to put in the time and commitment required to sustain many PEBs.

Petra thinks that the solutions to sustainability challenges are a joint responsibility of everyone. She thinks that individual actions and PEBs do make a positive difference to the environment, saying, “Yes. We should all take personal responsibility.” She said, “I think it’s a joint responsibility, but the individual awareness needs to be brought up, and it’s a personal responsibility to search your own, but also government can help with the initiatives.” Petra believes that community cohesion leads to the transfer of knowledge and awareness, because it means that discussions take place and programmes can be more effectively run to encourage PEBs. She also thinks that communities provide spaces for environmental role models, saying, “I think the actions speak louder than words.”

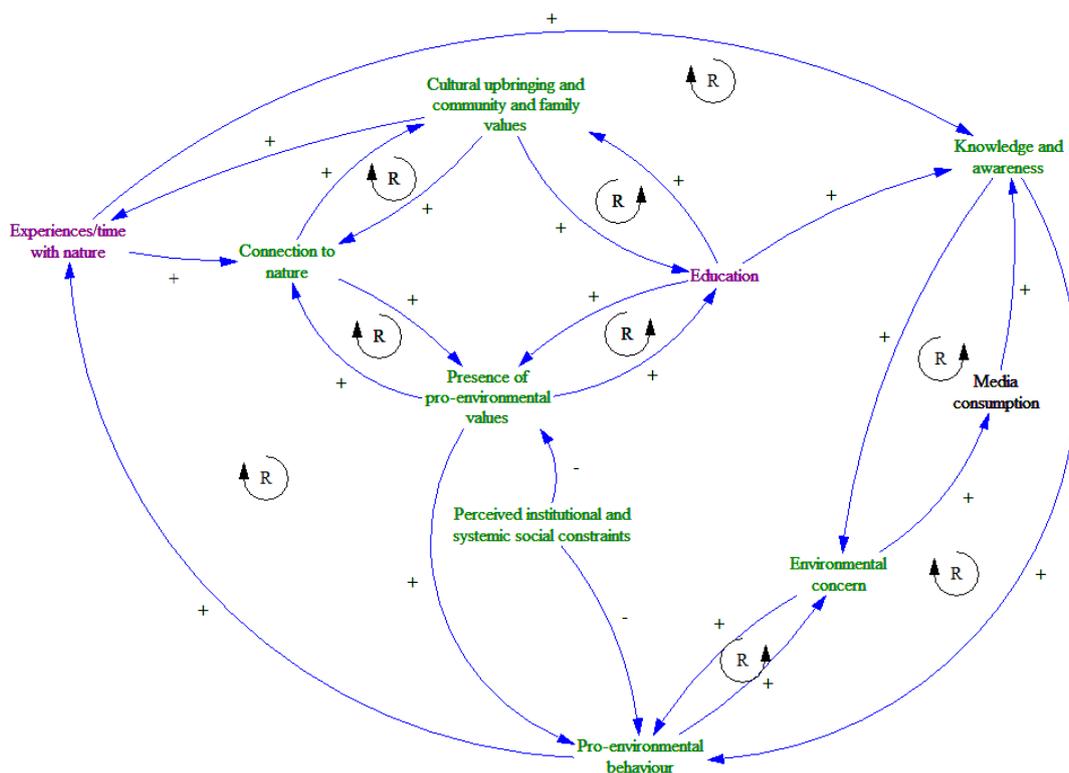


Figure A3.5: Systems diagram showing Petra's narrative of her environmental concern and PEBs

Figure A3.5 outlines the system that Petra described as the way she create PEBs and concern.

3.6 Kewullay and Tenneh

Kewullay and Tenneh are a middle-aged couple with five children, from Sierra Leone, West Africa. Krio is the language they speak most at home, but English is an official language of Sierra Leone. Tenneh is a local area coordinator for a business, and Kewullay is a public servant. The couple has five older children: the eldest two have moved out of home, and the youngest two are fifteen-year-old twin boys. The family currently lives in a four bedroom house in Dunlop, which they find quite “squashy,” so they plan to build a five bedroom house at Ginninderry and live there. They have been looking to buy for four to five years, but found other suburbs too flat, expensive or with too much traffic. Proximity to nature and having a natural landscape around them is very important to Kewullay and Tenneh. Kewullay said, “I mean when you look at the hustle and the bustle of the city life, it’s good that you have the measure of the environment around you to be able to have that relationship. Yes, I like to see the greens, I like to see the mountains.”

