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**Product attachment in the context of gender differentiation
and marital relationships**



PhD-thesis. Farida Alrashaid. University of South Wales. 2014

ABSTRACT

The aim of this qualitative study was to explore product attachment among men and women in conjugal associations and to design a series of household objects to encourage product attachment. A preliminary study based on the interview responses of 16 married individuals was used to identify themes and to develop the instrument employed in the main study. The main study sample consisted of eight married couples and the qualitative methodology involved the thematic content analysis of their responses to a questionnaire and in-depth interviews. The findings supported product attachment theory, and masculinity and femininity was reflected by the objects that the participants perceived to be the most valuable. Men tended to prefer objects with a functional value serving a consumer experience, particularly those that they could interact with and/or express the masculine desire to be independent and take an active role. Women were more variable in their preferences, but most became attached to objects with shared, affective and/or affiliative value. The values which made an object special were found, in general, not to be common to both husband and wife; however, those objects with a shared value, reflecting episodic memories concerning their marriage, were highlighted. These findings led to the construction of a tentative explanatory model to expand product attachment theory in the context of married couples. Underpinned by this model, action is recommended to promote the design and segmented marketing of products in order to create an emotional bond for one or both conjugal partners. Designs are proposed for a series of household objects to encourage the progressive development of episodic memories among married couples. Some prospective designs of products specifically targeted to promote shared value among the married couple segment of the market, including furniture and decorative items for the home are described. Further research is recommended to expand product attachment theory to take into consideration the design of objects for the married couples market.

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CHAPTER 1: INTRODUCTION

This dissertation describes my journey using a qualitative research design to explore the emotional attachments that married people develop towards everyday domestic objects and the implications for product design. It highlights that the quality of the journeys that a person takes are dependent on the people that they travel with, for better or for worse. The introduction consists of four components, proposing a way to set forth a resolution to the issues that I attempted to understand. These four components were recommended by Schram (2006) for conceptualising and proposing qualitative research and commences with the problem statement (1.1) which presents the underlying rationale for my research, setting up the conceptual issues that I intend to interpret, describe and understand. The problem statement is complemented by a purpose statement (1.2), defining the practical outcomes that I expect to achieve. After describing the problem and purpose of my research, I then discuss the perspective or personal lens through which I look at the world (1.3), because qualitative research is informed by how researchers focus on the world and how they believe it should be understood and studied. Finally, (1.4), I discuss my research design and (1.5) the structure of this dissertation.

1.1 Problem Statement

My research involved an interpretive, naturalistic approach, meaning that I studied a social issue in its natural setting. I attempted to make sense of the quality, meaning, context, and subjective images of reality in terms of how married couples perceive the domestic products that they own and use in their everyday lives. In order to address this problem, I propose that the theory of product attachment needs to be expanded. Product attachment theory is rooted in the classical theory of attachment developed largely by Bowlby (1979; 1988; 1999), who posited that a person's desire to become attached to a selected entity is a

basic human motivation that begins in infancy.

Product attachment theory implies that if a bond is created between an object and an individual, then the latter will cherish the product and repair it should it become damaged, rather than dispose of it (Schifferstein et al., 2004; Schifferstein & Zwartkruis-Pilgrim, 2008). It is important to distinguish product attachment from other consumer behavioural constructs. Product attachment encompasses the association between an individual's attachments to objects of affection, not purely because they are trusted brand names. This contrasts with brand attachment, in which the popularity of a brand name, logo, or trademark is critical, irrespective of what the product actually is (Park et al., 2008).

Product attachment theory posits an intrinsic association between individuals and their objects of greatest attachment. The theory requires an understanding of product users' emotions; however, there has been limited research into establishing how gender differences, in terms of both choices and preferences, play an important role within the context of marital relationships. Marketing research has indicated that men and women systematically differ in their product choices (Dittmar et al., 1995; Moss, 1999; Popcorn and Marigold, 2000). Differences in product choices, not to mention the reasons behind these differences, are dependent upon different attitudes between the two genders towards buying considerations, be they functional, emotional or symbolic. Designers and marketing specialists are highly motivated to gain an understanding of how gender drives our perception of design, and how marketing probes the unique decision-making styles of men and women, invoking customers to purchase gender related products based on their form, colour, shape, and appearance (Moss, 2009). Many product attachment studies concerning the influence of gender differentiation therefore address questions concerning 'his' or 'her' objects. This study was different. It did not aim to explore the theory and applications of product attachment to shared domestic objects between men and women as separate individuals, but among men

and women living as partners in the same house and joined by a conjugal association.

The significance of this study is that it aims to inform future design approaches grounded in the theory of shared value, a dimension of product attachment theory that has received limited attention from other researchers. The theory of shared value posits that married couples may develop a mutual attachment to certain domestic objects for the same or different reasons (Olsen, 1985). The theory of shared value is complemented by the self-expansion theory (Reimann et al., 2012), which posits that individuals expand their personalities by (a) adopting the perspectives of other people that they relate to, such as marriage partners, and (b) forming sustainable romantic relationships, similar to marriage, with the objects that they relate to. It is possible that a starting point for expanding the theory of shared value is episodic memory, which includes recollections of autobiographical events (times, places, associated emotions, and other contextual knowledge) that can be explicitly stated. Episodic memory allows an individual to travel back in time to remember an event that took place at a particular time and place (Schacter et al., 2011). Consequently, the problem that this research attempts to resolve is how an expansion of product attachment theory (explaining how the triggers that retrieve episodic memory may act in combination with emotions and shared value to result in product attachment) may have practical applications for the design of household products targeted specifically at married couples.

1.2 Purpose Statement

This purpose statement defines the practical implications of how product attachment and associated theories might be further developed for product design purposes. The outcome of my research will be the expansion of knowledge in order to enrich understanding based on the insights, attitudes, perceptions, behaviours, and experiences of the people who volunteered to participate in this study. The data collected will be used to underpin the design of a range of items appropriate to the specific context of couples in conjugal associations.

The development of product attachment theory will advocate emotion-focused design processes and methods that look beyond the physical functionality of everyday objects, and consider the environmental, emotional, inspirational, social and cultural needs of married users.

The purpose of this research is consistent with recent calls for designers to design new consumer goods that create and sustain a powerful attraction or 'romance' (Patwardhan & Balasubramanian, 2011; Reiman et al., 2012). Accordingly, I aim to provide practical recommendations as to the ways in which designers might be able to exploit empirical information about how men and women in conjugal associations bond romantically with domestic objects in their everyday lives. My research can therefore be described as translational, because I aim to facilitate the translation of theoretical premises into practical applications in the real world.

The findings of this study may have significant practical implications for design, brand, and marketing specialists interested in the development of products specifically targeted at married couples. I propose that the design of products that are potentially attractive to both men and women living in long term conjugal associations may be underpinned by the theory of shared value linked to product attachment theory. Action and further research is recommended, aimed at tailoring appropriate design strategies based on the assumption that married couples use objects to help them establish a history and future together, which reflect their shared values, and expand their personalities.

1.3 Personal Perspective

My personal perspective as a qualitative researcher, cannot be established in terms of its ultimate truthfulness, but must be accepted simply on trust (Denzin & Lincoln, 2008). I am conducting this study looking through the artistic lens of a furniture designer and maker. Domestic life and everyday household objects are the source of my inspiration. Using a

combination of traditional craft techniques and industrial processes, I aim to create a new genre of domestic objects. I am not alone in believing that everyday objects provide a source of artistic inspiration; other examples include the surrealist paintings of Salvador Dali, depicting dream imagery of household items, and Andy Warhol's famous painting of tomato soup during the pop art movement.

The training that I received in my MFA programme provided me with the necessary tools to greatly broaden my knowledge-base and hands-on expertise in exploring the creative design of mundane objects, and to inform my postgraduate practice. My fascination with mundane objects began with my mother's fake stone key holder on which my MFA research was based. My mother owned a fake stone in which a spare key is stored, yet the stone was so fake that anyone could easily recognise it for what it was. Nevertheless, this stone sat on the ground in front of our house for many years next to real stones, flowers and other decoys. I used to make fun of my mother for keeping and using this fake stone key holder because our house keys were actually bigger than the opening in the holder and so they visibly dangled from the opening. Our house keys were visible, out in the open for anyone to take, yet my mother loved that key holder and would not part with it. I look back and realise that my mother's fake stone key holder, that I made fun of, became the inspiration for my research. In my MFA study I explored simple domestic objects with no obvious sentimental value that are in abundance all around us, such as keys, cups, remote controls, and toilet paper. I examined how people interact, utilise and safeguard their mundane possessions, in addition to how well they are able to conceal them from strangers. I find it extremely interesting how many people can be lackadaisical in this regard, and as a result, often do not think carefully about where they choose to place their valuable objects until they lose them, or worse, have them stolen.

Drawing on the element of surprise, memory, exaggeration, limitation and humour, in my MFA study I explored the more thoughtfully creative areas of placement and structures

housing these personal possessions in everyday life and how people have attempted to conceal them. For example, I designed a series of foyer tables that were based on hiding spare keys under the doormat or under the rug. These furniture pieces have very specific, as well as unique, functions. Hence by creating hiding spaces within the furniture and highlighting the placement of personal possessions, the furniture takes on very obvious and suggestive clues, which I refer to simply as 'teasers'. This is because it is not possible for anyone to know what exactly is hidden under the surface of my work. As a result, the teasers attract the user to explore the work further in order to find out more about the piece itself and what it is concealing. The teasers are very suggestive but at the same time demonstrate a very specific problem-solving function, which is to provide a memorable (to us that is) hiding place for everyday objects. This body of work consisted of innovative applications highlighting viable places where people can safely hide their possessions. At the same time, these possessions are close by and readily available to use.

There is something intriguing about people's need to have secret hiding places. We seem obsessed with hiding things from others and this begins in childhood. We keep secret diaries, letters, pictures etc. and we even love keeping secrets that we have sworn to others never to reveal. In general, people love to secretly harbour personal items, information and knowledge and we revel in knowing something others do not.

I believe that elevating everyday mundane objects can be achieved through creatively making personal possessions come alive simply by engaging one's thought-process of architectural awareness and imagination, therefore stimulating the mind to promote new meaning to familiar ordinary objects. This awareness can also bring about pleasurable sensory experiences that can relate to the natural world, or to the objective of artistic creation by providing a broader introspective, and therefore a more sensitive realisation of life itself.

Hence to elevate our everyday personal possessions is to create extra-ordinary versions of mundane everyday objects.

I began a closer examination of the relationship between people and everyday objects after a disagreement with my husband regarding his reticence to donate some old and no longer used items of clothing to charity, which contrasted sharply with his desire to replace his laptop computer and mobile phone on an annual basis. The domestic squabble that ensued prompted several key questions. For example, why was my husband seemingly far more attached to a football jersey than his laptop? What is value? What is a valuable object? Who confers values placed upon certain objects? Is it something attributed subjectively by the individual, or is it embedded within the object's physical attributes? Can a designer impact upon the extent to which users bond with an object? Is it possible to retain such a bond indefinitely? In order to address these questions I realised that I need to explore the theory of product attachment and use this theory to underpin my research.

Because this study reflects a personal perspective, I prefer to use an active voice, including personal pronouns and adjectives, to reflect what I believe to be true, irrespective of what others may say to the contrary. I do not feel that the use of the passive voice, assuming this study was conducted by a third person (e.g. 'the researcher') is appropriate. Using a third person perspective indicates that any other researcher collecting and analysing the same set of data would arrive at exactly the same conclusions. In contrast, the use of first person pronouns and adjectives implies that my dissertation reflects my own unique perspective as a designer. I thereby differentiate myself from other researchers and how they may interpret the same information. This viewpoint is supported by Day & Gastel (2006), Holland (1999) and Shultz (2009).

I believe that my perspective supports the social constructivist paradigm; knowledge is fabricated from multiple subjective realities within human minds, and that each individual

constructs his/her own personal subjective reality, different from everyone else's (Creswell, 2009). I believe that it is not feasible to test hypotheses because no claims concerning systematic mechanisms or laws relating to predictable relationships between causes and effects can ever be proved, and every theory can ultimately be undermined. My stance is not neutral, because the social construction of knowledge is biased by personal perspectives which may distort the truth. Although some methods of social science research are employed in this work, I am approaching the research questions as a designer. My response to the issues raised is bound to be conditioned by my personal skill set and point of view. As a result, I felt that it was vital for me to include a reflexive design element within the research, as this will enable me to take control of the manner in which my own subjective response to the task will shape the meanings and conclusions that are drawn.

1.4 Research Design

The research design of this study is loosely defined as phenomenological, because it is underpinned by some of the fundamental ideas of phenomenology. I am concerned with 'understanding social and psychological phenomena from the perspectives of the people involved' (Welman & Kruger, 1999, p. 189) and 'the ways in which ordinary members of society attend to their everyday lives' (Gubrium & Holstein, 2000, p.488). Being reflexive as a designer and maker of consumer products, I consider myself essentially to be a practitioner rather than a philosopher. Consequently, this study does not engage in the existential aspects of phenomenology, such as offering an analysis based on Heideggerian or post-Heideggerian philosophy (Guignon, 1990). Philosophically, this study is aligned more closely with Husserl's classical phenomenological concept of intentionality, because it aims to explore the lived experiences of its participants from a first-person point of view, focusing on how intentions are directed towards attaching their consciousness to domestic and other everyday objects. I therefore classify this study as phenomenological because it is concerned with

issues of intentionality, consciousness, and a first-person perspective.

1.5 Structure of the Dissertation

Chapter 2 presents a review of the literature on product attachment in the context of gender differentiation and marital relationships from theoretical and empirical perspectives. Based on information from the literature, the attributes and values that may influence product attachment are identified. The review also identifies gaps in the literature, and develops an argument which leads to the construction of the research questions and the formulation of appropriate methods by which to address the research questions using a qualitative research design. Chapter 3 presents the methods employed and results obtained in a preliminary study that informed the main study described in Chapter 4. The extent to which personal attributes and values influence attachment to domestic and other everyday objects is explored using qualitative methodology, involving face-to-face interviews with men and women who volunteered to participate in the study. Consideration is given to their credibility, dependability, and reflexivity. In Chapter 5, the findings of the main study are interpreted with reference to previous studies cited in the literature review, and the theoretical and practical implications of the results are discussed. In Chapter 6, designs are proposed for a series of objects to encourage the progressive development of memories among married couples with respect to the objects that they purchase to use in their homes. Some examples of the prospective designs of products specifically targeted to promote shared value among the married couple segment of the market, including furniture, decorative items and apparel, are described. Finally, the overall conclusions of the study are outlined.

CHAPTER 2: LITERATURE REVIEW

This chapter presents a review of the literature on product attachment and its implications for product design in the context of gender and marital relationships. The starting point of this review is the theoretical framework, underpinned by attachment theory, and its offshoots, product attachment theory and brand attachment theory. In Section 2.1 the ways in which product attachment theory helps to explain why some people become attached to certain special objects but not to others is discussed. In Section 2.2 five attributes of objects associated with product attachment are described in terms of their male, female, aesthetic, spiritual and adaptational qualities. In Section 2.3 the values that owners place upon products are described in terms of their functionality, personal, emotional, social, symbolic, fiscal, interactive, affiliation, and contemplative or shared attributes.

As Kurt Lewin, the founding father of social psychology famously surmised: 'There's nothing so practical as good theory.' A good theory guides effective action, including a planned approach to research and its applications (Burnes, 2004). Consequently, in Section 2.4 the practical implications of the theoretical framework are presented with reference to the literature, focusing on functionality, product attachment, and sustainability. In Sections 2.5 and 2.6 an argument is developed, based upon the gaps in the literature, leading to the construction of a series of research questions. An appropriate methodology, fit for the purpose of addressing the research questions, is discussed in Section 2.7.

Theoretical Framework

2.1 Attachment Theory

Product attachment theory is defined as an attempt to explain why some people become attached to certain manufactured objects in terms of the strength of the bonding that they perceive and/or experience with those products (Schifferstein et al., 2004). Bonding

implies the creation of a union based on a variety of emotional, intellectual, physical, and/or other factors or processes, and product attachment theory provides the conceptual basis upon which the whole of this study is grounded. The reasons why these issues are being investigated was not, however, merely theoretical. This study also aimed to provide practical information of value to designers and marketers who are interested in tailoring products that are invoked by differences in product attachment between a man and a woman, particularly those within a conjugal association. Information from the literature is assessed in order to address the overarching question: 'What values and attributes of individual objects, and what perceptions and behaviours of individual people, are associated with product attachment?' An attempt is made to systematically classify these values, attributes, perceptions, and behaviours. The practical and economic implications of product attachment with respect to the design and marketing of products are also considered.

2.1.1 Product Attachment Theory

People experience a wide range of feelings of attachment towards the durable manufactured objects or products that they own (Schifferstein et al., 2004; Schifferstein & Zwartkruis-Pelgrim, 2008). Individuals may steadfastly hold on to certain products, whereas they may very easily dispose of others. Product attachment theory is an attempt to explain the reasons why some people become attached to certain products in terms of the strengths of the bonds that they experience with those products. A product to which a person becomes attached is perceived to be very special, and typically means a lot to that person. In such circumstances it is unlikely that he/she will willingly dispose of that product and anxiety may be experienced if the product is damaged or lost.

Product attachment theory is rooted in the fundamental theory of attachment developed largely by Bowlby (1979; 1988; 1999). Bowlby's pioneering interdisciplinary research within the diverse fields of child psychology and behavioural development, led to a

theory positing that a person's desire to become attached to a selected entity is a basic human motivation that begins in infancy. Human infants are born with a repertoire of bonding/attachment behaviours, designed by evolution to assure close proximity to supportive, sensitive and responsive attachment figures, including parents, siblings, and caregivers. Attachment behaviours may have evolved because they increase the probability of a child surviving. When infants begin to crawl and walk they use attachment figures as a secure base to explore from and return to. Proximity to attachment figures provides infants with a means of securing protection from physical and psychological threats, and promotes affective regulation and healthy exploration.

Separation anxiety following the loss of an attachment figure is considered to be a normal and adaptive response for an attached infant. Responses to attachment figures in infancy may ultimately lead to the development of adult patterns of attachment behaviour. Each child is believed to develop a unique personal working model based upon his/her early experiences, which subsequently guides his/her perceptions, emotions, thoughts and expectations towards external entities throughout adulthood (Bowlby, 1979). Product attachment theory is consequently at the root of attachment theory, because infant experiences are believed to be critical in establishing the quality of emotional and behavioural developments that are subsequently reflected in preferences for or against certain adult products and services (Schifferstein et al., 2004); however, the childhood/formative experiences of the respondents were not considered in this study.

2.1.2 Brand Attachment Theory

Product attachment encompasses the association between an individual's attachments to objects of affection not simply because they are trusted brand names (Schifferstein et al., 2004). People become attached to a variety of entities, including pets, places, celebrities, gifts, collectibles, and a wide variety of consumer items, irrespective of the sources or

manufacturers of these items (Thomson et al., 2005). Product attachment theory is therefore not equivalent to brand attachment theory, although the two theories overlap, and so a brief discussion of brand attachment is relevant before product attachment is discussed in more detail.

Brand attachment occurs when a customer pledges to remain loyal to a trusted brand name, irrespective of what the product actually is and regardless of its financial value. Brand loyalty stems from a brand's success at creating cognitive and emotional bonds, which evoke the readiness of a customer to allocate his/her resources towards that specific brand. The creation of such bonds is believed to be contingent on the effectiveness of strategic marketing activities that use affect, typicality, vividness, and richness of information to foster a strong brand image (Park et al., 2008; 2009; 2012).

Two models have been proposed to explain brand attachment. The Emotional Attachment Model (EAM) proposes that ten affective psychometric responses might link a particular brand to the self. These responses can be condensed into three dimensions, classified as 'affection', 'passion', and 'captivation' (Thomson et al., 2005). The EAM is based purely on emotions, and has been criticised because it does not fully tap all of the key conceptual properties that should ideally comprise the whole of the attachment concept. Subsequent studies by Park et al. (2009) led to the formulation of the Connection-Prominence Attachment Model (CPAM). The CPAM proposes that the strength of the bond connecting a brand to the self is manifested by two critical dimensions: (a) self-connectedness (i.e. the degree to which consumers perceive a trusted brand is connected to themselves, reflecting who and what they are) and (b) the prominence of positive thoughts and feelings towards a trusted brand (i.e. the degree to which affective/cognitive processes may moderate the degree of connectedness).

2.2 Attributes Associated with Product Attachment

Product attachment theory helps to explain why some people may become attached to certain special objects but not to others, irrespective of their brand names. Because every person has a different developmental experience during infancy, every person will become attached to different objects in different ways and for different reasons. Consequently, product attachment theory is a multi-dimensional concept involving many different human emotions, experiences, behaviours, and memories that may ultimately be reflected in preferences for or against certain objects (Schifferstein et al., 2004; 2008). Five attributes of objects that may potentially be associated with product attachment are classified for the purposes of this literature review as: (a) male; (b) female; (c) aesthetic; (d) spiritual; and (e) adaptational. Each of these attributes is subsequently discussed.

2.2.1 Gender Related Attributes

Moss (2009), in an extensive review of the literature, provides convincing evidence that gender differences in product choice, tastes, and preferences are both biologically and sociologically rooted, and therefore cannot be downplayed by design, brand and market specialists. According to Moss, individuals with more robust feminine or masculine characteristics may relate to products which draw a gender related distinction. For example, there is evidence to indicate that men are more inclined to purchase and value possessions that are largely mechanically productive, whereas women are more likely to purchase and value possessions that symbolise feminine sentimentality and which express their individual personality, including taking a home-oriented role (Dittmar et al., 1995; Moss, 1999). Men tend to look at the overall structure of an object, such as its shape, preferring sharp geometric, linear forms, hard, metallic and cool surfaces, and 3D qualities, such as flush and embossed details. Men also desire products possessing technological elements, exploring unconventional concepts, and prefer function over aesthetics, whilst women tend to prefer

rounder shapes, organic forms, soft and warm mat surfaces, expressing natural themes of fluidity and colour. Generally, women prefer aesthetics over function that attempt to suppress stereotypical notions (Moss, 1999; Popcorn & Marigold, 2000; Xue & Yen, 2007).

Although it provides a useful concept, perceiving the exact opposite attributes of objects for female and male products may be too simplistic, and such a dichotomy is not generalisable to every man and woman. It may, for example, be more useful to conceive of a continuum of attributes, embracing not just male and female but also not so feminine and not so masculine (Moss, 2009).

2.2.2 Aesthetic Attributes

Traditional Western philosophy used to assert that *de gustibus non est disputandum*, taste is not a proper subject for debate; nevertheless, many aestheticians have attempted to establish principles or guidelines concerning the aesthetic attributes of objects that could influence product attachment. Lidwell et al. (2003) published one hundred principles of design, including twenty-eight principles examining the question of, 'How can I increase the aesthetic appeal of a design?' These principles have been in common use for centuries, and have been applied in forms such as the golden ratio, similarity, symmetry and colour. Lidwell et al. (p. 11) claimed that the application of such principles, '...increases the probability that a design will be successful.' Alexander (2004) proposed that inanimate objects, such as paths, seats, furniture, streets, paintings, fountains, doorways, arches and buildings, have lives of their own. He identified the characteristics of these lives through fifteen fundamental properties, which he discovered were repeated again and again, and are present in all artistic forms. Alexander claimed that the properties of life and growth which support the natural order are also the properties of good design. In contrast, Postrel (2007) argued that the impression of beauty is highly personal. Thus the aesthetic attributes of an object must not be imposed on anyone or set as a standard. Bell (2008) suggested that the starting point for all

systems of aesthetics must be the personal experience of a peculiar emotion. Desmet and Hekkert (2002) focused on the context-dependent temperament of aesthetic experiences, arguing that local observations of aesthetics might influence what users recognise as attractive or pleasing. These impressions are sometimes driven by new styles and fashions, which may also vary between one locality and another. It is therefore evident that the literature reflects many conflicts of opinion, and that there is no consensus on the aesthetic properties of objects that can be applied as practical tools in order to influence product attachment.

2.2.3 Spiritual Attributes

Spiritual objects mirror the metaphysical viewpoint of an individual, which may be influenced by religious or other beliefs. Such objects include good luck or religious trinkets e.g. horoscopes, evil eye pendants or crucifixes (Choi, 2007).

2.2.4 Adaptational Attributes

Objects that provide comfort, peace and calm during difficult challenges in life are defined as being of adaptive worth, and through their usage they assist an individual to better deal with these types of problems (Choi, 2007). Examples include an infant's blanket or other consoling objects. Adults will often retain or throw away objects in order to make processes of changes in life possible, such as separations and/or divorces, or the passing away of someone close and dear.

2.3 Values Associated with Product Attachment

Values are the attitudes that guide individuals to evaluate and select specific patterns of behaviour that are usually beneficial to themselves. Schwartz (1992) posits that there are ten basic human values, specifically: (a) power - social status and prestige, control or dominance over people and resources; (b) achievement - personal success through

demonstrating competence according to social standards; (c) hedonism - pleasure and sensuous gratification for oneself; (d) stimulation - excitement, novelty and challenge in life; (e) self-direction - independent thought and action: choosing, creating, exploring; (f) universalism - understanding, appreciation, tolerance and protection for the welfare of all people and for nature; (g) benevolence - preservation and enhancement of the welfare of people with whom one is in frequent personal contact; (h) tradition - respect, commitment and acceptance of the customs and ideas that one's culture or religion impose on the individual; (i) conformity - restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms; and (j) security - safety, harmony and stability of society, of relationships and of self.

Although some, if not all, of the ten basic values defined by Schwartz (1992) may in some way be linked to product attachment, the different values that people place on the objects to which they become attached cannot be easily classified using Schwartz's classification. An alternative means of classifying human values is to divide them into intrinsic and extrinsic. An intrinsically valuable item is worth having just for itself, but not as a means to getting something else that is valuable (Bernstein, 2003), whereas an extrinsic value is placed on something that is worth having only as a means towards getting something else that is good (Bradley, 1998). Intrinsic and extrinsic values are not, however, mutually exclusive; many things are good in themselves, as well as being valuable for getting other things that are good (Brown, 2007). The multidimensional values associated with product attachment may be both extrinsic and intrinsic. For the purposes of this review, it was necessary to classify the human values linked to product attachment using a new and different scheme, which was based on empirical information obtained from the literature. Each of these values, termed functionality, personal, emotional, social, symbolic, fiscal, interactive, affiliation, contemplative and shared, will now be discussed.

2.3.1 Functionality

The term functionality refers to the utilitarian qualities and expected performance of an object in direct correlation to its convenience, usefulness, reliability, expediency and ease of use (Choi 2007; Desmet & Hekkert, 2002; McDonagh et al., 2002). A functional object facilitates the accomplishment of a physical or cognitive task during usage and ownership. It also encompasses physical properties such as durability or the sturdiness of the materials utilised in the manufacture of the object. Choi (2007) suggested that individuals may not keep particular objects because of their utilitarian value, and thus functionality may not directly contribute to product attachment. For example, a blanket provides warmth against the cold of winter and a lamp distributes light in a room, functions which are always needed. In such cases it is the vital purpose that the object performs, and not how the object is used that brings about the attachment, because essential human needs are met as a result. Domestic objects often promote a high degree of user familiarity, and with this, favourable recollections and associations of life and the activities performed at home. Thus product attachment can take place irrespective of an object's ability to satisfy its essential practical purpose. The functionality of a product may impact far more on men than women, whereas issues relating to social worth and making an impression upon others is the prevalent inspiring characteristic of an object for women (Moss, 2009).

2.3.2 Personal Value

Personal value relates to an object's ability to contain and store meanings that are unique to each individual. It is rooted in an object's ability to communicate in a non-verbal language and to change the functionality and distinctiveness of an object to increase its personal relevance to an individual (Choi, 2007; Mugge et al., 2007). Such objects which reflect life occurrences and memories, demonstrate that value is derived through the personal experiences of the user. Personal value is a narrative production told and retold, factored

upon memorable and treasured past and present life occurrences. When an object embodies a personal recollection exclusive to an individual, its value then becomes personal and inherent, rather than based upon the product's manufactured structure or intended functionality.

Personal value often develops progressively over time and the worth of an ordinary object can become of far more importance than its material or aesthetic properties, so that ultimately it becomes irreplaceable. Notions of irreplaceability are likely to shape the most important constituents of attachment, simply because they are founded upon the unique personal and individual relationship with an object (Belk, 1988; Grayson & Shulman, 2000). As Norman (2009) states: 'People's most prized possessions are often trifles, even kitsch – a chipped teacup, a torn and faded photograph ... our attachment to these objects are entirely shaped by memory because past experiences are no longer recoverable, except through recollection ... we take pride in them, not necessarily because we are showing off our wealth of status, but because of the meaning they bring to our lives.'

Different personal preferences, perceptions, experiences and memories may co-exist between a husband and a wife, resulting in different tastes, visual and aesthetic preferences, and explaining why each partner may become attached to different products within the same household (Olsen, 2005). Two key elements may be involved in explaining the motivations and factors underlying a husband's and a wife's inclinations towards differential attachments to certain objects. The first element is that men and women are biologically different; these differences, influenced by genetics, environment, and cultural norms, inevitably shape their different orientations and mindsets (Moir et al., 1992). Such differences may explain why a husband and wife may differentially perceive the values and attributes of the household objects that they share, why the functionality of a product may impact more upon a husband than a wife, and why wives may be more attached to products relating to social status than

their husbands (Moss, 2009). The second element pertains to the different roles husbands and wives play within a marital relationship. The traditional role of a wife is to take care of her family, even if she is employed outside the home. A wife's traditional role as a caregiver also implies that she plays a prominent role in buying household items. For this reason, women tend to spend more time shopping than men and are responsible for buying 80% of the household goods used to support their homes and families. In contrast, husbands tend to go on shorter missions to purchase specific products/services for their own exclusive use and are much more likely to buy products on impulse for themselves (Kotler et al., 1998).

Kotler et al. (1998) suggest that gender differences in the choices of products with personal value and the motivations that lie behind these choices must be deemed as being based on the differing personal mindsets of men and women. In other words, the origin of personality traits, such as product attachment associated with maleness and femaleness is not simply gender (i.e. socio-cultural) but is due to an innate psychological difference between men and women (i.e. sexual or biological). Feminists, who argue that polarising the differences between men and women leads to restricting the possibility for social change and the attainment of gender equality do not uphold this view. Because the boundaries between maleness and femaleness are becoming less distinct and gender identity is becoming more fluid and mutable, the perspective for linking product attachment to personal values associated with gender differences is becoming blurred (Caterall & Maclaran, 2002).

2.3.3 Emotional Value

An object's ability to produce thoughts, heightened feelings, reflective recollections or emotional states such as enjoyment or excitement, impacting upon and manipulating an individual's attachment to an object, is termed its emotional value. The importance of emotional value is emphasised by Schifferstein & Zwartkuis-Pelgrim (2008) who defined the degree of consumer-product attachment in terms of the strength of the emotional bond a

consumer experienced with a durable product, and asserted that consumer-product attachment implied the existence of an emotional tie between a person and an object. Consequently, a fundamental premise of product attachment theory is that it is related to the emotional bond experienced with a product. Emotional value may also be related to financial investment, since it may be associated with a consumer's willingness to pay a premium price to purchase a special object (Thomson et al., 2005).

Emotional value is closely related to the episodic memories evoked by certain objects. Long term product attachments may ultimately depend on the ability of valued objects to manifest pleasurable memories. As more episodic memories concerning a valued object are accumulated over time, the stronger the emotional bonding to that object becomes (Schifferstein & Zwartkuis-Pelgrim, 2008). The exposure effect, also known as the familiarity principle, posits that the more we are exposed to something the more we come to like it, and this applies equally to both objects and people (Bornstein & Craver-Lemley, 2004).

Episodic memories can be classified into: (a) object location memories; (b) collective memories; and (c) personal event memories. Object location or spatial memory is involved in the process of remembering the locations of various objects and positioning these objects in categorical (relative) or coordinate (exact) arrangement in their correct patterns. According to Cestgari et al. (2007, p.408) 'Spatial memory enables us to find our way in our environment and also to find objects such as keys or glasses that we have recently used and deposited somewhere in our surroundings.' Collective memory encompasses the assembled life histories of individuals and societal groups. Some historians theorise that collective memory defines the sum of the social activities of a group of people (Stasson & Bradshaw, 1995). According to Funkenstein (1989), collective memory may convey the historical consciousness of a societal group far more accurately than an individual. Personal event

memories recall significant occasions, incidents or moments in an individual's life. Personal event memories involve the detailed recall of unique circumstances, including vivid, multi-sensory recollections (e.g. smells, images, and body sensations), which an individual perceives to be accurate representation of actual events (Pillemer, 1998). Domestic objects have a powerful ability to evoke personal event memories derived through the personal experiences of the user, compounding the effects of emotional value and personal value (Patwardhan & Balasubramanian, 2011).

Loving and warming feelings often characterise a user's emotional attachment towards a special object, and pleasure is an emotional pathway through which appearance and utility may influence the satisfaction that an owner experiences from ownership of an object (Mugge et al., 2008). Patwardhan and Balasubramanian (2011, p. 297) described attachment towards consumer goods as a 'romance', which they defined as a state of emotional attachment characterised by a strong positive affect and high arousal that dominate the consumer's cognition. The level of product attachment depends upon the intensity of these three-factors (pleasure, arousal and dominance). It is recognised that different consumers may enjoy different levels of romance with respect to the same product, and that emotions change over time. For newly purchased products feelings of enjoyment may be the main driver of attachment, whereas for older products feelings of irreplaceability and pleasurable memories may be more important, (Schifferstein & Zwartkuis-Pelgrim, 2008).

The role of humour as a component of emotional value is to create positive arousal, thereby increasing the memory of a product and creating more favourable judgments, which could potentially lead to product attachment (Desmet & Hekkert, 2002). Ambler and Burne (1999) argue that because consumers can be emotionally aroused through watching humorous advertisements, then this emotional arousal may in turn improve consumers' memories. The

extent to which humour may promote product attachment appears, however, to have received little attention from researchers.

The self-expansion model (Reimann et al., 2012) is also pertinent with respect to understanding the emotional value of products and complements product attachment theory. The self-expansion model emphasises that many individuals seek to expand their personalities by acquiring the perspectives, resources and identities of others. In the process they generate positive emotional experiences. The relationship formation phase promotes exhilaration, fascination and intense longing, and during this phase partners seek to expand their selves through constant, rapid and intense interactions. This process embeds one partner within the other partner's psyche, giving access to the other partner's perspectives, resources and identities, and yielding positive affective experiences. The model posits that the closer the relationship, the more the partner's perspectives, resources and identities may be used to attain emotional goals. In very close relationships, such as marriage, individuals may perceive these adopted perspectives to be their own, leading to both husband and wife becoming emotionally attached to the same objects, such as their house and its contents.

It is logical to extend the self-expansion model from romantic relationships to product attachment. Consumer products have their own perspectives, resources and identities, and consumers tend to integrate a product's perspectives, resources and identities into their own consciousness, thereby enhancing their ability to achieve emotional goals. This is facilitated through the purchase, ownership and frequent use of a desirable product. Repeated interactions result in high levels of excited positive emotions, feelings of exhilaration and a strong desire to re-engage with the product, so sustaining the phenomenon of product attachment. For example, many Blackberry users proudly adopt the telephone's perspective of 'doing important work on the move' (Patwardhan & Balasubramanian, 2011).

Another form of emotional value may develop when the primary motive is stimulation; however, stimulation does not necessarily lead to product attachment. Individuals looking for stimulation seek partners who provide short-term novelty, excitement and arousal. Such interactions result in relationships that are better characterised as an interpersonal attraction rather than attachment (Reimann et al., 2012). Searching for stimulating products is also fundamental to consumer behaviours, which have been described as flirting, teasing and unremitting coquettishness. Some consumers like to be teased and tantalised, and get a quasi-erotic charge from searching for stimulating products (Patwardhan & Balasubramanian, 2011).

Certain products may, however, conjure up non-romantic emotional reactions, such as arrogance, contentment, apprehension or unease (Mugge et al., 2007). In an exploration of the emotions associated with product attachment, Mugge et al. revealed that the products selected by some consumers triggered their emotional needs, including peer association, personal recollection, and pleasurable satisfaction, bringing about immediate attachment. Subsequent purchases of the same products evoked similar feelings. Emotional value may be related to commitment, since the stronger the emotional bond, the longer an individual is likely to keep a product. Product attachment and product lifetime are not, however, consistently correlated for all consumers. Mugge et al. (2007) found that the emotions which attached a congruent personality to a product only resulted in a longer product lifetime for introverted consumers and extroverts did not hold on to extrovert products.

2.3.4 Social Value

Objects with social value promote the relational side of an individual, which desires to be connected, linked, associated, attached, held in reserve, and/or drawn in to others (Kleine et al., 1993). The social value of objects, including those commonly known as status symbols, does not always exist in terms of their physical materiality, but instead in the

meaning that they project to others. Such objects allow users to visually translate their individuality through projecting an attractive appearance to others, and therefore visually articulating their social ranking, distinctiveness and personal characteristics. A strong attachment to a particular product may occur because the owner perceives it as a reflection of his/her personality. The product represents a visual replica of the owner's persona, conveying what he/she desires others to perceive of his/her ambitions and/or attained social status in life (Belk, 1988). The appeal of common daily objects makes possible the acting out of a myriad of esteemed social identities, which denote the individual's personal sense of self.

According to Kleine and Baker (2004) attachments to products are self-projections of how individuals perceive themselves. A particular projected identity becomes more important to the user than the true utilities that the object offers, such that individuals often regard certain objects as visual indicators of their place within society. Even the most common objects may expand into societal and personal indicators, and other individuals may also interrelate to them within a myriad of functionalities, in order to attain societal status or simply to keep up appearances. Self-projection may be defined in terms of four dimensions: diffuse (striving for pleasurable satisfaction); private (striving to achieve an individual objective); public (desiring a favourable opinion from others); and collective (seeking the sanction from a group).

2.3.5 Symbolic Value

The symbolic value of objects reflects a means for attaining difference from others and emanates from the unique portrayal of an image that an individual personally aims to develop. This should not be construed only as correlating to their usage as status symbols, but instead, how they are being uniquely utilised and what ends are being achieved through their usage. Csikszentmihalyi and Rochberg-Halton (1981) proposed that many domestic objects are valued primarily due to their symbolic meanings, as they symbolise the endogenous being

of the users, and therefore construct the user's individuality. Through their symbolic value objects can manipulate social identities and social associations (Desmet, 2002; Ortony et al., 1988). Norman (2004) argued that the way we dress and behave, the material objects we possess, jewellery and watches, cars and homes, are all public expressions of ourselves, and whether we admit it or not, the products we buy reflect and establish our self-images as well as the images others have of us. Advertisements for Apple technology, featuring such recognisable, emphatic statements as 'I am a MAC' (as opposed to 'I am a PC') make obvious the reality that individuals are most at ease with products that in some way match personal conceptions of their perceived selves (Belk, 1988; Zinkhan & Hong, 1991) or their set of believed characteristics (Holbrook, 1992). As a result, product attachments may define the difference between consumers relating to certain products over others, in order to maintain the owner's perceived individuality.

2.3.6 Fiscal Value

Fiscal value refers to the monetary exchanges people are willing to make in order to own an object. Some individuals may be reluctant to dispose of objects simply because they paid a high price for them (Choi, 2007; Schifferstein & Zwartkuis-Pelgrim, 2008). Fiscal value is not constant, but fluctuates in response to market value, an individual's financial capabilities and other influences. The high fiscal value of an object may also demonstrate its utility as a status symbol. Such objects clearly define material affluence, social accomplishment and pride of achievement in the private self. Fiscal value is therefore an intrinsic factor communicating an individual's economic independence, and hence, self-sufficiency.

2.3.7 Interactive Value

Interactive value refers to the worth that an owner places upon an object due to the interactive experience offered whilst using the object. Objects with interactive value include

computers, musical instruments and sports equipment. An interactive value emerges when an object requires some form of physical manipulation, so enabling a sense of personal competence and control (Hummels, 1999). The interactive strategies that these sorts of objects employ seem to have a significant impact upon the user. When the focus is on an interactive experience then the result is a more interesting and engaging object to which the user becomes attached. Interactive value implies that the consumption experience is an important factor in promoting attachment. Holbrook (1999) similarly suggested that the value of a product resides not necessarily in the design of the product, in the brand chosen, nor in the object possessed, but rather in the user or consumption experience derived from it. User experiences may be gender related; most of the men in Holbrook's study placed a high value on the experience that they derived from a purchased object, whereas the majority of the women did not. Batterbee and Kosinken (2005) reviewed various approaches to understanding user experience and highlighted that a missing perspective is the type of experience that users create together with others. To address this issue, a new theory of user experience called 'co-experience' was proposed. Data from a study on mobile multimedia messaging was used to support this theory.

2.3.8 Affiliation Value

Affiliation value refers to an object representing the past and/or present relationships of an individual. Schifferstein and Zwartkruis-Pelgrim (2008) measured the highest levels of attachment for products owned for more than 20 years, and concluded that memories were an important factor required to maintain product attachment. Retaining a possession that is incontrovertibly and physically linked to a memorable past event will help a person to verify that the event has occurred (Grayson & Shulman, 2000). Objects such as heirlooms, photographs or jewellery often symbolise affiliation value by reflecting familial associations and defining an individual's heritage (Csikszentmihalyi & Rochberg-Halton, 1981). This

includes objects initially received as gifts, because they stand for an important or valued relationship, even when the recipient dislikes the gift. Affiliation value also relates to items that remind an individual of a valued association with another in the past (such as letters from an old friend) or facilitate the anticipation of an important relationship planned for the future, for example, an engagement ring (Kleine et al., 1993).

2.3.9 Contemplation Value

Contemplation value involves a person reflecting upon his/her own thoughts, actions and resulting deeds. It is a reflective dimension that addresses the way we think about a product and give it meaning (Margolin & Margolin, 2002). It invokes a quest for self-discovery, development and accomplishment, and involves assembling such entities as picture collections, souvenirs, tokens of sporting or hunting activities, as well as other objects that tell of past autobiographical occurrences. The elderly tend to find reflection more precious than younger people do. It is proposed that characteristics denoting particular types of objects (e.g. photographs) lend themselves to treasured reflective utility. As a result, the elderly frequently buy sentimental tokens for their expected contemplative worth (Kleine & Baker, 2004). Objects with contemplative value can also reflect personal success or the 'achievement of selfhood based on conscious reflection' (Csikszentmihalyi & Rochberg-Halton, 1981, p. 96). They often serve as 'lightning rods for memories' and 'restate to oneself the core aspects of one's identity and life accomplishments...' (Rubinstein & Parmalee, 1992, p. 154).

2.3.10 Shared Value

A shared value is a mutual attachment that people who are involved in close relationships, particularly marriage, may jointly direct toward a certain object (Olsen, 1985). The theory of shared value is complemented by the self-expansion theory (Reimann et al., 2012), positing that individuals expand their personalities by: (a) adopting the perspectives of

other people that they relate to, such as marriage partners; and (b) forming sustainable romantic relationships, similar to marriage, with the objects that they relate to.

Shared value implies that a couple in a long-term relationship may develop a joint emotional attachment to a certain object for the same or different reasons. There has been little research on shared value in the context of marital relationships other than that by Olsen (1985), who investigated how household objects influenced dyadic communication between couples living together. Olsen interviewed six male/female pairs in order to study the development of their relationships as reflected by household objects, and to determine the effect of the contractual marriage agreement on this process. Objects belonging to young married couples were found to reflect their future direction. Couples who were recently married utilised their household belongings to predict a history that had not yet been shaped as they looked forward to their united future as husband and wife. In contrast, the belongings of older married couples reflected their past orientations. For both younger and older married couples, however, certain objects in their households reflected the shared value that both husband and wife mutually placed upon them. In contrast, the possessions of unmarried couples were largely individualised artefacts denoting their autonomy. Olsen also found that the attachment to possessions of unmarried couples reflected far less of a definite future direction than the possessions of a couple who were married.

The theory of shared value assumes that married couples, due to their close physical and emotional proximity, their joint history and/or future together, as well as the 'official' nature of being legally married, exhibit collective perceptions and experiences with respect to the household objects that they become attached to. Shared value may be associated with conjoint memories of a valued object in a married couple's life. It is possible that the root cause of shared value is episodic memory, which includes recollections of autobiographical events (times, places, associated emotions and other contextual knowledge) that can be

explicitly stated. Episodic memory allows people to travel back in time to remember an event that took place at a particular time and place (Schacter et al., 2011). Much of episodic memory lies outside of conscious awareness most of the time, but a retrieval process allows stored memories to be brought back into conscious awareness. Retrieving episodic memory to conscious thought, whether by recall or recognition, often results from an appropriate stimulus or trigger. From a philosophical point of view, such triggers may have the power to momentarily freeze actual time in drawing a person's mind and presence completely from the present to relive the past once again (Hupbach et al., 2007). For example, going to a specific place, looking at a certain object or hearing a certain sound, might activate episodic memories relating to things that occurred at that location, events associated with that object or emotions associated with that sound. Important life-changing events (e.g. getting married, the birth of one's first child or the death of a family member) are triggers that can bring back memories, especially upon the anniversary of the event. Many types of olfactory, visual, and auditory stimuli can act as triggers, bringing episodic memories back into poignant and vivid detail, sometimes involving the same emotions of sadness, fear, joy, excitement, passion or satisfaction, that they originally elicited (Herz, 2004). Contextual factors, including a person's level of awareness, their age, gender and religious affinities, may also be important in the receptiveness to various triggers (Herlitz et al., 1997; Rubin et al., 1999). Domestic objects have an ability to contain and store episodic memories that are unique to individuals, empowering the object to communicate with its owner(s) in a non-verbal language. When a consumer product embodies personal recollections exclusive to one or more individuals, then its value becomes personal and inherent, irrespective of its form or function (McCracken, 1988). Such episodic memories may be closely related to the products that married people become attached to, providing a root cause for shared value and also providing a direction and rationale to develop the methods used in the current study.

Practical Implications of Theoretical Framework

2.4 Product Design

Norman (2004; 2009) argued that a product's attachment is a unique emotional element that develops over time only within the mindset of its user. Consequently, the reasons why an individual may love (or hate) an everyday object is beyond the mindset of its designer or manufacturer. The practical implications appear to be that attachment cannot prospectively be built into products. The concept of personal and/or shared value presents a challenge for designers and raises the question of the extent to which the different attributes of products and the different values that people may place upon them can be exploited by designers to promote product attachment. I personally oppose Norman's assertion that product attachment is beyond design, because I propose that it is possible to accommodate some of the personal elements of product attachment into the design process. It is therefore essential to consider the practical implications of product attachment and its associated theories in the context of product design. I now consider the design process with respect to: (a) functionality; (b) emotional attachment; and (c) sustainability.

2.4.1 Functionality

According to Choi et al. (2005), much research on the emotional attachment associated with the simple functionality of domestic objects does not substantially inform innovative design. Functionality is not merely a singular concept conceived by the designer; rather it is multidimensional, reactive and adaptive. Some domestic objects perform multiple functions developing from their user's experiences and extend the object beyond the function intended by its designer. Three phases of functionality are potentially evoked: (a) functionality, when the product performs its functional role as conceived by the designer; (b) transformative, when the product performs a personalised role in order to meet the lifestyle

needs of the user; and (c) metamorphosis, when the product performs a radically new role conceived by its user to meet his/her particular way of living. 'Brian's Rocking Arm Chair' is an empirical example of this. The functionality phase developed when the chair performed its designed function as a place to sit in the living room. The transformative phase developed when Brian used the chair not just as a place to sit, but as a place where he spends most of his time, somewhere to watch TV, talk on the phone, think and plan. The metamorphosis occurred when Brian established a mutual understanding with his wife indicating that he wants to be left alone if he sits in the armchair. Brian's use of the armchair to ensure privacy encouraged other objects to collect in the area, such as a computer and internet access point. Finally, Brian's chair was transformed into a personal space, providing comfort and convenience, and satisfying his personal rituals and habits. In the context of designing products for the home, this example provides insights into the potential for extending their original functionalities and this concept provides a direction and challenge for further study. For example, a wireless internet access device could potentially be embedded into a rocking armchair in order to better satisfy its user's personal needs.

2.4.2 Emotional Attachment

The emotional values of objects are known to produce thoughts, heightened feelings, reflective recollections and emotional states such as pleasure, enjoyment and excitement. Such emotions act upon and manipulate each individual's attachment to an object (Mugge et al., 2008; Schifferstein & Zwarkuis-Pelgrim, 2008; Thomson et al., 2005). Nevertheless, design professionals have paid limited attention to the emotional fulfilment that consumers can acquire from household products. Tools such as the 'Product Emotion Measurement Instrument' (PrEmo), and the 'Product and Emotion Navigator' (Desmet, 2002), have been developed to help designers evaluate and specifically measure users' responses and emotions towards new or existing products. Cho and Lee (2005) suggested that one of the most

important design considerations is to integrate such emotional factors into the design of consumer products, whilst Desmet and Overbeeke (2001) proposed that emotional factors could add additional worth to a product, augmenting its competitive advantage in the marketplace. It can be argued, however, that such a concept may not be workable in practice.

Product attachment relies heavily on engaging the user's emotions, which are '...by definition not durable but instead, through cognition, in constant interaction with our context, the social and the cultural' (Borjesson, 2007). Borgesson suggests that although the relevance of emotions can be acknowledged within product design, many designers and scholars believe it is too intangible to model or predict, and therefore to design emotionally sustainable objects is scarcely possible. Several researchers have suggested that in order to promote product attachment, designers should design products that are: (a) both useful and enjoyable; (b) evoke memories or facilitate the formation of associations between products and people, places or events; and (c) are useful in a social context (Mugge et al., 2005; 2007; Schifferstein & Zwartkruis-Pelgrim, 2008). Although all of these factors may influence product attachment, they differ in the degree to which designers can facilitate them explicitly through product design. There are simply too many personal and cultural variables associated with product attachment to incorporate all of them into the design of any one object. Nevertheless, this challenge provides a direction and rationale for further study; to design products with attributes that promote shared value in married couples.

2.4.3 Sustainability

Most products are ultimately discarded. Some modern products, such as electrical appliances, are not durable and are not designed to promote long-term emotional attachment. These rapidly become obsolete, leading to their disposal and the expansion of landfill sites (Chapman, 2005; 2009), whilst some products may frustrate their owners due to poor design and maintenance issues (Cooper, 1999). Through marketing strategies which induce a feeling

of inadequacy, consumers are often compelled to buy or replace older products. It has been suggested that one possible strategy to slow down product life cycles is to elevate the attachment people experience towards the products they use. When a person becomes attached to an object, he/she is more likely to take care of it, repair it when it breaks down, and postpone its replacement as long as possible. Hence there is a challenge for designers to strengthen the attachment between consumers and products by incorporating sustainability into the design process (McDonough et al., 2002; Schifferstein & Zwartkruis-Pelgrim, 2008). The design of sustainable products is not, however, a simple process and requires a complex holistic perspective taking into account many different dimensions, including theoretical frameworks, the psychology and behaviour of consumers, cultural, social, spiritual, aesthetic, and ethical issues, in addition to environmental impacts and improvements (Carlson, 2009; Chapman, 2005; 2009; Madge, 1997; McLennan, 2004). Consequently, the challenge of designing products specifically to ensure sustainability was beyond the scope of this study.

2.5 Gaps in the Literature

Gaps in the literature have been identified with respect to the development of product attachment theory, gender differences in product attachment, product attachment in marital relationships, and designing for product attachment.

2.5.1 Product Attachment Theory

This review of the literature has revealed that product attachment theory is a highly multi-dimensional concept that is not underpinned by a coherent set of definitions and/or fundamental principles. Although product attachment has been defined and measured variously in terms of emotional bonding, romance, satisfaction, self-expansion and/or self-projection, there is no universal definition of product attachment found within the literature and no consensus as to how exactly it should be defined or promoted. Although product attachment theory clearly necessitates an understanding of users' emotions, the importance of

physical/objective elements cannot be excluded. Consequently, product attachment theory is not so much a conceptual framework to explain why some people become attached to certain objects; rather it is more a confusing mix of concepts, evolved from variable notions and assumptions about how product attachment appears to function in practice, based mainly on the results of consumer surveys. A multitude of variables could potentially cause some people to become bonded to certain products in preference to others. This review identified five qualitative attributes of objects, classified as male, female, aesthetic, spiritual, and adaptational, which may be associated with product attachment. The values or worth of objects, which may promote or maintain product attachment, were classified into distinct categories, functionality, personal, emotional, social, symbolic, fiscal, interactive, affiliation, contemplative and shared. This review also identified different perceptions and experiences of individuals (gender, social status, self-projection, consumption, and satisfaction) that could be functionally related to product attachment.

The classification of attributes, values, perceptions, and experiences did not identify mutually exclusive categories, rather it produced a mixture of variables, many of which were inter-dependent on each other. Consequently, a theory of product attachment that includes the interactions between all of these variables is very difficult to formulate. There is currently a need to integrate the existing information on product attachment theory in order to develop a more comprehensive theory that embraces all the different dimensions and complexities related to such a concept. Patwardhan and Balasubramanian (2011) similarly recommended that more research is required to integrate theories associated with product attachment. For example, the relative roles played by product attachment theory and the self-expansion model are not clear. It was suggested that attachment theory may support the values of stability, tradition and endurance, whereas the self-expansion model may give more emphasis to the benefits of novelty and growth.

The proposal to integrate multiple theories associated with product attachment is supported by Anderson's (1991) information integration theory, imploring researchers to mix, combine, and extend multiple cognitions and ideas exploring how human perceptions and behaviours are formulated and changed. Theoretical integration, combining the best elements of several theories or different dimensions of one theory is believed to enhance the progress of science. The history of science has highlighted that all theory-based generalisations are incomplete, and that every theory can ultimately be undermined and discarded when new evidence is produced (Kuhn, 2012).

2.5.2 Gender

Much of the research discussed in this literature review has placed a strong emphasis upon understanding human emotions, perceptions, self-images and experiences, and their impact on product attachment; however, little research has been conducted to establish the extent to which gender differences play an important role in product attachment. This may be because designers may be adopting non-gender concepts to avoid sexual discrimination and to demonstrate their acceptance of feminism and alternative lifestyles within modern society (Carlton, 1997). Nevertheless, it must be recognised that gender neutral designs are not always acceptable in all situations (Basow, 1992; Moss, 1999; 2009; Popcorn & Marigold, 2000).

There will always be differences in gender perceptions and preferences with respect to certain products, assuming that men and women are inherently different (Moss, 2009). Consequently, there remains a gap in the literature with respect to identifying gender differences in product attachment and its practical implications for product design. Similarly, Caterall and Maclaran (2002) called for more research on the relationship between gender and consumer behaviour. Although I do not aim to directly tackle this deficiency, my findings may contribute some useful information on this important topic.

2.5.3 Marital Relationships

Most product attachment studies have conventionally centred on individuals, whereas collective attachments between partners sharing objects within a joint domestic environment have largely been neglected. Based on a relatively small sample, Olsen (1985) suggested that married couples may use household objects to help them highlight their history and/or future together, reflecting their episodic memories and the shared value that they mutually place upon specific objects. Individuals in close relationships may expand their personalities by adopting their partner's perspectives as if they were their own (Reimann et al., 2011). Although it is known that husbands and wives tend to shop differently, tend to buy different products for different reasons, and express different attitudes towards product attachment (Kotler et al., 1998; Moss, 1999), the extent to which product attachment is influenced by the context of a marital relationship is to a large extent unknown. This gap in the literature provides direction for the current study.

2.5.4 Consumption Experience

Consumption or user experience is a key term in the world of product design; however, the focus is usually about individuals having a satisfying experience with consumer goods and the kinds of experiences that are created collectively with others has been largely neglected (Batterbee & Kosinken, 2005). There is a gap in the literature concerning how products can be designed to promote collective user experiences, particularly between husbands and wives, providing further direction and rationale for the current study.

2.5.5 Designing for Product Attachment

It is evident that an important task of today's product designers is not only to create product appeal which will generate sales, but also to design durable products that will form a personal union with the purchaser and contribute towards a more sustainable future. The theory of product attachment, however, involves so many different variables that in practice it

has been found very difficult to implement product attachment theory into product design, thereby limiting the prevalence of literature on this topic.

Product attachment is achieved as a consequence of a complex combination of harmonious attributes in conjunction with a multiplicity of values, perceptions, memories and experiences that consumers and their local contexts bring to their interactions with products. In order to understand the influential factors which impact upon the vital functionalities of a product's life, it is essential for designers to also remember that product attachment is dependent upon the type of consumer. There is a gap in the literature concerning the practical applications of product attachment theory in the context of targeting the design of durable goods for specific sectors of the market. This current lack of knowledge concerning appropriate designs to instigate and maintain strong product attachment linked to the shared value of husbands and wives in long-term stable marital relationships provides a rationale and direction for my current study.

2.6 Research Questions

Following the identification of the gaps in the literature, the following research questions were devised to guide this study:

RQ#1: Are there gender differences in product attachment in the context of marital relationships?

RQ#2: What influences or motivates product attachment in the context of marital relationships?

RQ#3: What motivates husbands and wives to retain or dispose of domestic objects?

RQ#4: How do gender differences in product choices and preferences coexist and influence the dynamics of marital relationships?

RQ#5: How do marital relationships differentially affect couple's perceptions and attachments to domestic objects?

RQ#6: How do marital relationships motivate or influence product attachment?

RQ#7: How can information to expand product attachment theory in the context of marital relationships be translated into the design of domestic products?