This is the main reason that the couple bought at Ginninderry, along with the affordability, and the West Belconnen area.

Kewullay and Tenneh discussed how tightknit their community was in Sierra Leone, and how important having a sense of community is there. When asked to describe how community functioned in their home country, Kewullay said, “Ah, it was easy.” Informal community gatherings were organised by residents weekly. Kewullay added that “... even with the little we had, we’re able to maximise that to create so much sharing, and caring for other members in the community.” As a result of their upbringing, Kewullay and Tenneh believe having a strong sense of community to be essential, Kewullay stating, “It’s essential part of life. Relationships with people, it’s very important.” Kewullay believes that being part of a community means that one cannot suffer the ills of social isolation, and it results in happier people. “They interact so much that you begin to see the world as a beautiful place. People like you, you’re a part of that community. You have something to contribute, you’re respected, you feel valued.” The couple thinks that this type of community is completely possible at Ginninderry.

However, where Kewullay and Tenneh currently live in Dunlop, they do not have this tight-knit sense of community that they find so important. There are some neighbours they have not spoken to at all, and there is just one family that they are well-connected to. They became friends with this family because their children go to school together. Tenneh said, “In a city like this, you don’t expect that people should be like that, but... I mean for us, we think that because we are migrants, and we don’t fit into that mould, so... they just case us aside. And even with the family that we interact with a lot, the reason why we got connected to them is their little- their son.” Kewullay said, “And even in our absence, they take care of our kids.” Due to their experiences in Sierra Leone and with this family in Dunlop, Kewullay and Tenneh are convinced that it is children who bring communities together. To fill the void of a tight-knit community in their neighbourhood, Kewullay and Tenneh do a lot of volunteering. Kewullay coaches sports teams, they volunteer at their church, and are closely connected to that community. Tenneh described experiences of how sometimes their friendly greetings to others at church are met with resistance, shock, or surprise. She said, “I mean it’s just cultural differences, so we don’t have any grudges against people, that’s how people are, you can’t change them. You can do the best to get them out of that, but, yeah.” Tenneh is very outgoing and friendly, and persists in making connections with people until she is successful. In this way, the couple participate in closely connected communities outside of their neighbourhood, and continue to break down stereotypes that people place upon them that sometimes prevent these close relationships.

When asked about the barriers to community cohesion, Kewullay and Tenneh's negative experience with prejudice in Canberra made their response unique from other participants. Daniel and Brian also thought that cultural differences might make it hard for people to connect, but Kewullay and Tenneh discussed this from personal experience. Tenneh said, "If we have more people here [Ginninderry] who are more Australians, and maybe if they see more migrants they might not want to come, ... because sometimes they have this fear of migrants bringing all their bad tricks. But they don't know that we're very much enriched in our cultures, and we like to interact with people. But we're not given that opportunity. Sometimes we just force our way in like what I told!" The couple is certain that with time and the increasing number of migrants in Canberra, this prejudice will be diminished, in a way reminiscent of Contact Theory. Furthermore, Canberra is a transient city, and they think the large number of people moving in and out of neighbourhoods prevents a tight-knit community being formed. Kewullay also raised that he thinks the decrease in religion means that people are more disconnected from one another. He thinks that the decrease in Australians attending church means that there is no space for them to connect in a social manner, and no organisation running gatherings. They extended this point, saying that the lack of central hubs, inviting community centres and groups to organise cultural events and activities is a large barrier to community cohesion. Lastly, they think that it is hard to form a close community when individuals do not have a common ground to connect on, such as children.

Kewullay and Tenneh had strong opinions about the kinds of methods that will create a strong sense of community at Ginninderry. They both believe that "kids have a way of connecting families," and think that as a result, activities and events that bring children together should be a key focus. They think that activities and events for all members of the community will also help, pointing out the need to attract people with different interests. They think that as well as larger-scale events, like cultural festivals and celebrations, everyday events like movies, gathering to watch sports games and so forth at the community centre will be very successful. They also think that leadership is an important part of creating strong communities. Kewullay said, "Make sure that you have somebody understands about people, who can reach out to people, irrespective of their background. If you've got... very good leadership team, then I think you can build a very good community. We can get so much out of it."