RQ#1, RQ#2 and RQ#3 aim to guide the direction of this study with respect to collecting and analysing information concerning the perceptions and experiences of husbands and wives involved in long-term marital relationships through focusing on the attachments they form as a couple or as individuals with the domestic objects that they share in their households. RQ#4, RQ#5 and RQ#6 guide the direction of this study with respect to the influences of functionality, consumption experience, social status, self-projection, fiscal value and other factors, with respect to the product choices and preferences that coexist and influence the dynamics of marital relationships. RQ#7 addresses the purpose statement, asking how product attachment theory might be further developed for product design purposes. Overall, the seven research questions are concerned with providing information to expand the dimensions of product attachment theory, specifically with respect to: (a) developing the concept that married couples may use their mutual attachment to household objects to help them establish a history and future together, reflecting their shared value; and (b) how domestic items might be designed so that they invoke long term product attachment.

2.7 Appropriate Methodology

The review of the literature revealed that there is currently no agreed best practice to conduct studies to elucidate the phenomenon of product attachment or to develop product attachment theory, in terms of whose voices should be heard or the most appropriate research methodologies. Most of the reviewed research focused on the perceptions and experiences of consumers, with limited input from designers, manufacturers and marketers. Questionnaires and interviews were the most frequently used instrument to collect mainly qualitative information. The difficulties involved in collecting valid and reliable measurements of the

multitude of quantitative variables required to provide a comprehensive understanding product attachment and the complexity of the statistical analysis required to construct empirical models, appear to have limited the use of quantitative research methodologies (Park et al., 2009; Schifferstein & Zwartkruis-Pelgrim, 2008; Thomson et al., 2005). Qualitative methodologies, e.g. interviewing couples to explore their attitudes toward their attachment to certain products, appear to be a more feasible approach (Olsen, 1985).

Two qualitative research methodologies were considered for the purposes of this study: (a) ethnography; and (b) phenomenology. The purpose of ethnography is to describe and explain the functioning of the social world by observing members of a defined group interacting in a natural setting over an extended period of time. Ethnography is a flexible approach involving the researcher constantly developing new patterns of thought in response to what is being continuously observed (Brewer, 2000). Due to restrictions on time and resources, an ethnographic approach was not feasible for the purposes of this study. As revealed by the literature review, research on product attachment involves obtaining and interpreting a wide variety of information concerning value-judgments, perceptions, emotions and experiences. Consequently, this study loosely adopted the basic ideas of phenomenology, exploring the lived experiences of people from a first-person point of view and focusing on how intentions were directed towards attaching their consciousness to domestic and other everyday objects. Being reflexive as a professional designer and maker of consumer products, I consider myself to be a practitioner and not a philosopher. Consequently, this study does not engage in the existential aspects of phenomenology, nor is phenomenology applied in the form of a theoretical or explanatory framework.

The methods used in this study were informed by the underlying assumptions that: (a) the information required to address the research questions would be contained within the conscious experiences of married couples; and (b) because of this, it was necessary to engage

a sample of married couples to participate in the study. The research was conducted within the confines of the constructivist paradigm, supporting the view that human cognitive structures are assembled from the unique perceptions of each individual person (Creswell, 2009). Like Vygotsky (1978), I assume that people do not simply perceive colour and shapes in the world around them, they also perceive the reality and meaningfulness of individual objects, and that each individual person perceives different objects in slightly different ways. I also assume that my own feelings cannot be detached from the facts that are discovered; consequently, it is necessary for me to be reflexive and consider the ways in which my own personal viewpoints contribute towards the expansion of knowledge (Holland, 1999; Johnson & Duberley, 2003).

Eliciting information about human conscious experiences, including value-judgments, perceptions and emotions concerning product attachment, could potentially be performed in a variety of ways. The approach chosen for the purpose of this study was based on interviews involving visual elicitation through the inclusion of visual stimuli to stimulate the participant's feelings. The reason for using visual elicitation is that images evoke deeper elements of human consciousness. Interviews which use images to stimulate responses to questions not only elicit more information but also evoke a higher intensity of information. Visual elicitation permits the participant to use more of his/her brain capacity in order to evoke feelings and memories, which could not so easily be evoked by the use of words alone (Harper, 2002).

2.8 Research Strategy

The overall aim of the research strategy was to address the six research questions linked to attachment theory, specifically in the context of men and women involved in long-term marital relationships. The research questions focused on: (a) the attachments that husbands and wives form as couple or as individuals to the objects that they share in their

households; (b) the product choices and preferences that coexist and influence the dynamics of marital relationships; and (c) the practical applications of the findings in terms of the design of products for married couples. Because attachment theory is a diffuse and multi-dimensional concept with no consensus in the literature as to its conceptual or operational definition, nor the multitude of variables that it embraces, this study did not attempt to test or commit to the existing ideologies of the theory, but rather to expand its dimensions.

This study also aimed to gain empirically-based insights into aspects of the principles of product design driven by product attachment theory in the context of marital relationships. In accordance with the study's intention of subjective interpretation rather than objective measurement, the use of qualitative research methods is described and justified, including the identification, extraction, and interpretation of themes based on the review of the literature and the information provided by a small sample of married couples.

The strategy adopted was first to carry out a small-scale preliminary survey (Chapter 3 - The Preliminary Study), followed by an in-depth study (Chapter 4 - The Main Study) of a small sample of married couples. Information from these stages was then analysed and the results were used to identify categories of response that could be applied to define some of the criteria underlying the development of product attachment. The final stage of the research involved the design and construction of a collection of products which could be shown to meet these criteria. More detailed information concerning the methods used in these two studies is provided in the following two chapters.

2.9 Ethical Assurances

1.1 Because this study involved human participants it was reviewed by the University of Wales, Newport, Research Ethics Committee, and ethical approval was obtained. The participants were informed of the details and benefits of the research before deciding to participate, and received assurance that the survey and its conclusions would not be

detrimental to them. All the respondents were given the right to decline if they felt uncomfortable. The respondents were completely free to review the questions before participating and to assure themselves that the questions were not biased, offensive, invalid or unreliable. To guarantee individual privacy, the responses to the instruments were not personally identified with the respondents, and no names or any other personal details have been disclosed. Nothing that a respondent wrote or said as a contribution to this study could in any way influence them personally or professionally.

CHAPTER 3: PRELIMINARY STUDY

The first phase of the research was in part, a preliminary 'test-of-concept' study. The aim was to collect background information regarding peoples' relationships with household objects. The findings of the preliminary study were used to: (a) determine if the attributes, values, perceptions and experiences associated with product attachment that emerged from the literature review could also be extracted from empirical data collected in the field; and (b) contribute towards the development of a valid and reliable instrument for the main study.

3.1 Methods for the Preliminary Study

I collected qualitative information using a series of short and informal face-to-face interviews with 16 married individuals (9 women and 7 men). The interviews took place at a variety of public locations, such as supermarkets, coffee shops and whilst travelling on the train. This was a convenience sample because only those individuals who were willing and available were selected. Visual elicitation was used to stimulate the responses of the participants to images printed on separate photo cards. The images displayed the 26 domestic objects listed in Table 3.1. The emphasis upon everyday domestic objects was in light of Csikszentmihalyi and Rochberg-Halton's (1981) suggestion that such objects represent the endogenous being of the owners, because they are most bound up within the owner's identity and way of life.

Domestic objects are commonly used in the home environment by both husbands and wives; consequently, the design and function of these objects must appeal to both genders. In each interview the cards were randomly displayed to the participants who were asked to discuss the perceived function of the objects, their emotional responses to the objects, and their reasons for attachment to them. The interview responses were recorded in a Microsoft

Excel spreadsheet in the format indicated by the example provided in Table 3.1. A total of 416 records (26 objects × 16 respondents) were analysed and are collated in Appendix A.

Table 3.1 - Example of the recording of interview responses for the preliminary study

Record	ID	Gender	Object	Perceived Function	Emotional Responses/Reasons for Attachment
1	1	F	Wedding Rings	Indicate marital status	Sentimental
2	1	F	Bible	Religious teaching	Faith, reassurance
3	1	F	Clothing, Designer Brand outfits	Warmth, covering, protections	Status, pride
4	1	F	Undergarments	Cleanliness, modesty	Sexiness, sensuality, comfort
5	1	F	Wallets or purses	Contains money, trends, personal effects (photos etc.)	Status, security
6	1	F	Camera, Photographs, Photo Album	Photos	Memories
7	1	F	Reading Glasses	Reading	Style, personality, dependency
8	1	F	Desktop PC or Lap top	Access to internet and work	Freedom, security, convenience
9	1	F	Bike	Mobility, transport	Freedom, enjoyment
10	1	F	Our tablecloth	Protection of valued table	Family memories
11	1	F	Bed	Sleeping, sex,	Comfort, warmth, relaxation
12	1	F	Phone, Mobile Phone, iPhone	Communications	Security, convenience, status, dependency
13	1	F	Home	Place to live	Comfort, security, uniqueness, warmth
14	1	F	Books	Information, education, entertainment, enjoyment	Memories
15	1	F	iPod (music)	Entertainment	Relaxation, freedom, enjoyment, memories.
16	1	F	Deck of cards	Entertainment	Gambling, addiction
17	1	F	Car	Transport	Security, status, freedom, convenience
18	1	F	TV and Sky Box	Entertainment	Convenience, enjoyment, reliability
19	1	F	College Diploma and Transcripts	Educational evidence	Pride, status, achievement
20	1	F	Sofa	Comfort	Memories, security
21	1	F	First aid Kit	Security	Security
22	1	F	Coffee cups	Drinking coffee.	Functional
23	1	F	Space vacuum bags	Space saving	Convenience, contain memories,
24	1	F	Quilt	Warmth,	Comfort, security
25	1	F	Home aquarium	Pet storage	Memories, tranquillity
26	1	F	Wall clock	Time	Reliability, security, functional , information

3.2 Results of the Preliminary Study

The results of the content analysis of the interview responses conducted with the 16 married participants (7 men and 9 women) with respect to 26 household objects are presented systematically in the following eight sections, based on the themes of: (1) functionality; (2) gender attributes; (3) aesthetic and spiritual attributes (4) interactive value and consumption experience; (5) emotional and affiliation value; (6) social/symbolic value, social status, self-projection and fiscal value; (7) shared value; and (8) support for product attachment theory.

3.2.1 Functionality

It was necessary to own or use the object before product attachment could be manifested. Out of a total of 416 responses (16 participants \times 26 objects) only a small proportion (47, 11.3%) had not owned or used the objects in question and could therefore not comment on their functionality or discuss their emotional reactions and attachment levels to these objects. The majority (342, 82.2%) of the respondents referred to the obvious functionality of 25 of the objects (Table 3.2) and only one object (wedding ring) was perceived by all the participants to have no clear functional value. Non-functional values attributed to the other objects included: 'love, treasure, memories' for a wallet or purse; 'enjoyment, feelings' and 'passion' for iPods (music); 'achievements are academic when you get a job' for a College Diploma and Transcripts; and 'no function' for a Bible.

Table 3.2 - Frequencies of responses with respect to functionality

Object	Functionality			Total
	Non-functional value	Functional value	Not owned /used	
Bed	0	16	0	16
Car	0	16	0	16
Clothing, Designer Brand outfits	0	16	0	16
Desktop PC or Lap top	0	16	0	16
First aid Kit	0	16	0	16
Home	0	16	0	16
Phone, Mobile Phone, iPhone	0	16	0	16
Sofa	0	16	0	16
Undergarments	0	16	0	16
Bike	0	15	1	16
Books	0	15	1	16
Camera, Photographs, Photo Album	1	15	0	16
Coffee cups	0	15	1	16
TV and Sky Box	0	15	1	16
Wallets or purses	1	15	0	16
Quilt	0	14	2	16
Wall clock	0	14	2	16
Deck of cards	0	13	3	16
Our tablecloth	0	13	3	16
iPod (music)	2	12	2	16
College Diploma and Transcripts	1	11	4	16
Reading Glasses	0	10	6	16
Bible	2	9	5	16
Home aquarium	0	8	8	16
Space vacuum bags	0	7	9	16
Wedding Rings	16	0	0	16
Total	23 (5.5%)	345 (82.9%)	48 (11.5%)	416 (100.0%)

3.2.2 Gender Attributes

Table 3.3 presents the frequencies of the responses with respect to gender attributes. Relatively few (15, 3.6%) of the responses of the men referred to their attachment to objects with male attributes, such as bikes, cars, playing cards, iPods and sofas (i.e. relaxation or

activity oriented objects) or objects which are productive (e.g. desktop PC or Laptop), expressing the masculine desire to be independent and take an active role.

Table 3.3 - Frequencies of responses with respect to gender attributes

Object	Attribute	
	Male	Female
Bed	0	3
Bible	0	0
Bike	5	3
Books	1	1
Camera, Photographs, Photo Album	0	13
Car	2	2
Clothing, Designer Brand outfits	0	1
Coffee cups	0	6
College Diploma and Transcripts	0	0
Deck of cards	2	2
Desktop PC or Lap top	1	1
First aid Kit	0	3
Home	0	8
Home aquarium	0	1
iPod (music)	3	1
Our tablecloth	0	4
Phone, Mobile Phone, iPhone	0	1
Quilt	0	9
Reading Glasses	0	1
Sofa	1	2
Space vacuum bags	0	0
TV and Sky Box	0	0
Undergarments	0	6
Wall clock	0	1
Wallets or purses	0	1
Wedding Rings	0	15
Total	15 (3.6%)	85 (20.4%)

In contrast, a higher proportion of responses, mainly from women (84, 20.2%) referred to their attachment to self-expressive objects, reflecting the feminine look, form or personal emotional perspective, including sentimentality and having a family-oriented role. The emotional reactions to twenty-two of the objects (excluding bibles, college

diplomas/transcripts and space vacuum bags) were defined by feminine attributes, e.g. 'family together' for a bed; 'family occasions' for a bike; 'sentimental, love, memories' for photographs and photo albums; 'family memories' for a deck of cards; 'snuggling together, emotional' for a quilt; 'sexuality, sexiness, comfort' for undergarments; 'fashion and style' for clothing, and 'family, readiness, routine' for wall clocks and 'commitment, belonging, emotional, sentimental, love' for wedding rings.

3.2.3 Aesthetic and Spiritual Attributes

Table 3.4 presents the frequencies of responses with respect to spiritual and aesthetic attributes. Only a small proportion (12, 2.9%) of the responses referred to the participants attachment to objects because of perceived aesthetic or fashionable attributes, including: 'art' for photographs; 'ornamental' for a home aquarium; 'style' for a quilt; 'aesthetics, decoration, art, style and appealing to look at' for a wall clock; 'look nice' for undergarments, and 'fashion and style' for clothing. An even smaller proportion (10, 2.4%) referred to spiritual attributes, all with respect to the Bible.

Table 3.4 - Frequencies of responses with respect to spiritual and aesthetic attributes

Object	Attribute	
	Aesthetic	Spiritual
Bed	0	0
Bible	0	10
Bike	0	0
Books	0	0
Camera, Photographs, Photo Album	1	0
Car	0	0
Clothing. Designer Brand outfits	2	0
Coffee cups	0	0
College Diploma and Transcripts	0	0
Deck of cards	0	0
Desktop PC or Lap top	0	0
First aid Kit	0	0
Home	0	0

Object	Attribute	
	Aesthetic	Spiritual
Bed	0	0
Bible	0	10
Bike	0	0
Home aquarium	1	0
iPod (music)	0	0
Our tablecloth	0	0
Phone, Mobile Phone, iPhone	0	0
Quilt	1	0
Reading Glasses	2	0
Sofa	0	0
Space vacuum bags	0	0
TV and Sky Box	0	0
Undergarments	1	0
Wall clock	4	0
Wallets or purses	0	0
Wedding Rings	0	0
Total	12 (2.9%)	10 (2.4%)

3.2.4 Interactive Value and Consumption Experience

Interactive value refers to the worth that an owner places upon an object due to the consumption experience offered while using the object. Table 3.5 presents the frequencies of the responses with respect to interactive value and consumption experience. Objects with interactive value included electronic gadgets, computers, musical instruments and sports equipment. Interactive values was reflected in 27 (6.5%) of the responses, referring to desktop PCs and laptops computers (e.g. 'communicate work, calendars, social networking, reference source') and phones (e.g. 'personal and work communication, daily contact, research, keep in touch, calling friends, texting'). Positive consumption experiences were reflected in 35 (8.4%) of the responses (e.g. 'escape, fitness, relaxation, health' for bikes; 'enjoyed them' for books; 'entertainment' for computers and iPods; 'snuggle up, go relax and

watch a good film' for a sofa; and 'keep me on track, always an eye on the clock' for wall clocks).

Table 3.5 - Frequencies of responses with respect to interactive value and consumption experience

Object	Value	
	Interactive value	Consumption experience
Bed	0	0
Bible	0	0
Bike	0	7
Books	0	3
Camera, Photographs, Photo Album	0	0
Car	0	3
Clothing. Designer Brand outfits	0	2
Coffee cups	0	2
College Diploma and Transcripts	0	0
Deck of cards	0	0
Desktop PC or Lap top	12	4
First aid Kit	0	0
Home	0	0
Home aquarium	0	0
iPod (music)	0	2
Our tablecloth	0	0
Phone, Mobile Phone, iPhone	15	1
Quilt	0	3
Reading Glasses	0	0
Sofa	0	4
Space vacuum bags	0	0
TV and Sky Box	0	0
Undergarments	0	1
Wall clock	0	3
Wallets or purses	0	0
Wedding Rings	0	0
Total	27 (6.5%)	35 (8.4%)

3.2.5 Emotional and Affiliation Value

About a quarter of the responses (103, 24.8%) were concerned with the emotional value of the objects, reflected by reports of thoughts, heightened feelings and emotional states such as 'fun, pleasure, enjoyment, excitement, relaxation, peace, security' (Table 3.6).

Table 3.6 - Frequencies of responses with respect to emotional and affiliation values

Object	Value	
	Emotional	Affiliation
Bed	8	1
Bible	0	1
Bike	4	3
Books	7	0
Camera, Photographs, Photo Album	16	16
Car	3	1
Clothing, Designer Brand outfits	2	2
Coffee cups	4	7
College Diploma and Transcripts	1	0
Deck of cards	6	6
Desktop PC or Lap top	1	6
First aid Kit	1	2
Home	1	2
Home aquarium	5	1
iPod (music)	9	3
Our tablecloth	1	3
Phone, Mobile Phone, iPhone	1	13
Quilt	9	1
Reading Glasses	2	0
Sofa	6	2
Space vacuum bags	1	0
TV and Sky Box	9	0
Undergarments	4	0
Wall clock	1	1
Wallets or purses	1	2
Wedding Rings	16	16
Total	103 (24.8%)	49 (11.8%)

With the exception of the Bible, all of the objects used in this study elicited emotional responses from at least one participant. It was evident that the emotional responses to each object were related to the participants' personal experiences. The highest frequency of emotional responses was for cameras, photographs, and photo albums including 'happy memories, nostalgia and shared history', indicating that reflective recollections were closely linked to emotional reactions. Affiliation value refers to an object representing the past and/or present relationships of an individual. It included the reflective recollections elicited by photographs, wedding rings and personal relationships established using computers, laptops, phones, mobile phones and iPhones, and consequently, emotional value and affiliation value were not easy to separate. Affiliation value was reflected by 20 of the 26 objects, including 'symbol of family together' for a bed; 'given as a christening present' for a Bible; 'family occasions' for a bike; 'holidays/time together' for a car; 'sense of place, gossip, advice, memories (remind me of a person), husband makes my coffee every day' for coffee cups; 'family memories' for a home; 'family dinner, togetherness' for a tablecloth. Objects received as gifts from loved ones, including coffee cups, iPods, tablecloths, mobile phones, wall clocks, and wallets or purses, were also classified as having affiliation value.

3.2.6 Social/Symbolic Value, Self-projection, Social Status, and Fiscal Value

A relatively small proportion of the responses (32, 7.7%) reflected the symbolic value of the objects, i.e. their portrayal of an image that the owner personally aimed to develop. The term 'status symbol' was referred to in 9 (2.2%) of the responses (Table 3.7). Various objects were perceived to have symbolic value, including the Bible, bikes, cars, designer brand outfits, college diploma/transcripts, computers, homes, iPods, phones, reading glasses, undergarments, and wedding rings.

Only a few of the responses (9, 2.2%) referred to self-projection or the extent to which the participants used an object to maintain or extend their self-concept. For example,

'status, pride, style, fashion, confidence in appearance, expresses beliefs in personality' was quoted for designer brand outfits; 'part of who I am, personal achievement, success' for college diploma/transcripts, 'fashionable and funky' for reading glasses, and 'sexiness, sexuality' for undergarments. None of the participants referred to the financial cost of the objects, implying that fiscal value would not be a reason for creating product attachments.

Table 3.7 - Frequencies of responses with respect to social/symbolic value, self-projection, social status, and fiscal value

Object	Value			
	Soci al/ Symbolic	Self- Proj ectio n	Status Symbol	Fiscal value
Bed	0	0	0	0
Bible	1	0	0	0
Bike	1	0	1	0
Books	0	0	0	0
Camera, Photographs, Photo Album	0	0	0	0
Car	3	0	3	0
Clothing, Designer Brand outfits	6	7	3	0
Coffee cups	0	2	0	0
College Diploma and Transcripts	4	5	0	0
Deck of cards	0	0	0	0
Desktop PC or Lap top	1	1	0	0
First aid Kit	0	0	0	0
Home	3	2	1	0
Home aquarium	0	0	0	0
iPod (music)	1	0	1	0
Our tablecloth	0	0	0	0
Phone, Mobile Phone, iPhone	1	1	0	0
Quilt	0	0	0	0
Reading Glasses	1	1	0	0
Sofa	0	0	0	0
Space vacuum bags	0	0	0	0
TV and Sky Box	0	0	0	0
Undergarments	0	1	0	0
Wall clock	0	0	0	0
Wallets or purses	1	0	0	0
Wedding Rings	9	0	0	0
Total	32 (7.7%)	20 (4.8%)	9 (2.2%)	0 (0.0%)

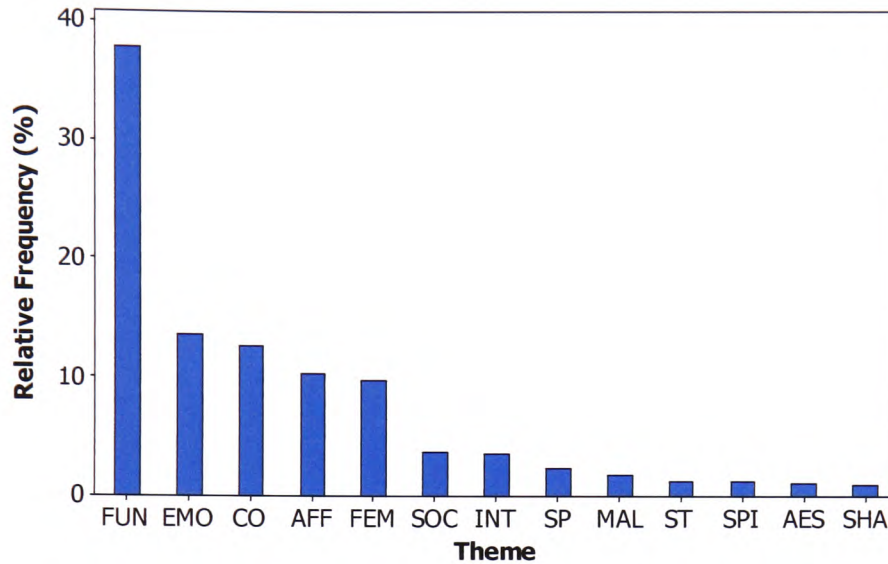
3.2.7 Shared Value

Because the respondents were not interviewed as couples, the theory of shared value (i.e. that certain household goods may induce emotional attachment in both partners in a marital relationship) could not be explored in the preliminary study. A few implicit references to shared value were, however, identified. One of the respondents referred to cameras, photographs, and photo-albums, enabling her to 'capture special events – memories' in order to create a 'shared history'. Other participants provided implicit references to shared value. Typical examples include 'love and commitment to partner, shows I am named' (for wedding rings); 'sex' (for beds); and 'my husband makes me coffee every day' (for coffee cups).

3.2.8 Support for Attachment Theory

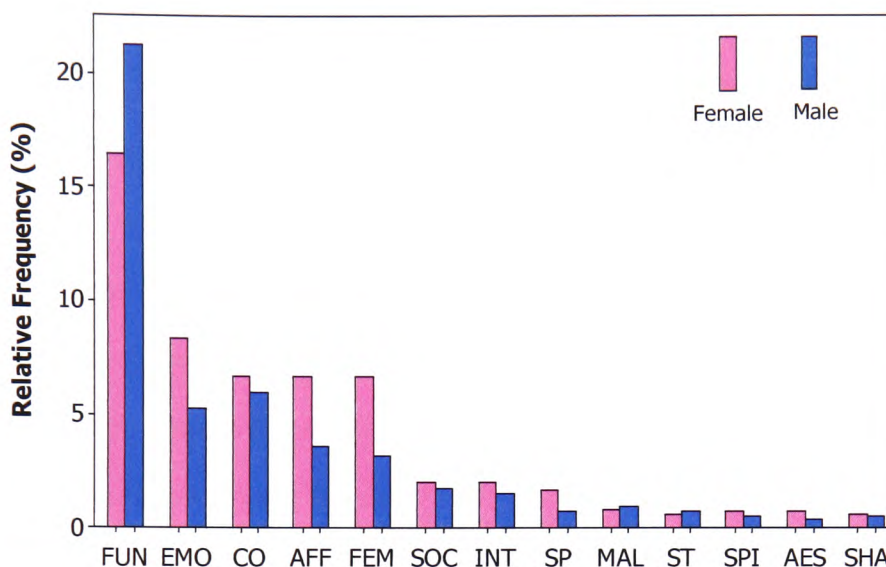
The results support product attachment theory, contributing towards an understanding of the bonding between individuals and their objects of attachment. The themes of functionality (FUN), emotional value (EMO), consumption experience (CO), affiliation value (AFF), feminine attributes (FEM), social/symbolic value (SOC), interactive value (INT), self-projection (SP), male attributes (MAL), social status (ST), spiritual attributes (SPI), aesthetic attributes (AES) and shared value (SHA) in order of their relative frequency are compared visually in Figure 3.1.

Figure 3.1 - Frequency distribution of themes extracted from the interview responses



Functionality, consumption experience, and interactive value were frequent themes associated with the objects. Affective reactions to objects, implying bonding, as represented by emotional value, affiliation value, male/female attributes, social/symbolic value, self-projection, social status, spiritual/aesthetic attributes and shared value were also frequently encountered. The frequency distributions of the themes varied between males and females as indicated in Figure 3.2

Figure 3.2 - Frequency distribution of themes classified by gender



The responses of the males were relatively more frequent than females for the themes of functionality (FUN) and male attributes (MAL). The highest frequencies for the themes involving emotional reactions to the objects, however, were provided by the females, especially for emotional value (EMO), feminine attributes (FEM) and affiliation value (AFF). These results confirmed the existence of gender differentiation with respect to the perceived relationships of the participants with household objects. These results support previous research concluding that feminine or masculine characteristics may relate to products which draw a gender related distinction, the functionality of a product may impact men more than women, and that emotional reactions to products may be more prevalent among women (Moss, 2009).

3.3 Implications for the Main Study

Before the instrument was constructed for the main study, information to help improve its face, content and construct validity was obtained by means of insights gained from analysis of the results of the preliminary study. Based on the results of the preliminary

study, it was concluded that: (a) it is relatively easily to stimulate both men and women to discuss their reactions to domestic objects by visual elicitation through use of a photographic image of an object to evoke memories; (b) both men and women, but especially women, readily divulge a mixture of diverse emotional reactions to photographs of domestic objects they are presented with during face-to-face interviews; and (c) the following questions would be appropriate to invoke more detailed responses than those in the preliminary study:

- (1) How did you acquire this object?
- (2) When did you acquire this object?
- (3) How frequently do you use this object?
- (4) Where do you keep this object?
- (5) In the case of it breaking, would you ever donate, dispose, repair or replace this object and why?
- (6) Do you feel emotionally connected to this object?
- (7) Does your partner share your emotional attachment to this object?
- (8) What makes this object special?
- (9) What functions does this object serve?
- (10) Please describe your action when you first saw this object
- (11) Please describe the design and aesthetic of this object, and how does it appeal to you?
- (12) Does your partner own any objects that you dislike and why?
- (13) Please describe objects that reflect you or your personality
- (14) Other thoughts and comments

It was also considered appropriate to conduct a content analysis of the interview responses using the themes identified in the preliminary study for purposes of thematic coding. The results of the preliminary study confirmed that the responses could be relatively easily classified using the themes of: functionality (FUN); gender attributes (MAL and

FEM); aesthetic attributes (AES); spiritual attributes (SPI); interactive value (INT); consumption experience (CO); emotional value (EMO); affiliation value (AFF); social/symbolic value (SOC); social status (ST); self-projection (SP); fiscal value (FIS); and shared value (SHA). Because of gender differentiation in the responses to the preliminary study among individual respondents and the lack of information obtained on shared value, it was considered essential in the main study to: (a) interview married couples separately so that their views would not contaminate each other; and (b) identify household objects that may establish the history or future of married couples representing shared value, including gifts, conjugal property, and other objects that both husband and wife were attached to for the same or different reasons.

CHAPTER 4: MAIN STUDY

This chapter reporting on the main study phase is comprised of twelve sections. The first seven describe the methods: (4.1) the target population is defined; (4.2) the sampling of participants is described; (4.3) the instrument used to collect information is presented and the administration of this instrument described; and (4.4) the qualitative analytical strategy employed to interpret the collected information is outlined. Issues concerned with (4.5) credibility, (4.6) dependability and (4.7) reflexivity, are also discussed. The results of the study are presented in the final five sections, classified according to: (4.8) ten belongings that the participants would not sell; (4.9) one object which affected participants or their relationships with partners; (4.10) objects that are disliked by the partners of the participants; (4.11) objects that reflect the participants' personality; and (4.12) congruence between partners' choices of objects. The raw data are collated in Appendices 1 to 17.

Methods for the Main Study

4.1 Target Population

The target population for the main study consisted of couples who satisfied the following inclusion criteria: (a) they must be involved in a stable long-term heterosexual relationship; (b) they must have lived together in their family homes in South Wales or Southern England for at least six months; (c) they must share the use of household objects; and (d) they must be of similar socio-economic status and academic background. No attempt was made by the researcher to obtain a sample of couples that statistically represented this target population in all of its essential demographic and cultural details. A representative sample drawn from the target population was not necessary because external validity was not an issue. It is therefore essential not to generalise the results and conclusions of this study to the target population as a whole. In quantitative research involving the statistical

analysis of numerical data, it is important to consider external validity; however, such considerations were redundant in this study because the aim was to provide qualitative data in order to describe the phenomenon of product attachment and to generalise the findings to theoretical propositions (i.e. the dimensions of product attachment theory) but not to populations, (Creswell, 2009). Consequently, whether or not the results and conclusions of this study hold for other married persons in other places and at other times outside the boundaries of this study, was not considered to be a threat to its validity.

4.2 Sampling

Theory-based generalisation is an accepted rationale for qualitative research in social science; however, some qualitative studies using a small convenience sample of participants (i.e. people who just happen to be available at a certain time and place) are merely descriptive, so that the information they provide may be insufficient to serve as a vehicle for generalisation (Babbie, 2009). In order to achieve the aims of this study, therefore, a purposive sample was recruited for the main study. Purposive sampling is appropriate in situations where a narrow or specialised sector of the population is required (Creswell, 2009). A small purposive sample of couples satisfying the inclusion criteria was therefore recruited who could potentially: (a) facilitate a valid and reliable description of the phenomenon of product attachment in the context of marital relationships; (b) reflect the variability in perceptions and experiences that may exist among a small sample of couples; and (c) provide a set of data that could be analysed and interpreted effectively to answer the research questions and support the development of product attachment theory and its practical applications.

4.2.1 Snowball Sampling

Sampling began with the selection of a small number of individuals satisfying the inclusion criteria and was followed by expansion of the sample through personal referrals. This technique is known as snowball sampling because as more participants are recruited through mutual association, the sample increases in size, like a snowball that rolls and collects more snow (Babbie, 2009). Two married couples were initially recruited after they responded to advertisements placed in coffee shops in Cardiff and Reading. These two couples were asked to recruit six more couples that were interested in participating in the study. Snowball sampling permitted the researcher to recruit married couples that might otherwise be reluctant to participate, as well as being quick, cheap and efficient to administer in practice. The disadvantage was that the recruits in a snowball sample tend to refer to friends that they know well (Babbie, 2009). Consequently, all the participants in this study had a similar socio-economic status and an educational background of a university degree. Because of this, it is possible that all the participants shared similar traits and/or characteristics, and may also display a relatively narrow range of perceptions and experiences with respect to product attachment.

4.3 Instrumentation

The instrument developed specifically for the purpose of this study was distributed in June 2010 to the eight married couples who agreed to participate. This instrument was developed and validated following the insights gained from the results of the preliminary study performed earlier in 2010. The respondents were informed that the study had received approval from the Ethics Committee of the University of Wales, Newport, and that their participation represented a valuable contribution. The participants were made aware of the aims of the study, its ultimate objectives, and ethical assurances were provided. The questionnaire consisted of three questions concerning attachment to household objects and

was expected to take about 15-20 minutes to complete. Husbands and wives were asked to complete the questionnaire separately and without consulting each other. A disposable camera was provided for the participants to take images of the special objects that they selected. Subsequently, semi-structured interviews were conducted on a one-to-one basis with each participant in order to elicit more detailed information about the special objects that they had chosen.

4.3.1 Administration of Questionnaires

A short questionnaire was designed to stimulate rapid responses and to avoid the participants becoming bored (Merriam, 2009). The participants were given 2-3 weeks to complete the questionnaire (see Appendix B) in which they were asked the following questions: if you were to sell all of your belongings, except for 10 objects, what would those objects be? List several objects which you think are valuable to your husband/wife, but which do not necessarily have any value to yourself. List several objects that you have owned for a few years. These objects may or may not have obvious emotional value, but they should have affected you or your relationship with your partner, in some way. Choose only one special object and provide more detailed information about that object.

4.3.2 Administration of Interviews

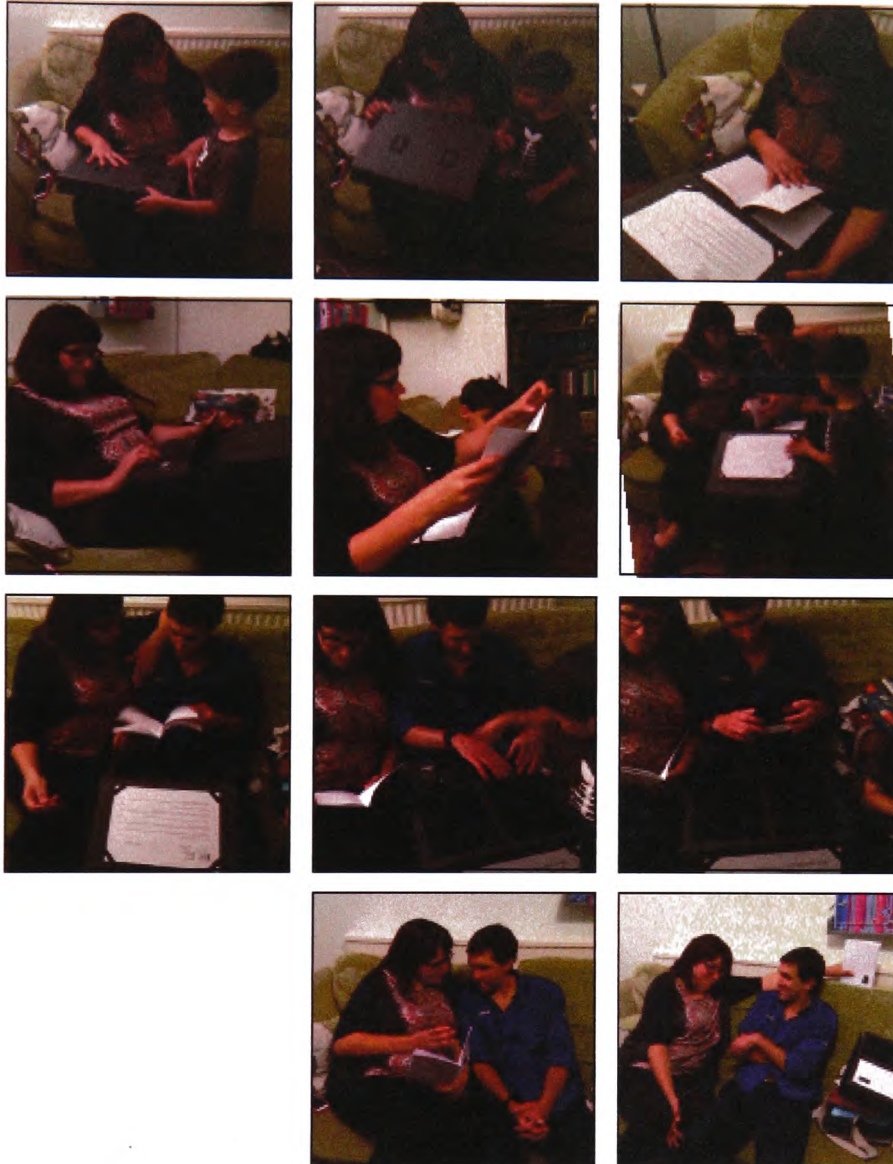
After the questionnaires had been completed, interviews were subsequently conducted on a one-to-one basis with each participant in their own home between July and October 2010. The aim of the interviews was to ensure that the respondents understood the questionnaire, and in particular, to elicit more detailed information about the one special object that they had chosen. The interview style generally became more structured as the interviews progressed, with closed structured questions being introduced, requiring a more focused answer to avoid confusion or a lack of understanding (Merriam, 2009). The responses of the participants were recorded during the interviews in note form. A voice

recorder was not used because an informal atmosphere was considered to be beneficial, whereby the participants could feel comfortable and express their innermost emotions without feeling embarrassed. The advantage of interviews relative to questionnaires was that they permitted me to develop a rapport with each respondent and to assist him/her to answer, for example by clarifying questions and encouraging discussion. The disadvantage of interviews was that the data collection time was longer, so that only a small number of respondents could be physically contacted in the limited amount of time available to conduct this study. A photographic image of the special object that the participant had chosen was used to evoke memories and to promote intense responses to the following questions:

- (1) How did you acquire this object?
- (2) When did you acquire this object?
- (3) How frequently do you use this object?
- (4) Where do you keep this object?
- (5) In the case of it breaking, would you ever donate, dispose, repair or replace this object and why?
- (6) Do you feel emotionally connected to this object?
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- (8) What makes this object special?
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- (12) Does your partner own any objects that you dislike and why?
- (13) Please describe objects that reflect you or your personality
- (14) Other thoughts and comments.

To ensure anonymity and compliance with the confidentiality clause in the participant consent form, only one couple were photographed whilst receiving the instrument used in the main study (Plate 4.1). Although the couple agreed to be photographed, they still wished to remain anonymous and therefore their names are not included here.

Plate 4.1 - Photographs of participants receiving the instrument used in the main study



A mosaic of images collected from a selection of the participants using the disposable cameras provided with the instrument are presented in Plates 4.2, 4.3 and 4.4. These images were found to be very useful to stimulate responses to the questions as they not only elicited more information, but also evoked a higher intensity of information based on the feelings and memories of the participants, which could not so easily be evoked through the use of words alone (Harper, 2002).

Plate 4.2 - Photographs of special objects chosen by the participants (1)



Plate 4.3 - Photographs of special objects chosen by the participants (2)



Plate 4.4 - Photographs of special objects chosen by the participants (3)



4.3.3 Alignment of Instruments with Research Questions

In some qualitative studies it may be possible to simply align one research question to one questionnaire/interview item and for mutually exclusive themes to be associated with one research question (Babbie, 2009). Because the responses to each questionnaire/interview item used in this study could simultaneously tap several dimensions of product attachment theory and the themes were not mutually exclusive, it was not possible to construct a simple and explicit one-to-one alignment between each item and each research question. An attempt to align the research questions with multiple interview items is, nevertheless, presented in Table 4.1. RQ#7: 'How can information to expand product attachment theory in the context of marital relationships be translated into the design of domestic products?' is excluded from Table 4.1 because the participants were not asked direct questions about how products could be designed. This research question was addressed after the responses of the participants had been interpreted.

Table 4.1 - Alignment of research questions with the instrument items

Research questions	Questions implied by questionnaire and interview items
RQ#1: Are there gender differences in product attachment?	Do husbands tend to prefer special objects with a functional value, serving a consumer experience, particularly those that they could interact with? Do wives tend to prefer special objects with no functional value and/or which exhibit feminine attributes, reflecting a personal emotional perspective, including sentimentality, and taking a home-oriented role?
RQ#2: What influences or motivates product attachment?	How do the attributes and values of the special objects and/or the experiences and perceptions of the participants influence or motivate product attachment among the participants?

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RQ#2: What influences or motivates product attachment?	How do the attributes and values of the special objects and/or the experiences and perceptions of the participants influence or motivate product attachment among the participants?

after the collection of qualitative data. In this study the themes were identified mainly by reviewing the literature and from insights gained by analysis of the results of the preliminary study. The thirteen pre-defined themes relating to the attributes and values of objects are listed in Table 4.2

Table 4.2 - Themes relating to attributes and values of objects

Theme	Code
Male attributes	MAL
Female attributes	FEM
Aesthetic attributes	AES
Spiritual attributes	SPI
Adaptational attributes	ADA
Functionality - Functional value	FUN
Functionality - Non-functional value	NFU
Interactive value	INT
Social/Symbolic Value	SOC
Affiliation value	AFF
Personal value	PER
Contemplative value	CON
Emotional value	EMO
Fiscal value	FIS
Shared value	SHA
Attachment theory	AT
Consumption experience	CO
Social Status	ST
Self-projection	SP
Self-projection (Diffuse)	SP (D)
Self-projection (Private)	SP (PR)
Self-projection (Public)	SP (PU)
Self-projection (Collective)	SP (CO)

4.4.2 Content Analysis

Content analysis is widely used within social science for extracting themes from recorded communication, including speech, written text, interviews and images (Creswell,

2009). It involves the identification, extraction and interpretation of themes from selected units of communication (Krippendorff, 2004; Neuendorff, 2002). Content analysis is not limited to the themes that may be extracted, the context in which the themes are created nor the type of reasoning employed. Content analysis may involve inductive inference (i.e. a top-down approach in which pre-conceived themes are formulated and subsequently extracted from the data) or deductive inference (i.e. a bottom-up approach, in which themes that are unknown at the beginning are extracted after reviewing the data). The essential feature of the content analysis used in this study was that a direct link was established between the literature, the research questions, the results of the preliminary study and the qualitative information collected from each participant. Because the research questions had already been aligned to themes using information from the literature review, the content analysis was essentially based on a top-down approach. Sub-themes also arose in the process of extracting the pre-defined themes, requiring a bottom-up approach. For example, sub-themes described the locations where the participants kept the object they were attached to, and whether or not they would dispose of, replace or repair the object if it was broken or lost. The analytical strategy focused on: (a) identifying and extracting themes by coding, categorising, and classifying units of communication; and (b) interpreting the themes and constructing frequency distributions to describe the emerging patterns and make inferences concerning the manifest or latent intentionality of the messages that were conveyed.

The units of the content analysis were individual words, phrases or sentences provided by each participant. These units were recorded verbatim and were entered into the content analysis in full. The responses were not summarised, slanted or distorted, and biased interpretations of their manifest or latent meanings were avoided. This strategy ensured that the responses of all the participants were included and all the participants were given equal priority. The units of communication were categorised using the codes presented in Table

4.2. The linking of one or more codes to one unit of analysis confirmed agreement or disagreement with one or more of the themes. The alignment of codes to objects was because the themes were not mutually exclusive, and many units of analysis were linked to more than one code. For example, an expensive item of jewellery, which was a gift from a husband to a wife, could be classified as non-functional (NFU) but at the same time it could also have feminine attributes (FEM) and an affiliation value (AFF), as well as projecting a self-image (SP).

CAQDAS (computer assisted qualitative data analysis) software (e.g. Nvivo) was not used for the content analysis. The searching, coding, categorising and sorting was performed using a Microsoft Excel spread sheet, which was also used to construct the tables and figures. I found that CAQDAS software was insufficiently powerful to resolve very fine nuances, subtleties and narrow degrees of meaning from the responses of the participants. A higher degree of resolution, requiring researcher intervention and subjective interpretation, was required to discriminate between closely related themes and sub-themes. I agree with St John and Johnson's (2000) that CAQDAS software involves too many mechanistic and rigid processes, and places pressure on the researcher to focus on volume and breadth, rather than on depth of meaning.

The codes corresponding to the themes were sorted, tallied and used to construct frequency distributions (pie diagrams and histograms). The final stage of the content analysis was to interpret the themes in order to address the research questions. The information was classified into male and female responses when addressing RQ#1, RQ#3, and RQ#4 and into motivations and influences when addressing RQ#2, RQ#5, and RQ#6.

4.5 Credibility

Credibility means that the results of qualitative research must be valid and believable (Lincoln & Guba, 1985; Merriam, 2009). Credibility implies that: (a) the

participants believe that what they communicate is true; (b) the information provided by the participants is not distorted by the researcher; and (c) other researchers who review the findings can legitimately judge and confirm their believability. The main threat to credibility is response bias. What people say when they are interviewed may reflect their own subjective reality; however, subjective reality may be an illusion or a distorted view of reality, and is not necessarily true (Steinar, 1996; Willis, 1998). In addition, the weakness of face-to-face interviews is that the respondents may only directly answer specific questions, and consequently, the outcomes are dependent on the quality of the questions posed by the researcher (Merriam, 2009). For the purposes of this study it was assumed that the participants would be truthful when they answered the questions; however it was expected that a few participants might provide biased responses. There are many reasons for response bias in interview data. For example, some respondents may not want to share their innermost feelings on sensitive issues concerned with their sexuality (Catania et al., 1986).

4.6 Dependability

To ensure dependability the procedures used in a qualitative study must be reported in detail, thereby enabling a future researcher to repeat the work, if not necessarily to gain the same results (Lincoln & Guba, 1985; Merriam, 2009). Even though the methods are described in detail, it is difficult to produce dependable results using qualitative methods because it is not always easy for a researcher to extract from spoken words exactly how people organise their thoughts in their own mind, nor is it always possible to correctly interpret the personal meanings that individuals attach to the situations and experiences that they talk about (Steinar, 1996). Dependability also refers to the consistency or reliability of qualitative data. I attempted to ensure dependability by identifying and interpreting commonalities or convergences (i.e. consistent agreements) and discrepancies (i.e.

consistent conflicts of opinion). By using information gained from multiple individuals to address the same research questions, the hope was that they might produce consistent answers. Such information was more likely to be dependable than if it came from only one individual. Nevertheless, dependability could be threatened because different sources of information concerning the same phenomenon do not always prove to be equivalent. For example, all respondents may not necessarily concur with respect to their perceptions and experiences associated with product attachment, and the respondents' information may not be valid or reliable due to response bias, including misconceptions or misrepresentations (Willis, 1998).

4.7 Reflexivity

The use of a qualitative analytical strategy involving the personal interpretation of recorded items of communication implied that I must be reflexive (Holland, 1999; Johnson & Duberly, 2003), meaning that I must be aware of, and reflect personally upon, what role I played in constructing knowledge and to explain how and why I came to certain conclusions. Accordingly, the credibility and dependability of the content analysis depended on my own integrity to observe and record information consistently and accurately, and so it was essential to be self-critical and implement an analytical strategy that avoided bias. For the purposes of this study, as far as possible, I tried to interpret the responses without bias, so that my own personal viewpoint did not corrupt the analysis. I tried to use a non-judgmental orientation and to refrain from using distorted personal value judgments. I did not attempt to give preference to the voices of certain respondents over others, nor did I exclude any responses that were directly opposed to my own personal views regarding product attachment and its implications for product design. Nevertheless, I recognise that, like all human beings, I have personal prejudices and it is possible that these might have contaminated the interpretation of the data. In addition, it must be pointed out that I myself

am the immediate 'primary consumer' of the data provided by this study. Although it is important for my work to fulfil scholarly standards and be accessible to other researchers, it is essentially being used to inform my own process and decisions as a designer, and as such, it was important for my research to be conditioned by my own objectives and insights.

Results of the Main Study

The responses of the eight married couples to the interview questions concerning product attachment are presented systematically in the following five sections:

1. Ten belongings that the participants would not sell;
2. One object that has affected the participants or their relationships with partners;
3. Objects that are disliked by the partners of the participants;
4. Objects that reflect the participants' personality;
5. Congruence between partners' choices of objects.

The results are presented in the form of verbatim quotations, tables and charts, without interpretation or references to the literature or attachment theory. An interpretation of the results in the context of previous research, with recommendations for action, further research and conclusions is presented in Chapter 6.

4.8 Ten Belongings that the Participants Would Not Sell

The coded responses to the question: 'If you had to sell all of your belongings, except for ten objects, what would those objects be?' are listed in Appendix 1. The frequency distribution of the objects chosen by male and female participants classified with respect to their utility, values and attributes, are compared in Figures 4.1, 4.2, and 4.3. Figure 4.1 illustrates that the men chose a higher proportion of objects with functional value (FUN) than women, whilst the women chose a higher proportion of objects with no functional value (NFU). Figure 4.2 illustrates that objects with affiliation (AFF), interactive (INT), personal

(PER) or social (SOC) values were chosen by women, of which the most frequent had interactive value, followed by affiliation value. Objects with affiliation (AFF), contemplative (CON), interactive (INT) or social (SOC) values were also chosen by the men, of which the majority had interactive value.

Figure 4.1 - Distribution of responses classified by gender and utility of objects

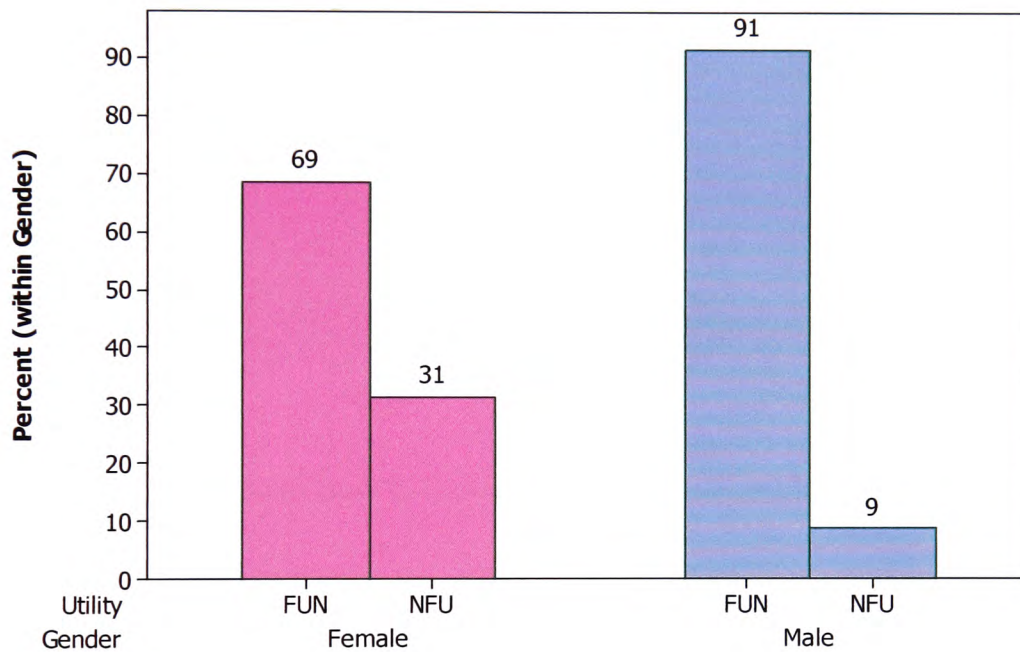


Figure 4.2 - Distribution of responses classified by gender and values of objects

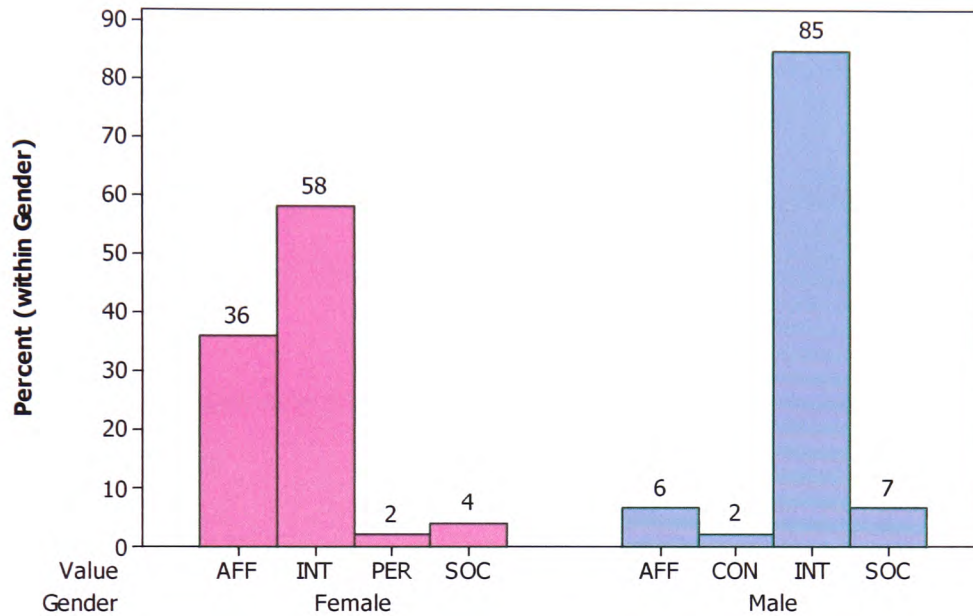


Figure 4.3 - Distribution of responses classified by gender and attributes of objects

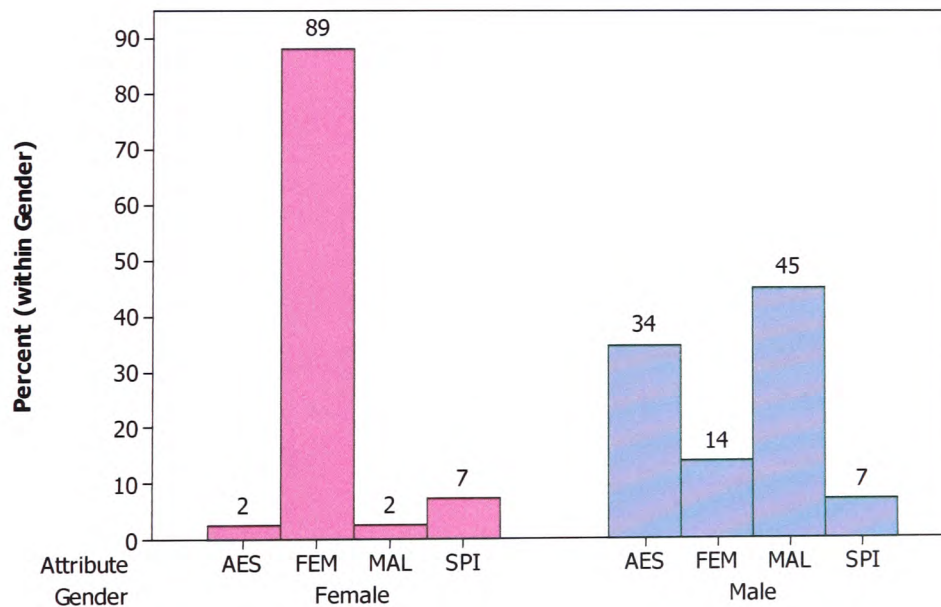


Figure 4.3 illustrates that objects with aesthetic (AES), feminine (FEM), male (MAL) and spiritual (SPI) attributes were chosen by women, and the majority of these objects

exhibited feminine attributes. Objects with similar attributes were chosen by the men; however, the majority of these items had masculine attributes.

The objects with affective value and/or feminine attributes chosen most frequently by two or more women included items of clothing, photographs, makeup/cosmetics, houses, wedding rings and wristwatches (Table 4.3). The objects with interactive value and/or male attributes chosen most frequently by two or more men included computers, bikes, mobile phones, TVs/TV accessories, musical instruments, items of sporting equipment, cameras and cars (Table 4.4).