Sustainability and connection to the environment are very important for Kewullay and Tenneh. Sustainability was a key consideration when they were looking to buy a property, Tenneh explaining that, "We will look at, their sustainability stuff you are talking about, environmental, because we come from the tropics." They think they are more interested in sustainability than average, and believe that their background has given them a high knowledge and awareness of the environment. Tenneh said, "I think we're very conscious of that, because of where we come

from.” As a result, they perform a number of PEBs (see Figure 4.1 for complete list). The exposure to temporary water scarcity in Canberra in 2006 led to them reduce their water consumption, adopting a PEB permanently. Both of them but especially Kewullay, are very interested in a community garden at Ginninderry, and would prefer to use it instead of their own garden. Kewullay said, “A community garden is not that you want to produce your own food, but it’s some place you can go and meet people, and talk.” They will install solar panels, an elevated vegetable garden, and a veranda in their home in Ginninderry, so that they can try to limit their impact on the environment and enjoy spending time in it. In terms of transport, Kewullay and Tenneh drive more than they would like to, because they have to take their children to school and their many other commitments. They use buses when they are convenient and they do not have to drop the children off, and make sure that their teenagers take the bus home from school. Time and social and sports commitments are a constraint to PEB in the family’s day to day lives. Tenneh also enjoys walking for fun and exercise. She is impressed by the amount of walking tracks in Canberra, and would like to see that at Ginninderry.

Kewullay and Tenneh feel very connected to the environment, and they think that this connection is beneficial to human health and happiness. They think that in Africa, the understanding of the benefits of nature on the human psyche is already well understood and reflected in day-to-day life. They think that having a connection to the environment makes people more interested in sustainability, because as Kewullay said, “they don’t want to have that sense of loss if they don’t have that environment,” anymore. Kewullay and Tenneh believe that their upbringing and the culture they were raised in has influenced both their connection to the environment and their interest in sustainability, which are closely interlinked. “So yeah, it’s just part of our psyche. And that’s why they think, ‘you can take the African out of the bush, but you can’t take the bush out of the African.’ Furthermore, the relationship between community and the environment is very strong in Kewullay and Tenneh’s eyes. Tenneh explained that communities that have the same values work towards common goals efficiently, and pass these values onto their children to continue to strive towards. Kewullay said, “To me, there’s a mutually beneficial relationship between the community. If you have a healthy environment, it caters for the people that live in that environment. Good water, good place for people to live and share, I think it’s mutually beneficial for the people. So if you have a thriving sustainable community, people are much happier living there because they benefit directly from that community [and environment].” Kewullay and Tenneh both think that politicians are the biggest barrier to sustainability, that sustainability is “everyone’s responsibility,” and that individual PEBs do make a difference to the state of the environment. When asked about how sustainability will be achieved, Tenneh said, “People power! It’s very important. I mean, it starts with small communities like this.”

Appendix 4: Susan Davis's involvement in data collection

The majority of interviews were conducted alongside Susan Davis. Susan is the Community and Cultural Planning Manager at GJV, and she works closely with the new and incoming community to help plan for essential services and facilities. As a cultural planner, she “brings creativity in all its forms into the development, including public art, environmental art, the performing arts and creative placemaking” (News, 2015). She was very intrigued to find the large number of individuals from diverse backgrounds that have bought into Ginninderry, and wanted to talk to them about community engagement and the things that they want to see in their new neighbourhood. This was the main reason for our conducting the interviews together. Given that GJV were already aiming to conduct interviews for their own purposes, they agreed to my research being conducted alongside.

Susan and I co-created several iterations of our interview protocol, which combined questions about Ginninderry, community engagement, and sustainability. The questions were ordered thematically, for the purpose of promoting good engagement from stakeholders. I was particularly interested in learning about individuals' connection to the environment, their narratives of their environmental behaviour and beliefs, and their perception of ‘sustainability’ as a concept.

Susan's participation in the interviews was a great benefit in many ways. The arrangement to work alongside Susan provided crucial access to participants, and this was deemed to be an acceptable trade-off for the potential risks and the possible influence she had on data collection. In the planning stages of this project, concern was raised that as Susan is a staff member and associated with Ginninderry Joint Venture, participants would feel that she was in a position of greater power, and may have censored their answers. Susan's role is at GJV to make sure that all homebuyers are heard, and their needs and concerns addressed by Ginninderry's plans. To ensure that interview participants were aware of this, Susan outlined her role and relationship to the project before interviews commenced. She was also supportive, accommodating, and helped provide me with an in-depth knowledge of Ginninderry. Susan was absent for two of the six interviews, but the quality, structure or direction of the interviews did not appear to change.