Table 4.3 - Objects most frequently chosen by women

Object	Frequency	Percent	Cumulative Percent
Dresses	7	10.0	10.0
Photographs	6	8.6	18.6
Camera	3	4.3	22.9
Makeup	3	4.3	27.1
Bed	2	2.9	30.0
Bible	2	2.9	32.9
Car	2	2.9	35.7
House	2	2.9	38.6
Mobile phone	2	2.9	41.4
Musical Instrument	2	2.9	44.3
Wedding ring	2	2.9	47.1
TV/TV accessories	2	2.9	50.0
Wristwatch	2	2.9	52.9

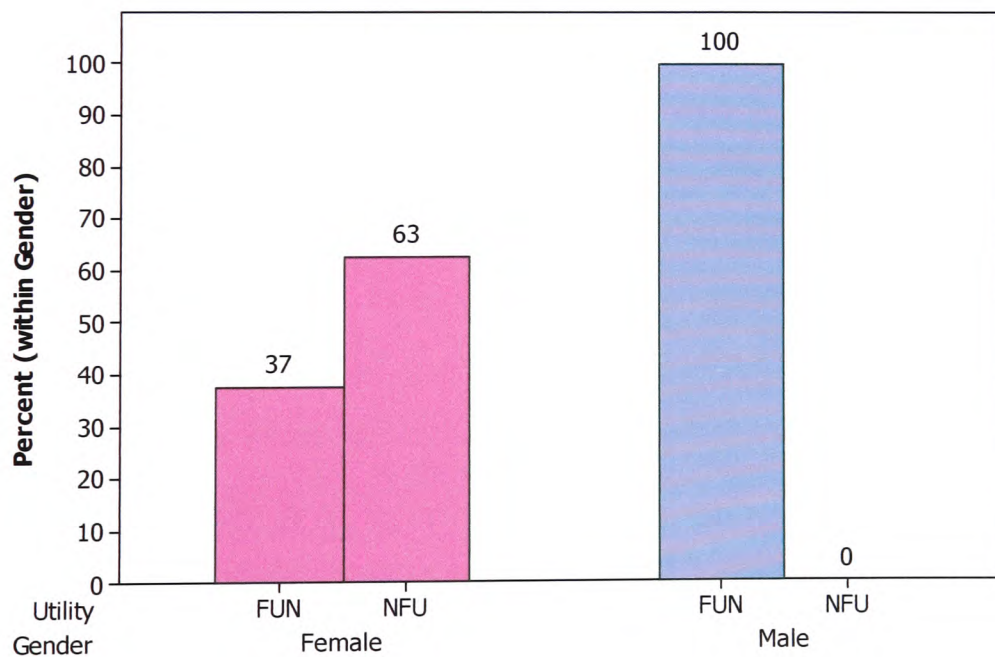
Table 4.4 - Objects most frequently chosen by men

Object	Frequency	Percent	Cumulative Percent
Computer	7	10.0	10.0
Bike	6	8.6	18.6
Items of clothing	6	8.6	27.1
Mobile phone	5	7.1	34.3
TV/TV accessories	4	5.7	40.0
Bed	3	4.3	44.3
Musical instrument	3	4.3	48.6
Sporting equipment	3	4.3	52.9
Camera	2	2.9	58.6
Car	2	2.9	61.4

4.9 One Object which Affected Participants or Their Relationships with Partners

The participants were asked to choose one object which may or may not have obvious value, but which affected them or their relationships with their partners. The coded responses to the question: 'Why did you choose this object' are listed in Appendix 2. The frequency distributions of the object chosen by male and female participants classified with respect to their utility are compared in Figure 4.4. Most of the objects chosen by women did not have a functional value (NFU), whereas all of the objects chosen by the men did have a functional value (FUN).

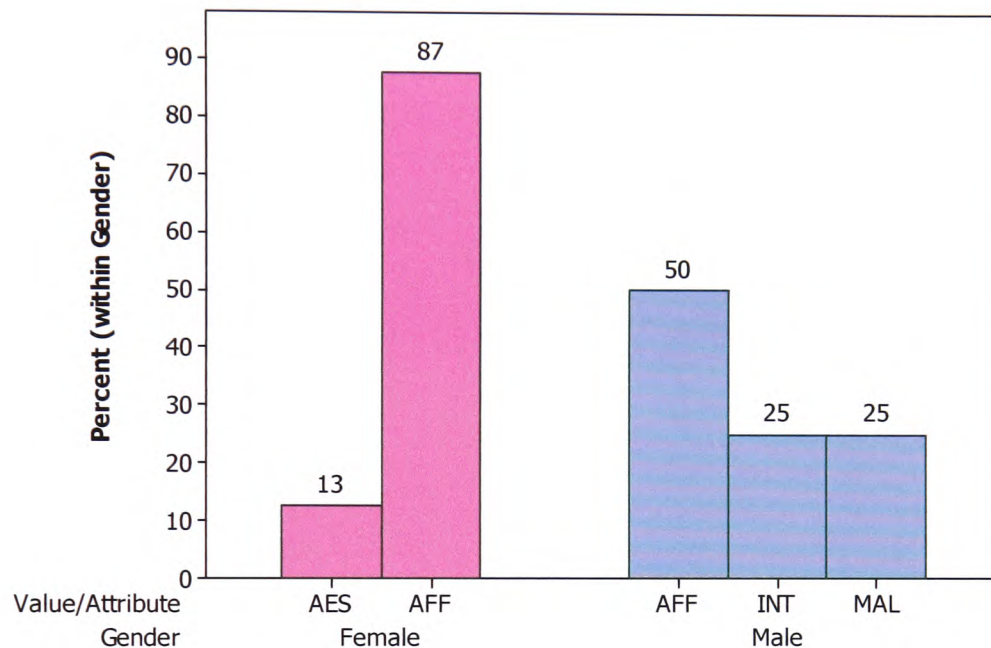
Figure 4.4 - Distribution of responses classified by gender and utility of an object



The frequency distributions of the object chosen by male and female participants classified with respect to their values and attributes are compared in Figure 4.5. The women chose objects with affiliation value (AFF) or with aesthetic attributes (AES), the majority had

affiliation value. Half of the objects chosen by the men had affiliation value, whilst one quarter had interactive value and one quarter had male attributes.

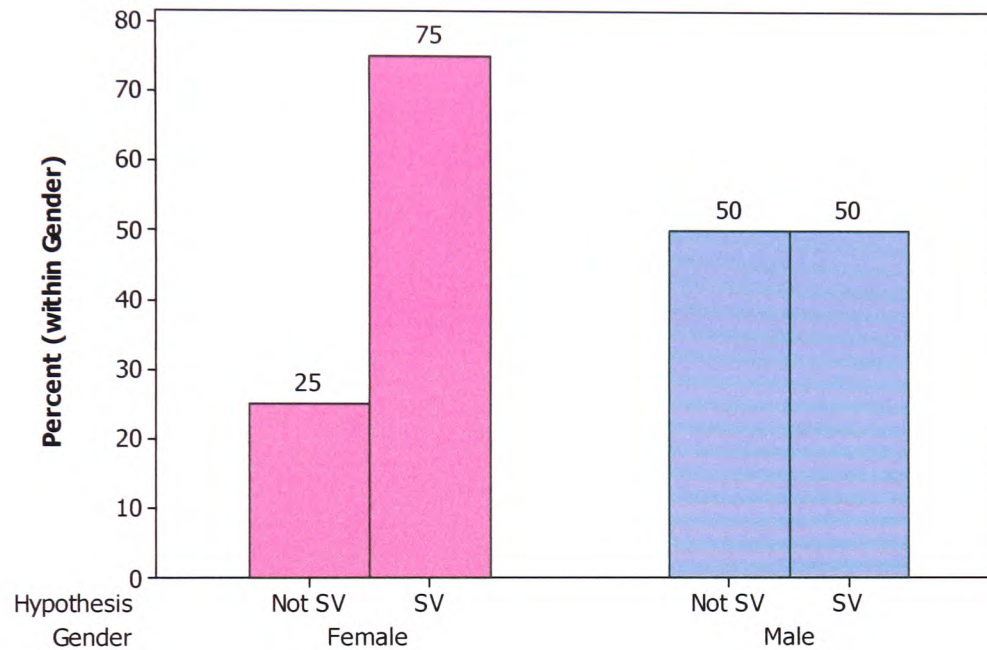
Figure 4.5 - Distribution of responses classified by gender, values and attributes



The frequency distributions of the objects chosen by male and female participants, classified by the theme of shared value (i.e. they established the history or future of the married couple) are compared in Figure 4.6. Most of the objects chosen by the women represented shared value (SV), and these included a wrist watch, a Tinkerbell frame, an engagement ring, a teddy bear and an iPod, all of which were gifts from their husbands, and a house which was conjugal property. The objects chosen by the women not representing shared value had aesthetic attributes, and included an Indian wall hanging piece which was purchased personally, and Bunnykins dishes which were a family heirloom with affiliation value. Half of the objects chosen by the men represented shared value (SV), and these included a TV, a tandem bike, Newquay hoodies and an iPod, all of which were purchased jointly with their wives. The objects not representing shared value (Not SV) were purchased

by the men for their own personal use. These included a computer and a stereo system, with interactive value, and a kayak and bike, with male attributes.

Figure 4.6 - Distribution of responses classified by gender and shared value



The coded responses to the question: 'When did you acquire this object' are listed in Appendix 3 and the frequency distributions are illustrated using pie diagrams in Figure 4.7. The responses are the verbatim responses of the participants, and could not be classified into an ordinal sequence. The ages of the chosen objects ranged from one year to the lifetime of the participant (i.e. acquired at birth). The majority of the objects chosen by males were acquired relatively recently (i.e. two years ago), whereas the majority of the objects chosen by females were acquired a relatively long time ago (i.e. from birth to five years ago).

The coded responses to the question: 'How frequently do you use this object?' are listed in Appendix 4. The frequency distributions of the responses, which could not be classified into an ordinal sequence are illustrated using the pie diagrams presented in Figure 4.8.

Figure 4.7 - Distribution of responses classified by gender and when object was acquired

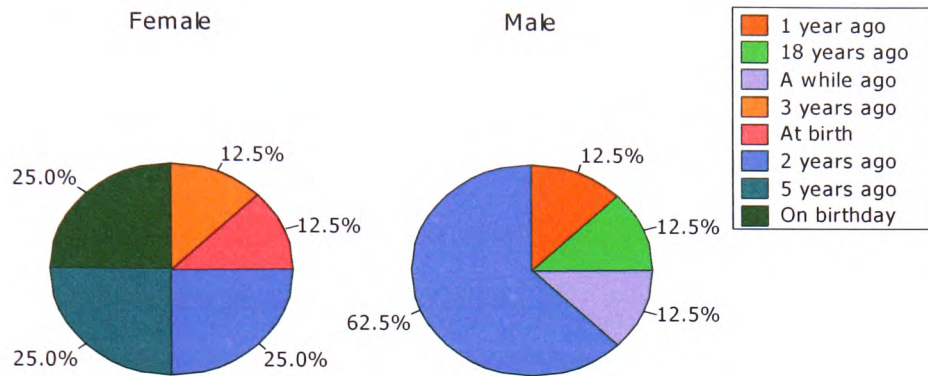
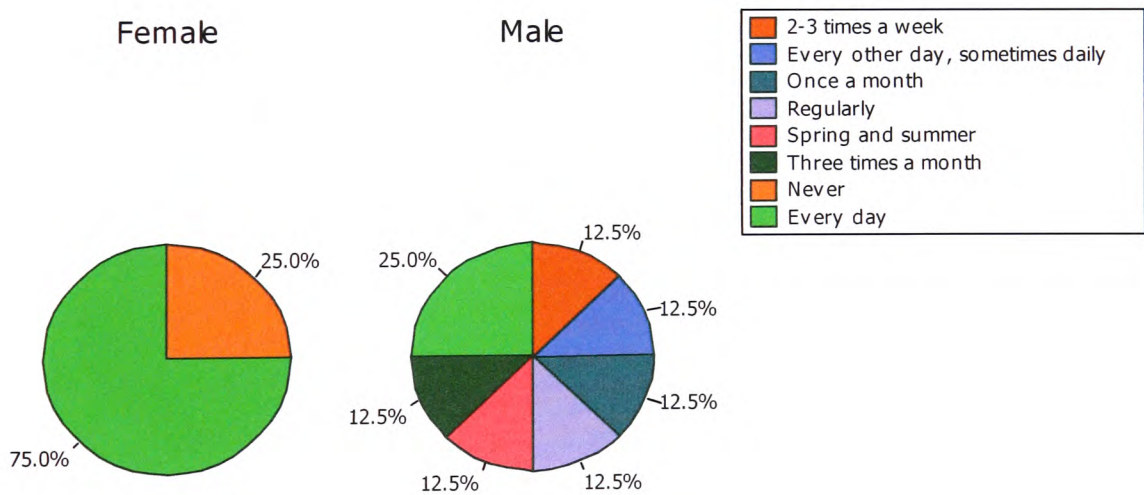


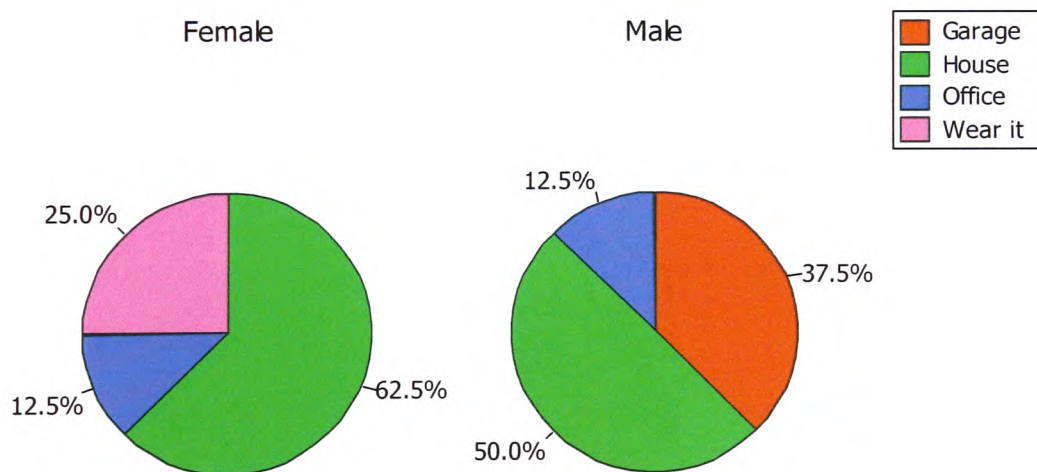
Figure 4.8 - Distribution of responses classified by gender and when the object is used



The frequency of use of the object chosen ranged widely, from every day, through 'regularly', to every year (e.g. spring and summer). Three quarters of the women used the object every day, compared to only one quarter of the men. The frequency of use of the object was more variable in men than in women. These responses are generally consistent with the theme of consumption experience, which assumes that value may reside in the consumption experience(s) derived from the object in question. Only two of the objects (Bunnykins dishes and a teddy bear) chosen by the women were never used, implying that functionality did not directly contribute to product attachment.

The coded responses to the question: 'Where do you keep this object?' are listed in Appendix 5 and the frequency distributions are illustrated in Figure 4.9.

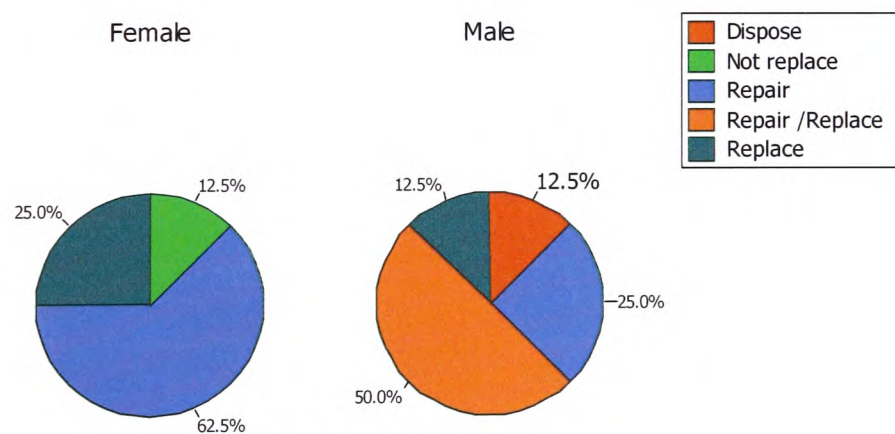
Figure 4.9 - Distribution of responses classified by gender and where the object is kept



Most of the women kept the object somewhere in their house (e.g. in the bedroom, living room or kitchen) or they wore it (e.g. an engagement ring on her finger or a watch on her wrist). One woman kept the object (an Indian wall hanging piece) in her office. Most of the men, like the women, kept the object in their house or office; however, objects with male attributes (e.g. bike and kayak) were kept in the garage. Since the objects were generally kept close to the participants where they could be seen and hence consumed regularly, these responses generally comply with the theme of consumption experience.

The coded responses to the question: 'In the event of it breaking, would you donate, dispose, repair or replace this object and why?' are listed in Appendix 6 and the frequency distributions are illustrated in Figure 4.10.

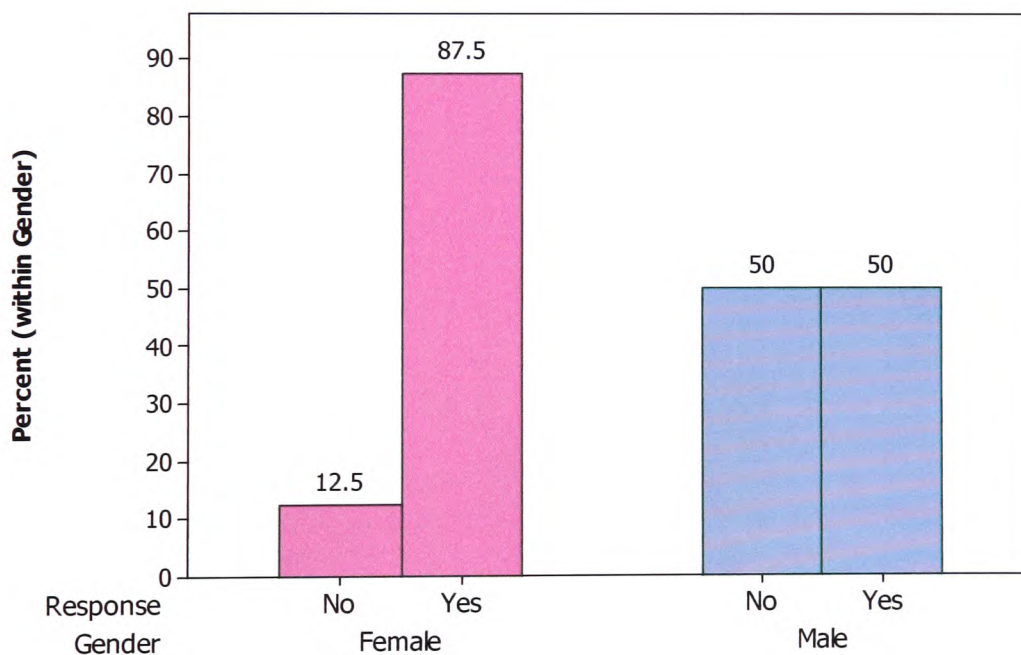
Figure 4.10 - Distribution of responses classified by gender and what will happen in the event of breaking the object



Most of the men and women perceived that they would repair the object or only replace the object if it could not be repaired. One woman considered that her object (Bunnykins dishes) was irreplaceable, because 'it may be a discontinued or a collectable item.' One man suggested that he would dispose of the object (Newquay hoodies) 'depending on how badly it was broken.' It was evident that after the bond had been created the users would cherish, repair and be less likely to dispose of the product.

The coded responses to the question: 'Do you feel emotionally connected to this object?' are listed in Appendix 7 and the frequency distributions are illustrated in Figure 4.11.

Figure 4.11 - Distribution of responses classified by gender and emotional connection with an object

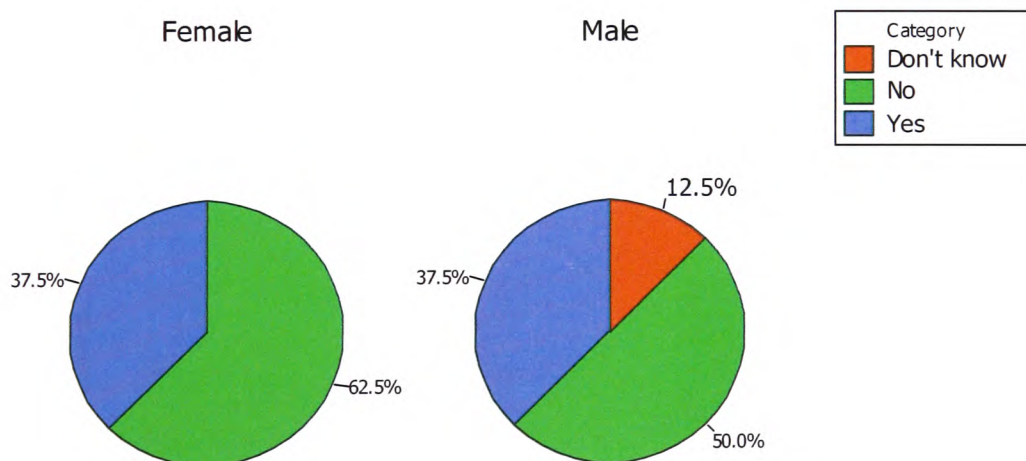


The majority of the women said 'Yes' they felt that they were emotionally attached to the object, whereas half of the men said 'No'. The objects that the men were not emotionally attached to (i.e. a computer, kayak, bike, and stereo system) did not have a shared value and

were purchased by the men for their own exclusive use. Only one woman was not emotionally attached to the object (Indian wall hanging piece) which she had purchased for herself. Sentimentality was the apparent reason for the emotional connection of both men and women to their chosen objects. All but one of the objects they were emotionally attached to had a shared value, implying that their tie to the object reflected the history or future of their marriage. One object (Bunnykins dishes) had affiliation value because it was a family heirloom acquired at birth.

The coded responses to the question: 'Does your partner share your emotional attachment to this object?' are listed in Appendix 8 and the frequency distributions are illustrated in Figure 4.12.

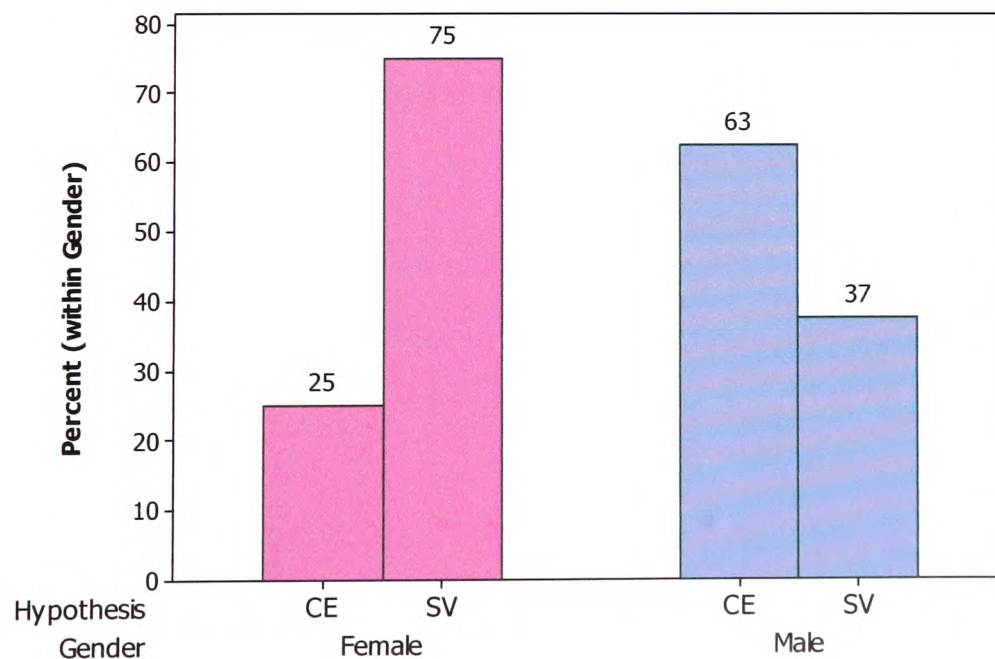
Figure 4.12 - Distribution of responses classified by gender and shared emotional attachment of an object with a partner



The majority of the women and half of the men perceived that their partner did not share their emotional attachment to the same object. This implied that shared or affiliation values for the same object are not always common to both husband and wife. The objects which were perceived to induce shared emotional attachment between partners included the house, an engagement ring, Newquay hoodies and a TV, and all were said to have been purchased just before or after their marriage. It was evident that if the partners shared the purchase of an object around the time that they are married then they collectively shared an emotional attachment to the same object.

The coded responses to the question: 'What makes this object special?' are listed in Appendix 9. The frequency distributions of the responses, interpreted with respect to their compliance with the themes of consumption experience (CE) and shared value (SV), are illustrated in Figure 4.13.

Figure 4.13 - Distribution of responses classified by gender and what makes an object special

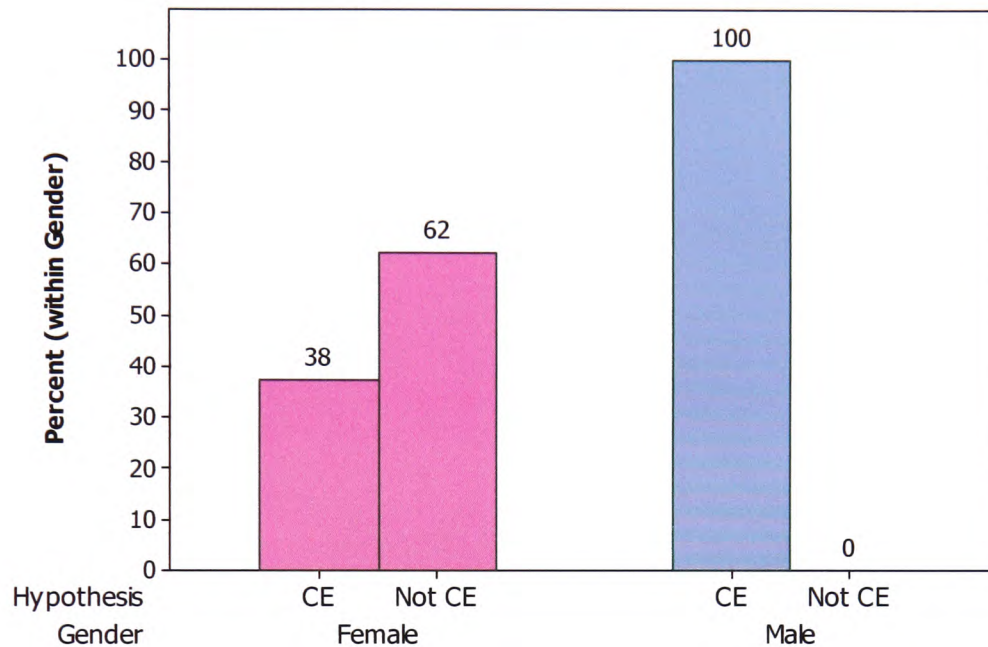


Most of the women, but only a minority of the men, perceived that shared value made the object special. Such objects included a wrist watch, because 'It symbolises that my husband appreciates what I did for our family'; an engagement ring, because 'It symbolises our commitment to each other'; a teddy bear, because 'It was given to me on our first Valentine's day together. It signifies that he cared deeply early on in our relationship'; a TV, because 'We enjoy it together, it's one of our common interests'; Newquay hoodies, because '...it's the memories we remember when we wear it'; and a tandem bike 'Because we can share it together, and it's fun, and we sorted it together.'

Most of the men, but only a minority of the women, perceived that consumption experience made the object special. Such objects included an iPod, because of 'It's amazing amount of functionality' and 'It's very functional'; a computer, because 'Nowadays, we can do almost anything online'; a stereo system, because 'It provides many hours of audio pleasure'; a kayak, because 'I have special memories of going down rivers'; and a bike, because of 'The freedom you have when you're out and the pure adrenalin rush.'

The coded responses to the question: 'What functions does this object serve?' are listed in Appendix 10. The frequency distributions of the responses, interpreted with respect to whether or not they comply with the theme of consumption experience (CE), are illustrated in Figure 4.14.

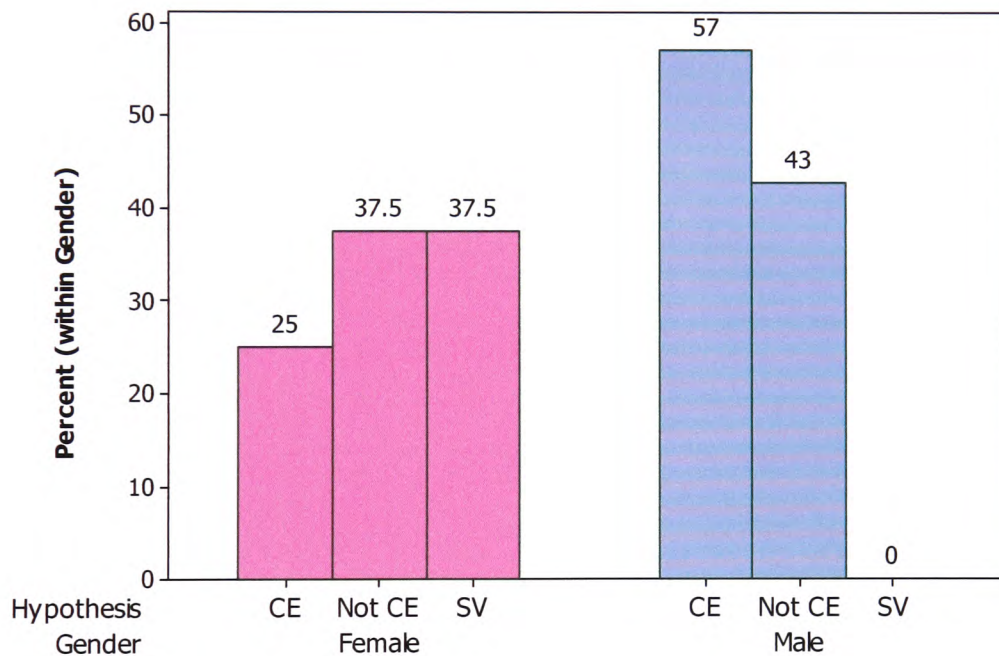
Figure 4.14 - Distribution of responses classified by gender and functionality of an object



All of the men reported that their object served a consumption experience. Examples of their responses include 'It makes me happy' for a stereo system; 'Fun' for a tandem bike; 'Email, social networking, music, playing games, watching TV, making notes, reading, internet, voice recorder' for an iPod, 'You can more or less check anything you need to check' for a computer, and 'Information, entertainment, family movie night' for a TV. The majority of the women, in contrast, reported that their chosen object did not serve a consumption experience (Not CE). Examples of these responses include 'Decorative' for an Indian wall hanging; 'Originally, it was a very special dinner set. Now it's on display and a reminder of special memories' for Bunnykins dishes; 'Decoration, memory' for a Tinkerbell frame; 'It's more decorative than functional' for an engagement ring, and 'Does not serve any function other than to look nice' for a teddy bear.

The coded responses to the question: 'Please describe your reaction when you first saw this object' are listed in Appendix 11. The frequency distributions of the responses, interpreted with respect to whether or not they comply with the theme of consumption experience (CE) or shared value (SV) are illustrated in Figure 4.15

Figure 4.15 - Distribution of responses classified by gender and reactions to object

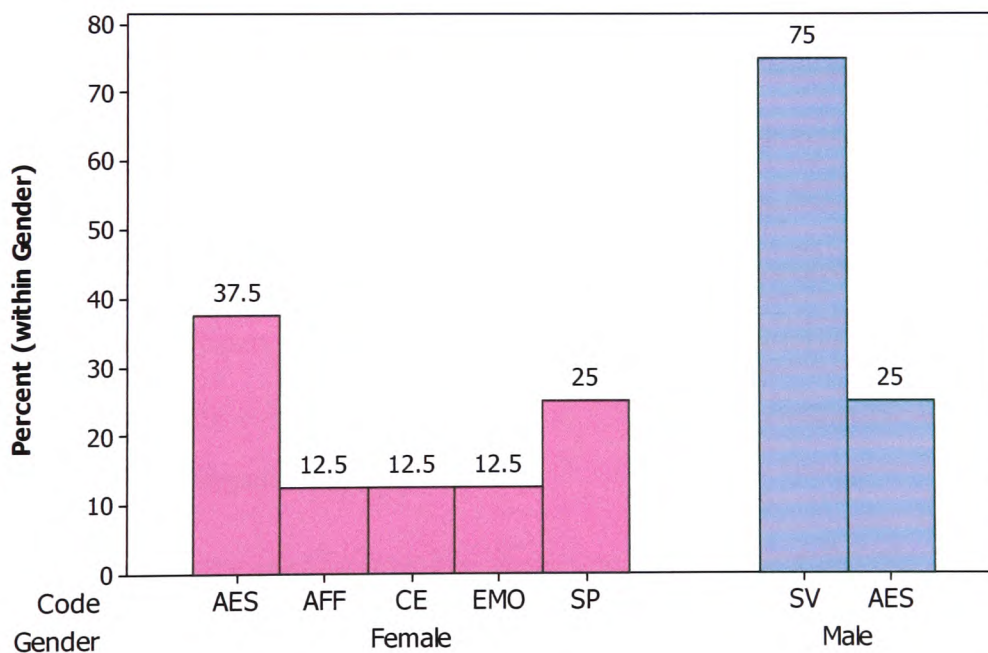


The majority of the responses of the men were concerned with the potential functionality of the object when they first saw it, complying with the theme that consumer experience is associated with product attachment. For example, 'When I learned how much you can use it, I was excited' for an iPod, 'I wanted to have it, since the first time I heard a high-end sound system' for a stereo system, and 'It was old and broke! And has no seats' for a bike. None of the men considered the shared value or aesthetic attributes of the object when they first saw it. In contrast, the majority of the female reactions were concerned with the shared value of an object received as a gift from their husband, for example 'It made me

happy. I felt loved and I felt special that it had been given to me' for a teddy bear; and 'It was perfect “bling bling” to life, just as our son' for a wristwatch; or else they were concerned with the aesthetic attributes of the object, exemplified by 'It symbolises the tree of life which appeals to me' for an Indian wall hanging, and 'Cute' for a Tinkerbell frame and Bunnykins dishes.

The coded responses to the question: 'Please describe the design and aesthetic of this object, and how does it appeal to you' are listed in Appendix 12. The frequency distributions of the responses, interpreted with respect to hypotheses, values, and attributes, are illustrated in Figure 4.16.

Figure 4.16 -Distribution of responses classified by gender, design, aesthetic, and appeal



To the majority of the men, the design, aesthetic and appeal of the chosen object were mainly related to its functionality, supporting the theme of consumer experience (CE). Examples of the men's responses concerning functionality include, 'It is not the look of it, but

what you can use it for' for a computer; 'Its appearance makes me happy because it looks like it has the potential to sound good' for a stereo system; 'Not very appealing aesthetically...but the picture quality was amazing' for a TV; 'It's smooth with no sharp edges, and fits snugly into the palms of your hand' for an iPod, and 'It's very comfy' for a kayak. The appeal of the object to only three of the eight men was its shared value (SV). Examples include 'The fact we could get matching ones and get our names printed was what appealed to me' for Newquay hoodies, and 'Because we have lots of fun on it' for a tandem bike. In contrast, the women's responses to the same question were much more varied. One woman was concerned with the functionality of the object, referring to an iPod by 'The vast amount of different uses for this object is staggering. You can make it totally personal to you and your life style.' Three women responded to the aesthetics of the object (AES), for example 'Symmetrical outline with floral core. I usually like that combination; I also like the colours' for an Indian wall hanging piece, 'I appreciate the cuteness of the design' for Bunnykins dishes, and 'I like it because it's pretty, sparkly and girly' for a Tinkerbell frame. One woman was concerned with affiliation value (AFF), exemplified by 'Memories' for a house. The emotional reaction to the object (EMO) appealed to one woman, as indicated by 'It puts a smile on my face' for a teddy bear. For two women, the object was a source of self-projection (SP), indicated by 'It's feminine but yet sporty (like me)' for a wristwatch, and 'Perfect, so me. It's really lovely shape and size' for an engagement ring.

4.10 Objects that are Disliked by the Partners of the Participants

The coded responses to the question: 'Does your partner own any objects that you dislike and why' are listed in Appendix 13. Eight of the respondents replied 'No', 'None' or 'Not really'. Two women reported that they disliked objects with male attributes, specifically items of sporting equipment (for climbing, kayaking and hockey) because they were a symbol of the time their husbands spent away from home and family. Only one man referred

to sporting equipment, which was a bike, because 'She goes faster than me on it.' The other objects disliked by three men and two women were items of clothing. One man disliked objects with feminine attributes, including his wife's hair bands and hair brush because 'They are left everywhere....full of loose hair' and a wedding box which 'Takes up too much space.'

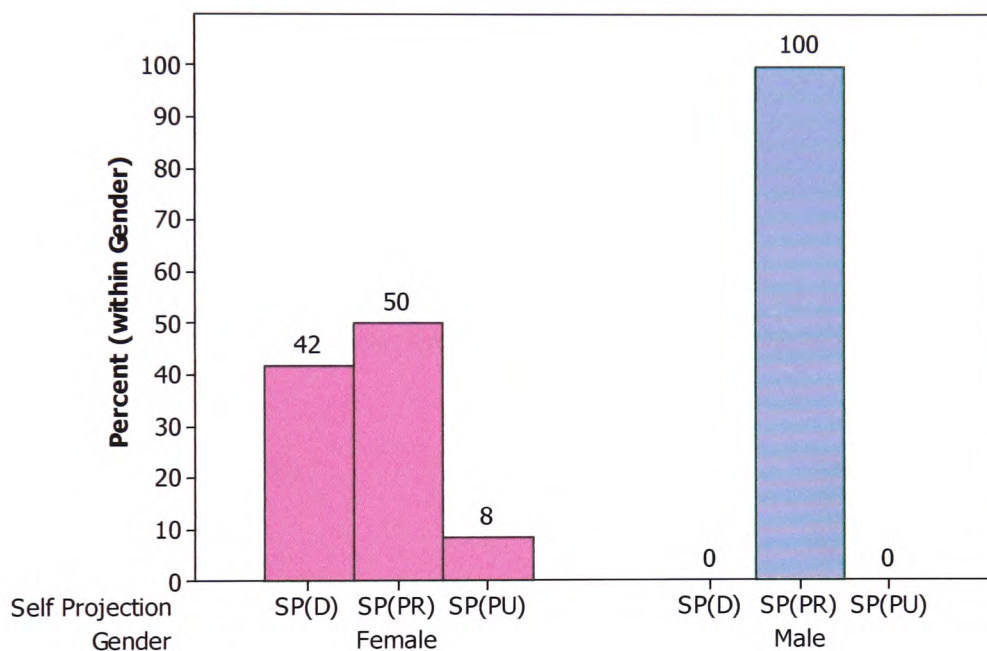
4.11 Objects that Reflect the Participants' Personality

The coded responses to the question: 'Please describe objects that reflect you or your personality' are listed in Appendix 14. The responses were consistent with attachment theory, in that they reflected attachments to certain products formed by individuals creating self-projections of themselves. All but one of the women described objects with feminine attributes, the exception was a woman who admitted 'I don't think I am a feminine person, so I tend to favour quite masculine colours and shapes.' All but one of the men described objects with masculine attributes, apart from one who chose pictures of his children because he considered himself to be 'caring', which is generally perceived to be a feminine attribute.

The frequency distributions of the responses classified with respect to themes of self-projection are illustrated in Figure 4.17. All of the men appeared to project images of striving to achieve an individual private objective, abbreviated as SP(PR). The men chose mainly functional objects with interactive value (e.g. sporting equipment, bikes, musical instruments) and electronic equipment (e.g. TVs, stereo systems, computers, cameras, mobile phones, and GPS) through which they could obtain a satisfying experience, requiring some form of physical manipulation. In contrast, the women were more diverse in their use of objects to self-project their personalities. About half of the women, like the men, chose functional objects with interactive value reflecting their private objectives to achieve a satisfying experience. Other women chose objects which expressed their diffuse selves striving for pleasurable satisfaction, abbreviated as SP(D), and exemplified by 'Simple, but classy, eye catching things; less is more' and 'I think most of what I own reflects me. I love pretty things

with stars, flowers.' Only one woman perceived that she used objects to desire a favourable opinion from others, reflecting her public self, abbreviated as SP(PU), and exemplified by 'I like to have keepsakes' and 'I also like to stand out and be a bit different.'

Figure 4.17 - Distribution of responses classified by gender and self-projection



4.12 Congruence between Partners' Choices of Objects

The coded responses of the objects perceived by the men to be valuable to their female partners which were congruent with the objects chosen by their partners, are listed in Appendix 15. The frequency distributions of the congruent objects, classified by utility and shared value, are illustrated in Figure 4.18. The corresponding frequency distributions of the objects perceived by the women to be valuable to their partners are illustrated in Figure 4.19. The objects perceived by the men to be valuable to their female partners, which agreed with the objects chosen by their partners, had values which were both functional and not functional.

Figure 4.18 - Distribution of objects chosen by men which were congruent with their female partners' choices

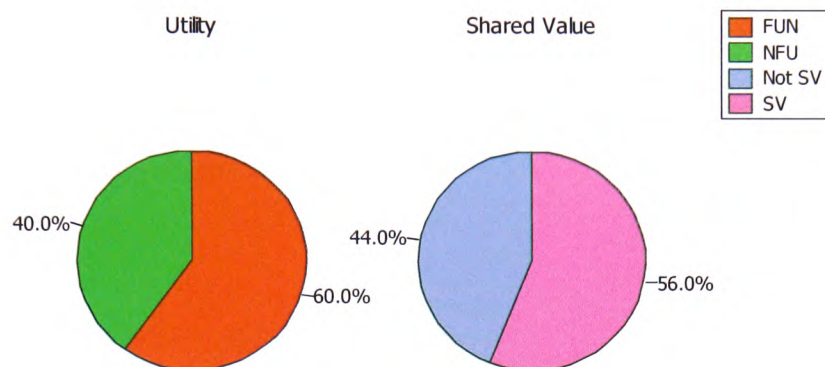
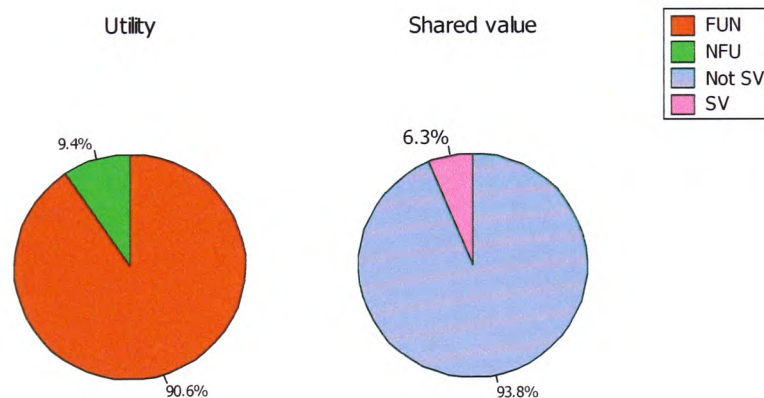


Figure 4.19 - Distribution of objects chosen by women which were congruent with their male partners' choices



Most of the congruently chosen objects had an obvious shared value reflecting the history and future of their marriage (e.g. engagement and wedding rings, house, bed, photographs and gifts exchanged between partners), whereas a smaller proportion did not (e.g. computers, TVs, and cars). In contrast, the objects perceived by the women to be valuable to their male partners, who agreed with the objects chosen by their partners, had

mainly a functional value (Figure 4.19). Only two of the congruently chosen objects had shared value, specifically a wedding album and a picture frame with photos. The majority of the objects chosen by the men had interactive value (e.g. musical instruments, sporting equipment, computers, TVs, mobile phones, cars, and games machines) and/or male attributes (e.g. bike, kayak, and work van).

CHAPTER 5: DISCUSSION

5.1 Outline of the Study

A study based on the principles of phenomenology and using a conceptual framework underpinned by product attachment theory was conducted to explore the attitudes and values that may influence the attachment of married couples to everyday domestic objects. A small-scale preliminary study followed by a more in-depth study, were used to investigate some of the ways in which product attachment towards a range of objects may vary within eight married heterosexual couples. A qualitative methodology involving in-depth interviews was implemented to collect the information. Content analysis was then used to extract themes from the transcripts of the interview responses and to test the various dimensions of attachment theory. These included: (a) the emotional attachments and attitudes of men and women towards everyday objects are different (Dittmar et al., 1995; Moss, 1999; Popcorn and Marigold, 2000); and that (b) married couples use objects to help them establish a history and future together reflecting their shared value (Olsen, 1985). Other aspects of attachment theory, including the influence of consumption experience, social status, self-projection, fiscal value and functionality on product attachment, were also considered. Recommendations for action and further research are discussed with respect to tailoring design and marketing strategies towards gender differences in product attachment between a man and woman within a conjugal association.

5.2 Summary of the Preliminary Study

Before the interview questions were formulated for the main study, information to help improve face, content and construct validity was obtained through insights gained from analysis of the results of the preliminary study. The conclusions were that both men and

women, but especially women, readily respond to photographs of domestic objects that they are presented with during face-to-face interviews with a mixture of diverse emotional reactions and their responses can be relatively easily classified using the themes of functionality, gender attributes, aesthetic attributes, spiritual attributes, interactive value, consumption experience, emotional value, affiliation value social/symbolic value, social status, self-projection, fiscal value, and shared value.

5.3 Summary of the Main Study

In response to the question: 'If you had to sell all of your belongings, except for ten objects, what would those objects be?' the men chose a higher proportion of objects with functional value than the women. Most of the objects chosen by the men had male attributes and interactive value, whereas the women mainly chose objects with feminine attributes, shared, affective and affiliation values.

The participants were asked to choose one object that may or may not have obvious value, but which has affected them or their relationships with their partners. Most of the objects chosen by the women did not have a functional value, whereas all of the objects chosen by the men did. The women mainly chose objects with shared and affiliation value and/or with aesthetic attributes, whereas more of the men chose objects with interactive value and male attributes.

The responses to the question: 'When did you acquire this object' indicated that the ages of the chosen object ranged from two years to the lifetime of the participant, reflecting that the strength of product attachment was not dependent on the age of the object.

The responses to the question: 'How frequently do you use this object?' ranged widely from every day to every year. The most frequent responses indicated that value may reside in the consumption experience(s) derived from the object in question. Only two of the objects

chosen by the women were never used, implying that functionality did not directly contribute to product attachment.

In response to the question: 'Where do you keep this object?' most of the men and women kept the object somewhere in their house or office; however, objects with male attributes (e.g. sporting equipment) were kept in the garage.

In response to the question: 'In the event of it breaking, would you donate, dispose, repair or replace this object and why?' most of the men and women perceived that they would repair the object or only replace it if it could not be repaired.

In response to the question: 'Do you feel emotionally connected to this object?' the majority of the women but only half of the men said 'Yes'.

The responses to the question: 'Does your partner share your emotional attachment to this object?' indicated that shared or affiliation values for the same object are not always common to both husband and wife. The objects which were perceived to induce shared emotional attachment between partners included items said to be purchased just before or after their marriage.

The responses to the question: 'What makes this object special?' indicated that most of the women, but only a minority of the men, perceived that shared or affiliation values made the object special. Most of the men, but only a minority of the women, perceived that consumption experience made the object special.

In response to the question: 'What functions does this object serve?' all of the men reported that their object served a consumption experience. In contrast, the majority of the women reported that their chosen object did not serve a consumption experience.

The responses to the question: 'Please describe your reaction when you first saw this object' indicated that the majority of the men were concerned with the potential functionality

of the object, whereas the majority of the female reactions were more concerned with the shared value or aesthetic attributes of the object.

In response to the question: 'Please describe the design and aesthetic of this object, and how does it appeal to you' the majority of the men perceived that the design, aesthetic and appeal of the chosen object were mainly related to its functionality. The appeal of the object to women was more varied. One woman was concerned with the functionality of the object, whilst three responded to its aesthetics, one referred to her emotional reaction, and for two women, the object was a source of self-projection.

Half of the respondents replied 'No' to the question: 'Does your partner own any objects that you dislike, and why?' Two women reported that they disliked objects with male attributes and one man disliked objects with feminine attributes. The other objects disliked by three men and two women were items of clothing.

The responses to the question: 'Please describe objects that reflect you or your personality' reflected attachments to products formed by individuals creating projections of themselves. All but one of the women described objects with feminine attributes, including those which project an image of striving for pleasurable satisfaction or social status. All but one of the men described objects with masculine attributes, projecting an image of striving to achieve an individual private objective.

The objects perceived by the men to be valuable to their female partners which agreed with the objects chosen by their partners, had values which were both functional and not functional. Most of the congruently chosen objects had an obvious shared value, reflecting the history and future of their marriage. In contrast, the objects perceived by the women to be valuable to their male partners who agreed with the objects chosen by their partners, had mainly a functional value.

5.4 Answers to Research Questions

The findings of this study were used to address the six research questions.

RQ#1: Are there Gender Differences in Product Attachment?

Triangulation indicated that the differences between the men and women were reliably measured, reflected by strong convergences between the responses of three or more participants. Most of the men tended to prefer objects with a functional value, serving a consumer experience, particularly those that they could interact with (e.g. musical instruments and electronic equipment), and/or which exhibited male attributes, expressing the masculine desire to be independent and taking an active role (e.g. sports equipment). The women, however, were more much more variable in their preferences than the men. Although some women reflected the masculine tendency to prefer functional interactive objects serving a consumer experience (e.g. cameras, mobile phones, and musical instruments), other women preferred objects with no functional value and/or which exhibited feminine attributes (e.g. photographs, family heirlooms, wedding souvenirs, dresses, makeup, and wristwatches), reflecting a personal emotional perspective, including sentimentality, and taking a home-oriented role.

RQ#2: What influences or motivates product attachment?

The majority of the women said they felt that they were emotionally attached to their objects of choice. Sentimentality, an essentially female attribute, was the apparent reason for the emotional connection of most of the women to their chosen objects. Most of the objects that the women were emotionally attached to had a shared value, implying that their tie to the objects reflected the history and future of their marriages; alternatively, the objects had affiliation value, for example, because they were family heirlooms. In contrast, only a minority of the men considered that shared or affiliation values made an object special and the majority of the men said they did not feel emotionally attached to the objects of their

choice. Most of the men, but only a minority of the women, perceived that it was the consumption experience that made the object special. The objects that appealed most to the men were mainly functional and interactive, not reflecting shared value, such as computers, sporting equipment and musical instruments. These objects were purchased personally by the men for their own use and not in conjunction with their partners. To the majority of the men, the design, aesthetic and appeal of the chosen object were mainly related to its functionality. The majority of the men were concerned with the potential functionality of the object when they first saw it.

RQ#3: What motivates men and women to retain or dispose of everyday domestic objects?

Most of the men and women perceived that they would repair the chosen object, or only replace the object if it could not be repaired. One woman considered that her object was irreplaceable, because 'It may be a discontinued or a collectable item.' One man suggested that he would dispose of the object 'Depending on how badly it was broken.'

RQ#4: How do gender differences in product choices and preferences coexist and influence the dynamic of marital relationship?

Some women reported that they disliked objects with male attributes, specifically items of sporting equipment, mainly because they were a symbol of the time that their husbands spent away from their home and family. One man disliked objects with feminine attributes, including his wife's hair bands and hairbrush. It is therefore evident that friction may develop between husbands and wives due to their differential perceptions towards product attachment.

Since most of the women preferred objects with feminine attributes, whereas most of the men preferred objects with masculine attributes, it is suggested that the attachment to products with distinct male or female attributes helps husbands and wives to maintain their distinct gender identities and roles within marriage.

RQ#5: How do marital relationships differentially affect couple's perception and attachment to domestic objects?

The objects perceived by most of the men to be valuable to their female partners, which agreed with the objects chosen by their partners, included those with an obvious shared value or feminine attributes (e.g. engagement and wedding rings, houses, beds, photographs and gifts exchanged between partners). In contrast, the objects perceived by most of the women to be valuable to their male partners, which agreed with the objects chosen by their partners, had mainly a functional and interactive value, including those with male attributes (e.g. electronic, musical, and sporting equipment). A minority of couples, however, were completely unable to predict what their partners preferred objects would be. The patterns of the responses provided evidence to indicate that some, but not all, married couples might differentially perceive their husband's or wife's level of attachment to different types of objects.

RQ#6: How do marital relationships motivate or influence product attachment?

The values which made an object special were found, in general, not to be common to both husband and wife; however, those objects which had a shared value which were perceived to induce emotional attachment for both partners, included items such as jewellery, clothing and gifts which were jointly purchased just before or after their marriage. This seems to imply that if partners share the purchase of an object around the time that they are married then they may subsequently share an emotional attachment to the same object. Within marriage, however, many objects may be purchased for the exclusive use of the husband or wife, in which case it is possible for product attachment to occur but not because of its shared value.

RQ#7: How can information to expand product attachment theory in the context of marital relationships be translated into the design of domestic products?

The answer to RQ#7 is addressed later (see Chapter 6) after the findings of the main study have been discussed.

5.5 Support for Product Attachment Theory

Attachment theory is highly multidimensional. Consequently, the evidence collected in this study in support of issues concerning gender differences, shared value, bonding, consumption experience, social status, functionality, self-projection and fiscal value are considered separately.

5.5.1 Gender Differences

Several researchers (e.g. Dittmar et al., 1995; Moss, 1999; Popcorn & Marigold, 2000; Xue & Yen, 2007) have proposed that the emotional attachments and attitudes of men and women towards everyday objects are different. Social constructivists propose that individual choices of purchases and material possessions of personal value are related to gender (Kleine & Baker, 2004). The findings of this study are consistent with these proposals. Strong evidence was provided to identify gender differences in product attachment among the eight participating couples. The men generally preferred objects with a functional interactive value serving a consumer experience and/or which exhibited male attributes. Although some women reflected the masculine tendency to prefer functional objects, many of the women preferred objects with no functional value and/or which exhibited feminine attributes.

5.5.2 Shared Value

Olsen (1985) extended product attachment theory by suggesting that married couples use objects to help them establish a history and future together reflecting their shared value;

whereas objects of unmarried individuals reflect self-present orientations and independence within the relationship. The theory of shared value is complemented by the self-expansion theory (Reimann et al., 2012), which posits that individuals expand their personalities by adopting the perspectives of other people that they relate to, such as marriage partners, and by forming sustainable romantic relationships, similar to marriage, with the objects that they relate to. The evidence provided in this study was only partially consistent with these theories. The values which made an object special were found, in general, not to be common to both husband and wife; however, those objects which had a shared value and which were perceived to induce emotional attachment for both partners, including items such as jewellery, clothing and gifts, were jointly purchased just before or after their marriage. Only some of the couples who shared the joint purchase of an object subsequently shared an attachment to the same object. Many of the objects that the women were emotionally attached to were classified by the theme of shared value. Shared value, by definition, implied that the tie of the women to these objects reflected the history and future of their marriages (Olsen, 1985). The theory of shared value assumes that married couples, due to their close physical and emotional proximity, and their joint history and/or future together, is based upon mutual perceptions, perceptions, and experiences with respect to the household objects that they become attached to. Within marriage, however, many objects may be purchased for the exclusive use of the husband or wife, in which case product attachment occurs without the overriding influence of shared value.

5.5.3 Emotional Bonding

Several authors (e.g. Chapman, 2005, Mugge, et al., 2006a; 2007; Schifferstein & Zwartkruis-Pelgrim, 2008) have suggested that attachment theory, including consumer-product attachment, implies the existence of an emotional bond between a person and an object. After a bond has been created users will cherish, repair and be less likely to dispose of

the product in question. Most of the men and women who participated in this study perceived that they would repair their chosen object or only replace it if it could not be repaired, which is entirely consistent with attachment theory. Emotional attachment, however, was not cited universally as the reason for bonding with the object. The majority of the women stated that they felt emotionally attached to their chosen object, mainly because of shared value, whilst half of the men said they were not emotionally attached to their chosen object. The objects that the men were not emotionally attached to did not have a shared value and were purchased for their own exclusive use. Only one woman perceived that she was not emotionally attached to an object that she purchased for herself. The implications are that the existence of an emotional bond with an object is not always essential to create product attachment and/or that emotional attachment depends upon what exactly is perceived by an individual to be an emotional bond.

5.5.4 Consumption Experience

Holbrook (1999) suggested that value resides not in the product purchased, the brand chosen nor in the object possessed, but rather in interacting with the product and the consumption experience(s) derived from it. The evidence provided in this study indicated that the concept of consumption experience was gender related. Most of the men valued the consumer experience that could be derived from an object, whilst in contrast, the majority of the women reported that their chosen object did not serve any kind of consumption experience.

5.5.5 Social Status

Several authors have suggested that a valued product represents a visual replica of the purchaser's persona, conveying what the purchaser wants others to perceive of his/her personality, desires, ambitions and most importantly, his/her attained social status in life (Kleine et al., 1993; Kleine & Baker, 2004; Belk, 1988). There was limited evidence, based

on the participants in this study, that product attachment was associated with the concepts of social status and self-projection. Only one woman perceived that she used objects to desire a favourable opinion from others.

5.5.6 Self -projection

Attachments to certain products formed by individuals may represent self-projections of themselves irrespective of social status (Kleine et al., 1995). Four dimensions are posited to define the concept of 'self': the diffuse self (striving for pleasurable satisfaction); the private self (striving to achieve an individual objective); the public self (desiring a favourable opinion from others); and the collective self (seeking the sanction of a particular type of group). Evidence was provided in this study to support the theory that projection of the personality is a facet of product attachment. All but one of the women preferred objects with feminine attributes, whilst all but one of the men preferred objects with masculine attributes. All of the men were attached to functional and/or interactive objects that projected images of striving to achieve an individual private objective. In contrast, the women were more diverse in their use of objects to self-project their personalities, with some choosing functional objects with interactive value and others objects which expressed their diffuse selves.

5.5.7 Functionality

Choi (2007) argued that individuals may not keep particular objects because of their designed function, thus functionality may not directly contribute to product attachment. Attachment can take place irrespective of the object's ability to satisfy its practical purpose; however, the results of this study are not entirely consistent with this suggestion. Product attachment due to functionality appeared to be gender related, as, for the majority of the men who participated in this study, the design, aesthetic and appeal of the chosen object were mainly related to its functionality. The majority of the men were concerned with the potential functionality of the object when they first saw it, whereas only one woman was deeply

concerned about the functionality of the object. The concept that functionality may be adapted over time according to the needs of the user (Choi et al., 2005) was also not evident in the findings of this study.

5.5.8 Fiscal Value

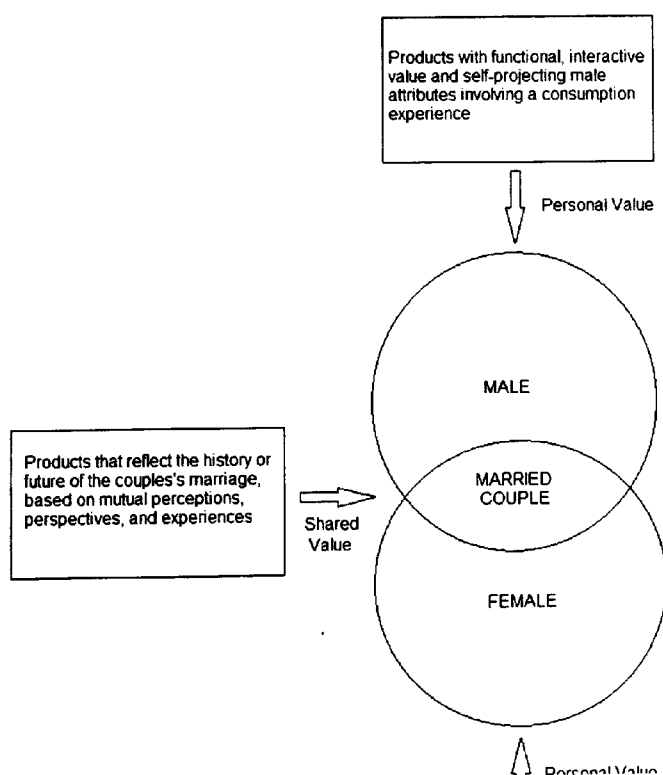
Individuals may be reluctant to dispose of objects with a high monetary price (Choi, 2007; Schifferstein & Zwartkuis-Pelgrim, 2008). None of the participants in this study, however, referred to the prices of the objects that they chose and prices ranged from expensive (e.g. a house) to inexpensive (e.g. a teddy bear). No evidence was provided to support the hypothesis that fiscal value was a significant reason for product attachment.

5.6 Development of Product Attachment theory

The problem with recommending action to support the design of products targeted at married couple who share the same object is that it is not currently underpinned by a solid conceptual or empirical framework. The concept of a well-defined product with attributes and values targeted to induce shared value in the married couple segment is difficult to grasp, and there is no current theory or practice that embraces the complexity of issues related to such a concept. Due to the many convoluted dimensions involved, it is difficult to develop a substantive theory. Nevertheless, as argued by Caterall and Maclaran (2002) 'consumer researchers need to remain open to new perspectives on gender and consumption in their future searches for theory-building contributions. This is still a young and developing research area, with plenty of opportunities for ground-breaking studies.' Consequently, I have made an initial attempt to integrate the findings of this study in order to develop product attachment theory in the context of marital relationships. My theory is outlined using a conceptual explanatory model centred on a Venn diagram (Figure 5.1). It posits that married couples tend to value domestic objects in two ways: (a) some products have personal value to which either the husband or wife become attached; and (b) some objects have shared value to

which both husband and wife become attached. The objects that have a personal value to men tend have a functional interactive value and self-projecting male attributes involving a consumption experience, whilst the objects with personal value to women tend have more complex values and attributes, depending upon the mindset of the wife. They include products with either functional or non-functional value, affective and affiliative value, self-projected male or female attributes, and they do not necessarily involve a consumption experience. In addition to bonding with different objects that have exclusive personal value to either the husband or wife, couples in conjugal relationships simultaneously bond with objects that exhibit shared value. Products with shared value reflect the history and future of a couple's marriage, based on their mutual perceptions, perspectives and experiences, and they evoke pleasurable memories that may be shared by a husband and wife. Consequently, the two circles representing a man and a woman in Figure 5.1 overlap with respect to married couples with shared value.

Figure 5.1 - Model of product attachment theory in the context of married couples



5.7 Recommendations for Action

Underpinned by my tentative expansion of product attachment theory, I suggest the following two recommendations for action: the first argues for market segmentation for married couples; and the second argues for designs to promote shared value.

5.7.1 Market Segmentation

Marketing of products can be undifferentiated, whereby all consumers are treated the same way, or differentiated, which involves producing different marketing for specific market segments. Differentiated marketing involves seeing products through the eyes of specific consumer segments, classified according to their demographic and/or psychological characteristics. Such a perspective permits the targeting of consumers who may respond in a relatively homogeneous way to certain products or brands (Ingram, 2011). Consequently, many products are thoroughly researched from a design and marketing point of view with specific segments in mind (Dexter, 2002). Gender is recognised as an extremely important demographic segmentation variable (Popcorn & Marigold, 2000), and previous research has focused on the differential extent to which men and women respond to the design of consumer products (Xue & Yen, 2007) but rarely with respect to the responses of married couples (Olsen, 1985). Consequently, the first recommendation for action, based on the theory developed in this study, is that products could be designed and marketed specifically to target the married couple segment. These may include jewellery, furniture, clothing, frames for photographs, and many other domestic items, including gifts that could be exchanged between partners (e.g. iPods).

5.7.2 Designing to Promote Shared Value

A conjugal association is both a demographic and psychological classification, defining how people think about themselves and how people think about them. The differentiation of design and marketing strategies directly towards the needs and preferences

of consumers in conjugal associations is therefore justified; however, according to Razzouk, et al. (2007) there has been a recent change in the consumer decision making behaviours of couples. Data were collected from 40 cohabiting couples and 53 married couples in the USA using a self-administered questionnaire. The results, when compared to those collected 18 years previously, revealed that nowadays, more married men and women are tending to make purchasing decisions separately, although men and women in cohabiting couples tend to make more joint decisions. The authors suggest that marketers when attempting to reach married couples today, should direct their efforts towards two autonomous audiences rather than one, since either the husband or the wife may be making the ultimate decision to purchase. The results of this study, however, are not consistent with the idea that married couples are completely autonomous with respect to purchases that ultimately lead to product attachment. Although many of the objects chosen by the participants in this study had an exclusive value to either the husband or the wife, other objects chosen by the participants had an obvious shared value, reflecting the history and future of their marriage and sometimes purchased around the time of marriage. Consequently, I recommend that some products should be targeted for the exclusive use of the husband or the wife, for which product attachment occurred exclusively without the emotional bonding associated with shared value, whilst other products may be targeted towards married couples, which may promote bonding by both husband and wife through shared value. This recommendation is consistent with action to direct design and marketing efforts towards two audiences rather than one within the married couple segment.

CHAPTER 6: PRODUCT DESIGN PORTFOLIO

This chapter addresses RQ#7: how can information to expand product attachment theory in the context of marital relationships be translated into the design of domestic products? The answer to this question appears to be rooted in the creation of episodic memories. Because memories act upon and manipulate an individual's emotional bond to domestic objects, it has been suggested that in order to promote product attachment, designers should attempt to design products that evoke memories, thereby facilitating the formation of attachments between products, people, places or events (Mugge et al., 2005; 2007; Schifferstein & Zwartkuis-Pelgrim, 2008; Thomson et al., 2005). Consequently, after supporting the premises of attachment theory in the context of the products that married couples become attached to, the conclusion to this dissertation contains proposals for the design of original products to evoke episodic memories that may be shared between a husband and wife.

The evidence based on the analysis of the interviews with the participants in this study was consistent with the proposal that episodic memories are shared between a husband and wife. For example, many of the objects chosen by the women were associated with memories of their marriage, and included a wristwatch, a Tinkerbell frame, an engagement ring, a teddy bear and an iPod, all of which were gifts from their husbands, and a house, which was conjugal property. Half of the objects chosen by the men represented shared memories with their wives, and were purchased jointly around the time of their marriage. These included a TV, a tandem bike, Newquay hoodies, and an iPod, with comments such as 'It was given to me on our first Valentine's day together. It signifies that he cared deeply early on in our relationship' and '...it's the memories we remember when we wear it' emphasising the importance of episodic memories.

Domestic objects have a powerful ability to evoke personal event memories derived through the personal experiences of the user, compounding the effects of emotional attachment (Patwardhan & Balasubramanian, 2011). It is not easy, however, for designers to design products that evoke such memories, because emotional bonds associated with memories are not necessarily under the direct control of a designer. It has been argued that that a product's attachment lies within the mind of the user and hence is beyond the design of an object (Norman, 2004; 2009). Nevertheless, my work challenges this argument and I propose that it is possible to design household products in order to evoke memories.

The results of this study revealed that inter-personal differences in product attachment developed between the participants because memories typically involved each individual's connections to people, places or events that were unique to that particular individual. Attachment to an object seemed to develop progressively over time as more memories were accumulated; however, the strength of product attachment did not necessarily increase with time as memories may also become weaker. Newly acquired products may stimulate emotional value through excitement and novelty, but at the same time result in disinterest in previously valued objects, which are subsequently forgotten and ultimately discarded (McDonough & Braungart 2002). Because new and old product attachments may arise and decline many times during the lifetime of an individual, the idea of using memories to promote product attachment presents an extreme challenge. It appears that the question of the degree to which memories can be manipulated by designers to influence product attachment has not previously been addressed. It could, therefore, be argued that such an idea is unworkable in practice. Nevertheless, I believe that it is possible to some degree, for designers to facilitate the evocation of memories explicitly through product design.

Using the starting point of shared value rooted in episodic memory as a rationale and direction, I designed a series of propositional objects to encourage the progressive

development of memories in married couples. I designed these objects as triggers for different types of episodic memory (i.e. object location memory, collective memory and personal event memory) which may promote shared emotional attachment within married couples through a conjoint history of collectively enjoying interacting with these objects.

6.1 Designs for Object Location Memory

Object location memory or spatial memory is concerned with the process of remembering the locations of various objects and positioning these objects in their correct space (Cestgari et al., 2007). My aim was to link object location memory to product attachment theory by designing a specific and a memorable place to house domestic objects that are often misplaced, hidden or lost.

In these pieces I explored the simple objects that are used daily, how couples interact with them, and the spaces they occupy. The series highlights the monotonous tasks and chores of everyday life and they provoke the users to notice and observe the ordinary, and often overlooked daily habits that couples engage in. The design concept provides an 'anchor' for these objects and in this case the attachment is literal and visible. The potentially lost items are physically integrated into the furniture design and they therefore take on an obvious accessible form of display, along with the original function of the furniture.

Domestic objects form the material framework of existence, enabling consumers to function, not only in practical or utilitarian terms, but also in ways that give pleasure, meaning, and significance to their daily lives. The familiarity of these objects which are now readily available, contributes to the attachment process as posited by the exposure effect, also known as the familiarity principle. This argues that the more we are exposed to something, the more we come to like it (Bornstein & Craver-Lemley, 2004). I therefore design furniture with multi-functionality in mind, to facilitate the day-to-day domestic consumption experience of married couples. As a consequence, these objects may evoke a deeper

attachment due to the familiarity principle. Many domestic items provide a pleasurable consumption experience because they fulfil a familiar role in everyday rituals and habits that would otherwise not exist without these objects. Accordingly, married couples may develop a long term attachment to consumer goods that can ease domestic routine and reduce the stress and chores of everyday life. It is this physical attachment that enables the objects to be permanently accessible, and the sense of relief felt at no longer having to regularly search for the item then facilitates a deeper attachment. Memories associated with a commonly lost item will be replaced by positive feelings towards the design piece.

6.1.1 Coffee Table with Built-In Remote Control

The remote control for a TV and video recorder/player can be a common source of friction within relationships, both through power of possessions or misplacement (Walker, 1996). The aim in creating this piece was to provide a permanent and accessible home, making the remote available to all users equally (Figure 6.1). The batteries can be accessed and changed from underneath the table.

Figure 6.1 - Coffee table with a built-in universal remote control



6.1.2 iDesk

This design aims to combine entertainment, education, communications and memories in one table, making it ideal for today's modern life style. iPads and tablets are one of the most sought after electronic gadgets, and although in one sense they bring the world to ones' finger tips, in another sense they can isolate the individual from their immediate surroundings, limiting their communication with those around them. By encasing the iPad within the desk lid the comfort and convenience of the tablet is largely removed, and this permits a designated time and space for the user of the tablet, as well as potential shared value (Figure 6.2).

Figure 6.2 - iDesk



6.1.3 Matching Bedside Tables

These two matching bedside tables with holders designed for a lube tube or tissues (Figure 6.3) serve as an amusing reminder of the sexual frustration often found in long term marital relationships. The two elements of the design of these tables can be seen to have emotional values which both compliment and contradict one another. They reflect the joy, the tears, the highs and lows that are a natural part of any dynamic conjugal relationship. On a practical level, 'fun and function' are combined, as when lube is used then a tissue often follows.

Figure 6.3 - Matching lube and tissue tables



6.1.4 Side Table with Detachable Broom

This design is an attempt to ease the monotony of domestic chores and routine by including an element of surprise (i.e. emotional value) as well as functionality and shared value in order to encourage the attachment process. Whereas the other objects in this series have a permanent place, this piece pushes the boundaries of linking functional domestic objects to furniture by incorporating a detachable broom disguised as a table leg (Figure 6.4)

Figure 6.4 - Side table with detachable broom



6.2 Designs for Collective Memory

Collective memory encompasses the assembled life histories of individuals and may also incorporate the social activities of a group of people (Funkenstein, 1989). On an individual and/or personal basis, collective memory is the mental process of a person remembering special moments and events throughout his or her life, or it could be a collection of memories entailing both happy and sad events. On a societal basis, collective memory is the cultural compilation of a society's major events, material and immaterial works of art, science, knowledge, manners, education, modes of thought, conduct and attitudes that have been accumulated and passed down from generation to generation. Hence with collective memory, a key historical factor is shared in relationship by both individuals and society. My aim was to link product attachment theory to collective memory by designing objects that can be used in a social context. Objects such as board games, computers, iPods, game consoles, musical instruments or sports equipment all include an interactive value. The interactive properties of these objects appeal to the social and relational side of an individual which desires to be connected, linked, associated, attached and/or drawn in with others (Kegan, 1982).

Such objects should encourage couples to interact and engage in playful exploration to promote shared value. If the focus is placed upon designing objects with both shared and interactive value then this may result in a more interesting and engaging object to which both husband and wife may become attached. After engaging with such objects for a period of time, couples may begin to develop a collective memory and perhaps a relationship with that object. These objects can remind couples of joyful and exciting experiences once shared with friends and family members therefore they may increase the opportunity for memorable events to occur (Battarbee & Koskinen, 2008).

Keeping the shared and interactive aspect in mind, in this series I began by re-

designing a familiar object that couples can easily identify with, such as a piece of furniture, creating objects that may be used by couples to do household chores, relax or engage in conversation. The challenge was to simultaneously incorporate functionality, social experience, humour, playfulness, novelty, familiarity and uniqueness within the same design. Incorporating all of these elements into one object will increase the interactive properties of the object to enable a dynamic and enjoyable experience to be shared repeatedly over time. This therefore triggers the formation of collective memories that may be evoked when past pleasurable experiences are remembered.

6.2.1 Tables Incorporating Board Games

I designed tables incorporating board games that will encourage social interaction, either between married couples or among larger groups of family and friends. I believe that these tables will trigger collective memories that may be evoked when past pleasurable games are remembered. In the memory game (Figure 6.5) players take turns lifting each felt ball to reveal a series of expressive smiley faces. The aim is to memorise the placement of each face and then match up the pairs

Figure 6.5 - Memory game table



Figure 6.6 illustrates a game consisting of a grid of dots engraved on the table top. Players randomly pick a card with a simple shape printed on it and a dice is then thrown by each player, with the number thrown denoting the number of moves. The aim is to recreate the picture on the card by joining the dots on the grid using a non-permanent pen. The game can be played by two or more people and the first person to complete the drawing wins the game.

Figure 6.6 - Dot game table



Figure 6.7 illustrates my design for a tic-tac-toe game, which may also evoke collective memory as well as personal event memory. Coffee ring stains on furniture were initially the inspiration for this piece, which led to the creation of a table top consisting of nine coasters. The game consists of two coffee mugs each with a rubber stamp on the base, an ink pad to replenish the stamp, and a table inlaid with discarded kitchen tiles. The traditional game of tic-tac-toe is played using stamps on the mugs to mark the squares. This object may trigger a collective memory when past pleasurable games are remembered, thereby promoting product attachment.

Figure 6.7 - Tic-tac-toe table



6.2.2 Trash Tray

Figure 6.8 illustrates a trash tray located under a carpet and providing a unique temporary storage for unexpected dirt. It was inspired by the saying 'sweeping problems under the carpet'. This object has obvious functional value and could potentially be used by any member of a household at any time and in a social context with respect to anyone who accidentally spills something on the carpet, and so it may evoke collective memories.

Figure 6.8 - Trash tray located under carpet



6.2.3 Leather Chair with Whoopee Cushions

Figure 6.9 illustrates a leather chair aimed to create laughter and amusement in a social context, with an opportunity to share past memories of childhood pranks. The seat is stuffed with seven self-inflating whoopee cushions, thus recreating a loud farting noise when sat on. This piece tests the boundaries of acceptable adult social behaviour and allows married couples, their families and guests to revisit their childhood. Elements of both surprise and humour reflecting emotional value are present, thereby facilitating the attachment process.

Figure 6.9 - Leather chair with whoopee cushion



6.2.4 Garden Bench

Figure 6.10 illustrates my design for a garden bench that may evoke collective memory in its owners. The seats are replaced and filled with play sand and a detachable towel can be removed to allow for play or rolled out as a cover in order to provide a comfortable seat. The garden bench serves a dual purpose, both as a place for quiet conversation between husband and wife (i.e. shared value) and also for fun and frolics in the sand evoking memories of holidays on beaches in the sun (i.e. emotional value and collective memory).

Holidays, which were cited by the participants of this study to provide evocative memories, are recognised to be sources of product attachment.

Figure 6.10 - Garden bench



6.3 Designs for Personal Event Memory

Memories that recall significant occasions, incidents or moments in a person's life are defined as personal event memories (Pillemer, 1998). Domestic objects have the ability to contain and store episodic memories that are unique to individuals thus empowering the object to communicate with its owner(s) in a non-verbal language. When a consumer product embodies a personal recollection exclusive to the individual, then its value becomes personal and inherent, irrespective of the objects form or function (McCracken, 1988).

Domestic objects accumulate layers of histories, stories and memories, radiating unspoken evidence of past events and daily life for married couples. Memories can be triggered if an object shows physical signs of these events, for instance a scratch, marks or stains. So much can be remembered from the residue of an object, the broken handle, the

chipped table now stained with coffee rings; layers of history and stories are built into a single object that evoke personal event memories. These marks of use do not necessarily degrade the object's appearance, but can add to the richness of the personal, emotional and shared value for objects (Belk, 1991).

People's most prized possessions are often trifles, such as a chipped teacup or a torn and faded photograph. Attachment to these objects is entirely shaped by personal event memory because past experiences are no longer recoverable, except through recollection (Norman, 2009). Consequently, in these pieces I attempted to create links to personal event memory by relating the objects to common daily experiences. These types of objects could trigger and provide couples with memories of family life, and are likely to accumulate more memories over time.

6.3.1 Home Aid Kit

Figure 6.11 illustrates a home aid kit in the context of shared sentimental value. It is also based on personal event memory. I designed this kit for repairing chipped or scratched surfaces and it is constructed from several hard woods (walnut, mahogany, maple and cherry) including a glass Band-Aid. Little chips and scratches provide memories and evidence of day-to-day incidences. These marks or chips are not always pleasant reminders of past events and so a wooden Band-Aid can be used to cover the wound. The idea here is that it prolongs the life of the objects whilst disguising the damage. The aim is to humanise the furniture through the process of caring and therefore enabling a stronger attachment to develop. This kit is intended as a metaphor for healing bad memories.

Figure 6.11 - Home aid kit



6.3.2 Hair Rug

Figure 6.12 illustrates my design for a hair rug, the inspiration for which came from a respondent in this study who commented upon how he hated finding his partner's loose hair everywhere. Many hours are spent on cutting, colouring and styling our hair, yet this care turns into disgust the minute this very same hair is found on the ground or on food, whilst locks of hair have often been kept as souvenirs and symbols of love, reflecting their emotional value. It was this notion, evoking personal event memory that led to the design of the hair rug.

Figure 6.12 - Hair rug



I proceeded using my own hair, and wove it into an old bath mat, and the ritual of collecting my own hair after brushing every morning became my personal event memory. What makes this piece unique is that my physical self was woven into this rug. Therefore the bath mat becomes a physical representation of my own personal event memory, and consequently I have become emotionally attached to this rug.

6.3.3 Dining Chairs and Dinner Plates

Figure 6.13 illustrates a collection of dining chairs and dinner plates inspired by my own personal event memories of family life. The chaos, the mess, the fights, table manners, the stress and lively conversation are all part of coming together as a family for a meal.

Figure 6.13 - Dining chairs and dinner plates

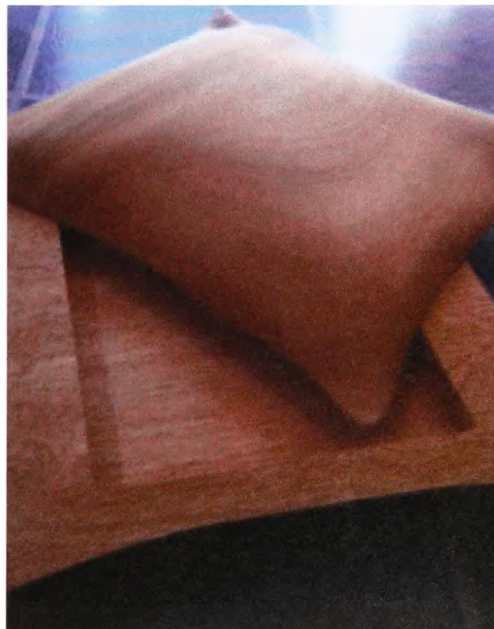


The dining chairs were designed to capture the territorial nature of an individual within a family, each claiming their own seat. My aim was to provide a unique physical imprint of the individuals' space around the family table and this was intended to provoke a personal event memory of family meals. The dinner plates were designed specifically with children in mind, as each one holds a different hiding place for unwanted vegetables. The underside of each plate is hollowed out allowing children to surreptitiously hide their vegetables. The plates also serve as a personal event memory of the times when children think they have outwitted their parents.

6.3.4 Adaptable Cushion

Figure 6.14 illustrates an adaptable cushion that I designed to encourage couples to compromise ascetically in the bedroom in order to create a gender neutral decor.

Figure 6.14 - Adaptable cushion



This design was inspired by a personal event memory from one of the participants in this study. The husband complained that his wife keeps their wedding box on his side of the

wardrobe. The need to share space is a common issue within any relationship, and the bedroom, being a more intimate shared space, can intensify the dynamics within a couple. The design objective was then to create a neutrally acceptable storage space for shared personal memories, and this piece embodies both feminine and masculine qualities in both the design ascetics and function, thereby promoting shared attachment. The attachment process is facilitated by providing a function to what is often considered to be a purely decorative item, thus elevating this object through both the purpose and the contents stored within it, as well as personal event memories associated with its use.

6.4 Further Research

Based on theoretical considerations and the findings of this study, action is recommended to promote the design and development of products specifically targeted for the married couple segment. Such new products should ideally focus on products that have a shared value eliciting emotional attachment, with an overlapping perspective for both partners. These may include a wide variety of items (e.g. jewellery, clothing and household items) jointly purchased just before or after marriage; however, to result in emotional bonding and product attachment, it is necessary to bring the design of such products as close as possible to the users' desired expectations with respect to the emotional needs of both the husband and wife.

Careful attention needs to be given to the design and marketing of gender-neutral products for married couples, with no strong masculine or feminine overtones. Such products may appeal simultaneously to the shared value of both husband and wife when they are purchasing gifts or household objects just before or after they are married. The problem is that if a design problem is to be framed as gender-neutral then some important gender differences concerning the product would need to be neglected, for example, its colour, size and shape, which are known to induce gender specific responses (Xue & Yen, 2007).

Because married men and women appear to strongly identify with objects having male or female attributes respectively, careful attention needs to be given to the design and marketing of gender-specific products which also have conjugal overtones.

Designers and marketers should be aware that through attachment to products with distinct male or female attributes, husbands and wives can maintain their distinct gender identities and roles within marriage. The finding that there are strong gender differences in product attachment among married couples indicates that the marketing of two opposite and distinct designs of one type of product (e.g. a gender-specific item of clothing) with one design for the husband and the other design for the wife, may be appropriate.

The experiences, opinions and preferences collected from the participants in this study could serve as a starting point for future experimental studies. For example, a researcher could ascribe numerical scales to the values and attributes of specified domestic objects. A random sample of married couples could be asked to rate their level of emotional response to each product using a numerical scale. Random sampling would help to permit the generalisation of the findings from the sample to the population. Further studies might be undertaken by asking the participants to compare new products specifically designed for married couples. The aim would be to determine if the design of the new products elicits the intended bonding and/or emotional responses from both husbands and wives. Statistical models based on empirical quantitative data have previously been formulated to predict the levels of consumer responses towards advertisements and brands. Such models have highlighted the role of emotional responses in the sequence of steps that intervene between exposure to an advertising message and the eventual purchase of a product (e.g. Hill & Mazis, 1986).

A search of the literature indicated a similar type of statistical model has not yet been constructed to predict the levels of consumer responses towards product attachment.

Consequently, it is recommended that quantitative data generated through experimental studies should be incorporated into a statistical model to predict the levels of dependent variables associated with attachment theory (e.g. the perceived level of emotional and/or bonding of married couples to different products) using specified values and/or attributes of the products as independent variables. Such models could be constructed using multiple regression analysis, a modelling technique based on empirical data that is commonly applied to predict dependent variables from independent variables in business and marketing contexts (Black, 2006). However, it must be remembered that individual designers may find it rather difficult to incorporate such research into their work, and as a result of this the next chapter presents a series of case studies and my own reflections on the designed objects discussed in this chapter. I would also suggest that further design-based research may be highly useful for informing individuals who work within the design industry.

CHAPTER 7: CASE STUDIES AND REFLECTIONS

7.1 Introduction

This postscript was conceived several months after the first six chapters were written, and it focuses on the intimate relationship that developed between myself and the ways in which I conducted qualitative research, which is a justifiable subject for scrutiny. The personal reflections of a researcher are an important part of the audit trail, to be examined, approved, celebrated and/or challenged by others. Qualified persons must have free access to all of a researcher's reflections in order to judge the credibility and dependability of the qualitative research conducted (Denzin & Lincoln, 2008). Revelations about the self, in particular the reflexive, knowing, inner self, are of utmost importance in this respect (May, 2002). Reflexivity enhances the quality of research through its ability to extend our understanding of how our positions and interests as researchers influence all stages of the research process. Reflexivity emphasises the subjectivity of a researcher and provides transparent signposts for readers to understand how and why a researcher reaches a particular set of outcomes (Finlay, 2002). Accordingly, in this chapter I pay close attention to the notion of transparency through the self-telling of the personal experiences and emotions that were part and parcel of my research, leading to the design and production of a range of novel artefacts. I choose to make my experiences, opinions, thoughts and feelings visible because this is an acknowledged part of the qualitative research process. The personal revelations of a qualitative researcher, however, cannot be established scientifically in terms of their ultimate truthfulness, but must be accepted simply on faith (Denzin & Lincoln, 2008).

7.2 The Concept of Reflections

The concept of reflections is a subject of debate within the literature, and consequently, I first need to define exactly what my reflections might comprise. Kolb (1984)

suggests that reflections are the internalisation and assimilation of experiences into abstract concepts, leading to patterns, meanings and future actions. Schön (1983) defines reflections in terms of active, rigorous and emotional personal initiatives that build new knowledge upon past experiences. He classifies reflections into two types: 'reflection-in-action' and 'reflection-on-action'. Reflection-in-action refers to the self-monitoring that occurs whilst a person is actively engaging in an experience, and it reflects the artistry of a person who responds immediately to a past experience by integrating it with a new experience. It may involve gut reactions or intuition in addition to systematic cognitive processes. I have already recorded my reflections-in-action within Chapter 6 when discussing the rationale for my design of a new range of design pieces based partially on my research findings concerning the applications of product attachment theory. These reflections referred mainly to historical events that I experienced over one year ago; however, my reflections-in-action have evolved and matured over time into reflections-on-action. Reflection-on-action, otherwise known as a cognitive post-mortem, is a researcher's conscious review of a past experience, sometime after it has been completed (Schön, 1983). The goal of reflection-on-action is to critique a past experience in an effort to discover new understanding. Reflection-in-action should not, however, be an excuse for researchers simply to confirm the validity of their research by retro-fitting their established outcomes to the original evidence through a process of reverse engineering. This type of self-fulfilling prophecy, in which researchers selectively report only confirmatory information in order to endorse their own possibly distorted preconceptions is termed confirmation bias (Lewicka, 1998). Confirmation bias is highly prevalent among qualitative researchers, and it is at the root of the publication of a considerable amount of misleading information present within the academic literature (Oswald & Stefan, 2004). Nevertheless, confirming their own preconceptions seems to have a magic hold over some members of the academic profession, despite most of the scientific community being opposed

to such dubious methods (Patel, 2008). Reflection-on-action, in contrast, is an authentic process that does not attempt to distort the truth. It requires researchers not only to think about their experiences retrospectively but also differently, in order to resolve contradictions, take risks, open their minds and be imaginative (Westberg & Jason, 2001). In order to avoid falling into the trap of confirmation bias, Johns (2004, p. 18) recommends a strict framework for conducting reflection-on-action, involving the answering of the following questions:

1. What factors influenced the way that you felt or thought?
2. What knowledge informed, or might have informed you?
3. What particular issues seemed significant to pay attention to?
4. To what extent did you act in tune with your values?
5. How might you respond more effectively given this situation again?

The subsequent five sections of this chapter are based upon this framework.

7.3 What factors influenced the way that you felt or thought?

Throughout this study I attempted to reconcile my inherent artistic creativity with the rigours of the scientific method to apply the disciplined methods of social science to provide a basis for creative design. Although I discovered that this marriage was difficult to achieve in practice, I did not follow the traditional view that art and science are alienated from each other. One factor that influenced the way that I feel about this topic was reading the literature, which confirmed my view that both art and science can help each other to reach new levels of accomplishment, but only if they stop perceiving each other as polarised opponents. I agree with Richard Dawkins (1998) who addressed the misconception that science is at odds with art in his popular book *Unweaving the Rainbow: Science, delusion and the appetite for wonder*. Dawkins' starting point was John Keats's accusation that Sir Isaac Newton destroyed the poetry of the rainbow by 'reducing it to prismatic colours.' Dawkins argues, however, that science does not destroy, but rather discovers poetry in the patterns and reality

of nature. Similarly, I do not believe that the design pieces that I created were degraded in artistic value simply because they were partially conceived through the application of an objective scientific methodology involving the collection and analysis of facts and figures. Nevertheless, I found myself in extreme difficulties when I tried within this study to simultaneously conjoin the subjective methodologies of art and the objective methodologies of science. To clarify my thoughts, I record my reflections here on the schizoid nature of the feelings of a novice researcher attempting to reconcile in one study the creative processes of both art and social science.

First, I concur with the argument of Strange (2010) that science is often viewed by many artists as a cold, rigid, formal and largely mechanical process, which is less creative than art because of its strong emphasis on adhering to the rigorous rules of scientific methodology, particularly physical science involving a positivist approach with a hypothetico-deductive strategy. In contrast, art is generally viewed by many scientists to be largely an informal and subjective process, because even though artists may be serious in their creative endeavours, their actions are largely rooted in emotions and they rarely follow strict methodological rules. I feel that this dichotomy is unfounded and that my work is an example of how the rigorous methods of social science can be effectively combined with liberal artistic creativity.

Second, I felt that, to achieve the aims of this study I needed to develop the objective curiosity of a social scientist, based on the collection, analysis and interpretation of facts and figures, concerned with the complexities of human behaviour in a social setting. Paradoxically, at the same time I also needed to develop my subjective curiosity as an artist in order to give social meaning to the design pieces that I created. This paradox was highlighted by my feeling that I needed to view the world through two different lenses: primarily, as if through a microscope, focusing on the minutiae of experiences and emotions

that are unique to the situation of each individual person, but secondly, as if through a telescope, in order to generalise my findings so that they applied to people and situations outside the immediate boundaries of my research. These two perspectives were difficult to bridge and I was concerned that dependence on detailed information derived from individual cases might render the outcomes of this study incapable of generalisation to other cases. To design new products based only on the evidence collected from individual cases might threaten the credibility and dependability of this study. The outcomes may have significance to certain individuals but would not necessarily apply to other people, at other times, and at other places. Consequently, I felt that I needed to generalise the outcomes of my research to theory rather than to people. In this way I have come to see myself as a social scientist, because I attempted to formulate problems in terms of research questions, to perceive reality in terms of generalisation to theory (specifically product attachment theory), to realise my perceptions by collecting objective evidence to answer the research questions posed, and to expand the original theory. At the same time, using my artistic licence I attempted to solve my own creative problems, by realising my subjective perceptions through the design of novel artefacts.

Third, I feel that I can identify myself as a social scientist because I began to study my formulated problems by conducting a literature review to find out what others had discovered, before collecting more data in order to confirm, refute or expand what others had discovered. At the same time, as a professional designer I was also interested in what other artists had designed before I attempted to design something different.

Fourth, I see myself as a social scientist, because I decided to solve my formulated problems concerning human behaviour by using an appropriate qualitative research design (phenomenology) based on what other researchers recommended was the best practice. At the same time, as an artist I also decided to solve my own problems by designing and creating

pieces that were expressions of my own best practice, rooted in the thoughts, experiences, and feelings of myself and others as a frame of reference.

Fifth, during this study, I developed the obsessive concern of a social scientist for designing and implementing research to avoid the many errors that could potentially contaminate the results and render the outcomes misleading or even meaningless. I was aware that the data I collected could be biased for many reasons. I could potentially fall prey to researcher bias by selectively reporting only the data that fitted my preconceived ideas, whilst selectively rejecting the data that did not. Furthermore, because the interviews were a process of social interaction, involving the recollection of subjective reality from memory, it was possible that the respondents interacted with me in a biased way so that the truth became distorted (Maccoun, 1998; Hilbert 2012). Consequently, I felt that I needed to use an objective analytical strategy based on the thematic analysis of qualitative data, including categorical aggregation implying the use of quantitative analysis, to compute the frequency distributions of the participants' responses to each theme (Denzin & Lincoln, 2008). At the same time, I felt that I also needed to apply the obsessive concern of an artist for the fine details associated with the physical and mental processes involved in the design and production of new artefacts; however, because these details involved personal subjective judgment they necessarily reflected my own potentially biased values and viewpoint.

Sixth, I perceive myself to be a social constructivist, because I am interested in understanding the social world, where human interactions give meaning to reality and where reality is constructed from the myriads of subjective perceptions of each individual. To most social scientists the study of human interactions is an end in itself worthy of intensive study, but it does not necessarily lead to the design of a physical end product. As an artist, however, I was not interested in exploring the meaning of social interactions between married couples *per se*, but rather in exploring what was meaningful to myself in the context of social

interactions with married couples, within which configuration I was able to define the rationale for my subsequent actions in order to design and produce new artefacts.

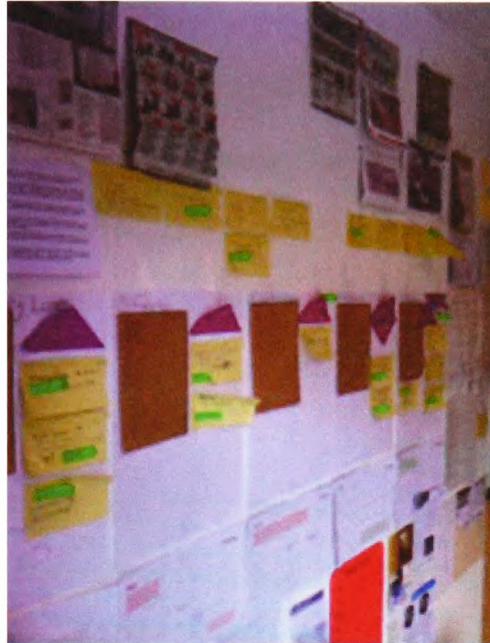
Seventh, in order to see myself as a scientist, I am obliged to conform to the practices prescribed by the establishment. For example, my research has to be examined and challenged by a small group of academics or peer reviewers, otherwise I am marginalised. Paradoxically, as an artist my interest is in achieving acclaim from a wider audience. As an artist I would like to challenge the establishment, following the view that successful artists often contest the *status quo* and its definition of what constitutes art; however, in so doing, they are not always marginalised, but are often recognised as initiators of an artistic innovation or movement.

Eighth, I agree with Stange (2010) that every creative person, irrespective of whether they claim to be a scientist and/or an artist, has unique sensitivities and applies a slightly different creative process in practice. What motivates one will not necessarily motivate another. An individual who is creative in science may not necessarily be a creative artist and *vice versa*. Every scientist and artist will realise different outcomes based on their previous influences and skill sets. Consequently, I feel that the influences that inspired my own unique artistic and scientific endeavours could very well be a stopping point for others.

7.4 What knowledge informed, or might have informed you?

The point of departure for my portfolio of design pieces was the inspiration that I gained from reading the literature and reviewing the photographs and verbal information that I gathered from the interviewed participants. I also responded subjectively to images, sketches, words, and domestic objects that I found in second hand shops. I mounted many notes, memos, reflections, photographs, sketches and questions on the wall of my studio, to provide a useful and visible source of inspiration (see Figure 7.1).

Figure 7.1 - Inspirational materials mounted on the wall of my studio



The rigorous methods of social science led me to develop the facets of product attachment theory and to increase my understanding of the importance of episodic memory, and how it appeared to play a pivotal role in promoting the attachment of married couples to everyday household objects, through their functional, personal, social or shared value. As an artist, however, on reflection, I came to realise that my ultimate goal was not necessarily to follow a prescribed formula or to apply a scientific theory strictly grounded in evidence. In addition to the influences of the results of scientific enquiry, I opened my mind to generate as many ideas as possible and to allow the creative process to run its course.

7.5 What Particular Issues Seemed Significant to Pay Attention To?

In addition to my own feelings, the issues that I paid closest attention to in order to achieve the objectives of this study were the values that the participants placed on the domestic objects that they used on a daily basis, be they practical (functional value) or emotional (personal, shared, or social value) based on an expansion of product attachment

theory. I focused mainly on the objects that the couples declared a personal or shared attachment to, associated with their functional value, and the memories that they invoked, associated with their personal, shared or social value. I did not focus on the aesthetic or fiscal value of the objects, or their roles as status symbols, because these values were not highlighted by the interviewed participants. I asked the participants to provide photographs of the objects that they valued. Although the quality of images was not good, these photographs were very useful because they inspired me to think about and formulate many creative design themes (see Figures 7.2, 7.3, and 7.4).

Due to the diverse and apparently random list of objects photographed by the participants, the artefacts designed as an outcome of this study have variable aesthetics; however, achieving aesthetic value was not the purpose of the design process. Each of the design pieces has a direct link to an image or an interview response gathered during the course of the study (see Figures 7.2, 7.3, and 7.4). The common thread was the memories that the participants reported that were invoked as a consequence of using these domestic objects on a daily basis. I came to recognise that a series of eventful triggers based on historical memories were necessary to aid the attachment process and were at the root of sustaining long term product attachment.

Figure 7.2 - Design themes leading from objects photographed by the participants (1)



Figure 7.3 - Design themes leading from objects photographed by the participants (2)



Figure 7.4 - Design themes leading from objects photographed by the participants (3)



I was also concerned with the issue of the materials used to construct the objects. My portfolio of designs explored a wide-spectrum of materials, including, wood, leather, human hair, plastic and glass. The process began by altering the design and function of an existing found object using a combination of traditional craft techniques and industrial processes, such as rapid-prototyping, laser-cutting and computer numerical control (CNC) machining. Because the artefacts were intended to provoke a memory, I began by collecting recycled material because the re-designed aesthetic provides a possible trigger for episodic memory. Using recycled and/or reclaimed materials as much as possible provided a unique aesthetic that engages the viewer's imagination to provide a sense of history and nostalgia.

Having established my feelings and knowledge on the important issues and paradoxes associated with this study, I now present the outcomes of my reflections-on-action with respect to three of my design pieces in an effort to discover new understanding. These reflections are based on the re-examination of the interview transcripts, texts and photographs, and asking questions and wondering 'what if?'

7.6 Case study one: Coffee Table with Built-In Remote Control

Televisions, digital TV boxes and their remote controls were among the common household items photographed by three of the participants in this study (see Figures 7.2, 7.3, and 7.4). During the interviews I asked questions to stimulate discussions regarding these objects, including 'Why did you choose to photograph these objects?' and 'What would you do to improve the design or function of these objects?' The couples expressed their desire to find a solution that would prevent the loss or misplacement of their remote controls and my immediate response was to design and construct a coffee table with a built in universal remote control (Figure 7.5), with the batteries being accessed and changed from underneath the table.

Figure 7.5 - Coffee table with built in remote control



The remote control for a TV is a common source of friction within marital relationships, because possession brings power and misplacement leads to frustration (Walker, 1996). My aim in creating this piece was to provide a permanent and accessible home, making the remote available to all users equally, and to avoid domestic arguments.

Retrospective reasoning revealed that a novel design of a table containing a remote control was supported by product attachment theory because: (a) it has functionality, facilitating the accomplishment of a physical task during usage and ownership (Choi, 2007); (b) it has interactive value, because an owner will place worth upon the remote control due to the interactive experience offered while using it (Hummels, 1999); (c) it has emotional value, providing the facility to produce heightened feelings, impacting upon and manipulating the users (Schifferstein & Zwartkuis-Pelgrim, 2008); (d) it has social value, promoting the desire of individuals to be connected with others (Kleine et al., 1993); and (e) it has shared value, because a couple in a long-term relationship may develop a joint emotional attachment to an object which they use every day (Olsen, 1985). It is also possible that such a product might elicit episodic memories, allowing an individual to travel back in time to remember an event

that took place at a particular time and place (Schacter et al., 2011). In practice, it is possible that this object merely has functional value. Because electronic gadgets rapidly become obsolete, personal or shared attachment to a coffee table with a built in remote control may not necessarily outlast its functionality.

7.7 Case study two: Desk with Built-In iPad

iPads were among the items photographed by two of the participants interviewed in this study (see Figure 7.2). The conversation I had with one male participant concerning his attachment to an iPad is reproduced below:

I - Why did you choose to photograph this objects?

Participant - I am very attached to it.

I - Will you consider replacing it with a newer model?

P - Umm perhaps yes. It's always tempting.

I - Do you consider this object to be mundane?

P - No not at all.

I - Does this object have any sentimental or monetary value to you?

P - Not sentimental, but it is expensive.

I - Does this object have functional value?

P - Absolutely I use it every day.

I - Can the design of these objects be improved?

P- No, but I'd like the battery to last longer.

I - What would you do to improve the design or function of this object?

P - Nothing. It's an amazing piece of art, but I am still struggling to find a comfortable case for it.

My immediate response to this information (reflection-in-action) was to design and construct a desk with a built in iPad which I call an iDesk (Figure 7.6)

Figure 7.6 - iDesk

My design aim was to combine entertainment, education, communication and memories in one table, making it ideal for today's modern lifestyle. By encasing the iPad within the desk lid the convenience of the mobility of the device is largely removed, and this permits a designated time and space for one or more users of the tablet. Retrospective reasoning revealed that this novel design for a desk was supported by product attachment theory, because like the coffee table with a remote control, it has functionality, interactive value, emotional value, social value and shared value. It is also possible that this desk will trigger episodic memory resulting in product attachment, although in practice it is possible that this object merely has functional value. Similar to the remote control, the iPad is an electronic gadget that will inevitably become obsolete in time, so the attachment to this object may not necessarily outlast its functionality.

7.8 Case studies Three and Four: Matching Bedside Tables

The images of tissues and stuffed animals shown in Figure 7.7 were collected during a revealing dialogue during my interview with one couple. This couple was very open, with a

relaxed sense of humour, and the conversation focussed on sexual issues faced by married couples with young children with a level of honesty I was not expecting. My immediate response (reflection-in-action) was to design and construct a pair of matching bedside tables with holders for tissues and lubrication oil (see Figure 7.8). These two matching bedside tables serve as an amusing reminder of the sexual frustration often found in long term marital relationships. The two elements of the design of these tables can be seen to invoke episodic memories which both compliment and contradict one another. They reflect the joy, the tears, the highs and lows that are a natural part of any dynamic conjugal relationship. On a practical level 'fun and function' are combined, as when lubrication is used then a tissue often follows. Retrospective reasoning reveals that the design of the matching bedside tables is supported by product attachment theory, through functionality, emotional and shared value. It is possible that such a product might elicit episodic memories, allowing couples to travel back in time to remember amusing events that took place in the past. In practice, it is possible that the tables merely have functional value; however, unlike objects incorporating electronic gadgets, the tables are unlikely to become obsolete, so attachment to the tables may outlast their functionality.

Figure 7.7 - Tissues and stuffed animals photographed by the participants

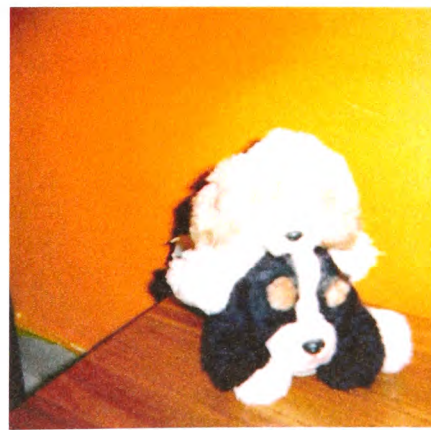


Figure 7.8 - Matching bedside tables with holders for lubrication oil and tissues



7.9 To What Extent Did You Act in Tune with Your Values?

In this chapter I have attempted to rationalise the reasons why I acted in ways that were in tune with the liberal and subjective values of an artist, within whom also beats the heart of an objective scientist. I believe that I acted in tune with my values because I was able to reconcile my inherent artistic creativity with the rigours of the scientific method in order to apply the disciplined methods of social sciences to provide a basis for creative design

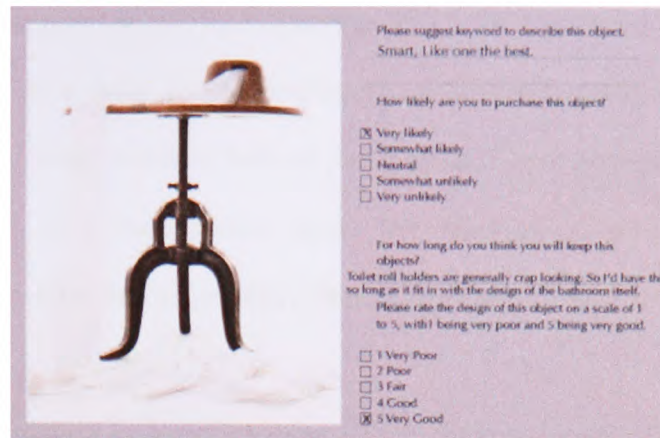
I felt retrospectively, however, that it was very difficult for me to remain scientifically objective when it came to critically reviewing the value and success of my own design practices. My own emotional attachment to the objects in question precluded their objective evaluation. Regardless of whether the design pieces were successful or not, I perceived that there might be several flaws providing potential for improvement. Therefore, after reflection I thought that it was imperative for me to stay in tune with my scientific values by re-evaluating my designs objectively. I re-interviewed the three couples who had inspired three

of the designs and used a short interview card which I presented to the participants at the interviews (see Figure 7.9). The aim was to test their initial reactions toward the designs and to inform the continuous process of product development.

I was able to elicit an overview or indication that the design process or designed piece was successful in provoking a memory or providing a possible trigger to induce product attachment among the participants. Although time and resources prevented my progress to fully test the prototypes, these interviews influenced the ways in which I currently feel and think about the objects and how their design may be improved in the future.

Figure 7.9 - Interview cards used to evaluate the designs





The iDesk was considered to have potential for product attachment, following the comment that 'This would be used constantly by the family so use until it is worn' and the remote coffee table was described as a 'stylish and interesting concept'. The couples were very pleased with the table; however, whether it would stand the test of time is questionable, due to the technological element imbedded within its surface, and it is possible that remote control devices will eventually become obsolete. Nevertheless, the couples expressed their desire to keep the table because of the novelty element, stating 'The talking point will always be present.' It seems that it is possible to provoke an episodic memory long after an object reaches obsolescence, as it is the memory that this object may provoke which acts as a possible trigger to induce attachment. The matching bedside tables were considered to be 'smart' although the comment 'I'd have this so long as it fit in with the design of the bedroom itself' implies that product attachment may not necessarily be intrinsic to the object, but also to the room in which it is kept, providing inspiration for the design of products that may match the domestic environment.

7.10 How might you respond more effectively given this situation again?

Finally, the question of how I might respond more effectively when approaching this situation again, is that I feel that I should put more thought and effort into reconciling my

work as both a designer and a social scientist, using the perceptions and experiences of potential customers as a basis for my inspiration. Although Leonardo da Vinci may have found it easy to seamlessly combine both art and science, I now appreciate that I do not have the creative powers of a 'Renaissance Man'. The marriage of art and science requires considerably more thought and effort than I first realised when I started this long and difficult journey.

My future research in social science will continue to explore the nature of people's reactions to domestic objects and to apply my findings to inspire the design of objects that stimulate such reactions. I need to investigate further what makes domestic objects meaningful and valuable to people. I need to understand more about what meaning and value people ascribe to domestic objects in the context of a configuration of circumstances, within which the owners, particularly married couples, are able to describe their personal or shared reasons for the attachment, providing me with objective evidence to reflect on these reasons and to inspire meaningful artistic outcomes, in terms of new design pieces.

My final conclusion is that the design pieces that I created for the purposes of this study represent only a starting point rooted in the marriage of art and science to inspire future designs that may promote product attachment. My future research will involve picking successful pieces and exploring their full potential, improving their weaknesses and pushing the products further, and reflecting their combined scientific and artistic heritage.

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APPENDICES

Appendix A contains a table recording the coded responses of the participants in the preliminary study. Appendix B includes the instrument (interview questions) used to collect the data for the main study. Appendices 1 to 17 contain tables recording the coded verbatim responses of the participants in the main study, as follows:

Appendix 1 Coded responses to 'If you had to sell all of your belongings, except for ten objects, what would those objects be?'

Appendix 2 Coded responses to 'Q1. How did you acquire this object?'

Appendix 3 Coded responses to 'Q2. When did you acquire this object?'

Appendix 4 Coded responses to 'Q3. How frequently do you use this object?'

Appendix 5 Coded responses to 'Q4. Where do you keep this object?'

Appendix 6 Coded responses to 'Q5. In the event of it breaking, would you donate, dispose, repair or replace this object and why?'

Appendix 7 Coded Responses to 'Q6. Do you feel emotionally connected to this object?'

Appendix 8 Coded Responses to 'Q7. Does your partner share your emotional attachment to this object?'

Appendix 9 Coded Responses to 'Q8. What makes this object special?'

Appendix 10 Coded Responses to 'Q9. What functions does this object serve?'

Appendix 11 Coded Responses to 'Q10. Please describe your reaction when you first saw this object'

Appendix 12 Coded responses to 'Q11. Please describe the design and aesthetic of this object and how does it appeal to you?'

Appendix 13 Coded responses to 'Q12. Does your partner own any objects that you despise and why?'

Appendix 14 Coded responses to 'Q13. Please describe objects that reflect you or your personality'

Appendix 15 Coded responses of objects chosen by men perceived to be valuable to partners which were congruent with objects chosen by partners

Appendix 16 Coded responses of objects chosen by women perceived to be valuable to partners which were congruent with objects chosen by partners

Appendix 17 Coded Responses to 'Q14. Other thoughts and comments'

Appendix B - Instrument Used in the Main Study

Dear Participant,

This questionnaire is part of an ongoing postgraduate research study on product attachment. The research explores gender differences in product choices and essentially questions what motivates men and women to retain and dispose of everyday mundane objects. Through your participation, I eventually hope to understand how men and women differ in their views and relationship with mundane objects. The objective of this research project is to create sustainable design strategies dedicated to gender needs and preferences.

Enclosed with this package:

1. A disposable camera. Please use the camera to take images of objects you consider to be mundane.
2. Journal/questionnaire which seeks your views and asks a variety of questions about your attitudes and experiences with simple mundane objects. Since the validity of the results depend on obtaining a high response rate, your participation is crucial to the success of this study. The questionnaire should take approximately 15 - 20 minutes of your time and I hope you will be able to find the time to think and reflect on your answers before handing back the questionnaire.
3. Two consent forms.

Please look over the questionnaire and, if you choose to participate, first complete the attached consent forms. **DO NOT** write your name on the questionnaire. I do not need to know who you are and no one will know whether you participated in this study. Please be assured that your responses will be held in the strictest confidence, the questionnaire will be destroyed immediately after the data are recorded. If you have any questions or concerns about completing the questionnaire or about being in this study, you may contact me on 07931420012 or email waard2000@gmail.com.

Sincerely,
Faridah Alrashid
Postgraduates Researcher
University of Wales, Newport.

	<p>1. Please state your occupation:</p>
	<p>2. Please indicate your gender:</p>
<input type="checkbox"/>	Male
<input type="checkbox"/>	Female
	<p>3. Marital status:</p>
<input type="checkbox"/>	Single
<input type="checkbox"/>	Married
<input type="checkbox"/>	Divorced
<input type="checkbox"/>	Widowed
	<p>4. Which range includes your age?</p>
<input type="checkbox"/>	18-24
<input type="checkbox"/>	25-34
<input type="checkbox"/>	35-44
<input type="checkbox"/>	45-54
<input type="checkbox"/>	55-64
<input type="checkbox"/>	65 or older
	<p>5. Are you currently living with a partner? If yes, Please indicate the period.</p>
<input type="checkbox"/>	Less than 6 months
<input type="checkbox"/>	6 months to 1 year
<input type="checkbox"/>	1 year to 3 years
<input type="checkbox"/>	3 years or more

If you had to sell all of your belongings, except for 10 objects. What would those objects be?

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Please list several objects that YOU THINK are valuable to your life partner. These objects may or may not have obvious value TO YOU. Please complete the question without referring to your partner for answers.

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Please list several objects that have been in your life for few years. These objects may or may not have obvious value, but have affected you or your relationship with your partner. Now after identifying these objects, please choose one and complete the following questionnaire.

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1

How did you acquire this object?

A series of horizontal dashed lines for writing, organized into 10 pairs. Each pair consists of a solid top line and a dashed bottom line, providing a guide for letter height.

4

Where do you keep this object?

A series of 18 horizontal dashed lines for writing, each preceded by a vertical dashed line that creates a margin on the left side.

9

What functions does this objects serve?

A series of 18 horizontal dashed lines for writing, each preceded by a vertical dashed line that creates a margin on the left side.

1 1

Please describe the design and aesthetic of this object, and how does it appeal to you?

A series of 18 horizontal dashed lines for writing, each line starting with a vertical dashed line on the left side, forming a grid for text entry.

1 3

Please describe objects that reflects you or your personality.

A series of 18 horizontal dashed lines for writing.

Appendix 1 - Coded responses to 'If you had to sell all of your belongings, except for ten objects, what would those objects be?'

Sex	Object	Utility	Values	Attributes
F	Baby's first outfit	NFU	AFF	FEM
F	Collection of cards from husband and family	NFU	AFF	FEM
F	Engagement ring	NFU	AFF	FEM
F	Family photo album	NFU	AFF	FEM
F	Heirloom china dishes set	NFU	AFF	FEM
F	Heirloom cradle	NFU	AFF	FEM
F	Heirloom crib	NFU	AFF	FEM
F	Kids' first jewellery	NFU	AFF	FEM
F	Prom Dress	NFU	AFF	FEM
F	Ring my boyfriend bought me	NFU	AFF	FEM
F	Wedding dress	NFU	AFF	FEM
F	Photographs	NFU	AFF	FEM
F	Photographs	NFU	AFF	FEM
F	Box of photographs	NFU	AFF	FEM
F	Wedding photo album	NFU	AFF	FEM
F	Wedding photo album	NFU	AFF	FEM
F	Wedding ring	NFU	AFF	FEM
F	Wedding ring	NFU	AFF	FEM
F	Teddy bear	NFU	PER	FEM
F	Bible	NFU		SPI
F	Bible	NFU		SPI
F	Prayer beads (rosary)	NFU		SPI
M	Picture frame of photos with girlfriend	NFU	AFF	FEM
M	Wedding album	NFU	AFF	FEM
M	Wedding ring	NFU	AFF	FEM
M	Medals	NFU	CON	MAL
M	Bible	NFU	SPI	SPI
M	Bible	NFU	SPI	SPI
M	Music Collection	FUN		AES
M	House	FUN	SOC	FEM

M	Expensive ties	FUN		AES
M	Computer	FUN	INT	
M	Television	FUN	INT	
M	Bed	FUN		
M	Espresso Machine	FUN	INT	
M	Guitar	FUN	INT	
M	Stereo	FUN	INT	
M	Motorbike	FUN	INT	MAL
M	Bike	FUN	INT	MAL
M	Running Shoes	FUN		MAL
M	Office Desk	FUN		
M	Shirts	FUN		AES
M	Socks	FUN		AES
M	Underwear	FUN		AES
M	Cell Phone	FUN		
M	Printer	FUN		
M	Books	FUN		
M	Cigarette Pipe	FUN	INT	
M	PSP (play station)	FUN	INT	
M	Phone	FUN	INT	
M	Bed	FUN		
M	Camera	FUN	INT	
M	Guitar	FUN	INT	
M	Computer	FUN	INT	
M	Bike	FUN	INT	MAL
M	Wallet	FUN		
M	Sunglasses	FUN		AES
M	Road Bike	FUN	INT	MAL
M	Mountain Bike	FUN	INT	MAL
M	Car	FUN	SOC	
M	First Aid TRG kit	FUN		
M	Clothes	FUN		AES
M	Laptop	FUN	INT	
M	BBQ	FUN	INT	
M	Rock Climbing Equipment	FUN	INT	MAL

M	Kayak	FUN	INT	MAL
M	Sofa	FUN		AES
M	Fridge	FUN		
M	Bed	FUN		
M	Car	FUN	SOC	
M	Computer	FUN	INT	
M	iPhone	FUN	INT	
M	TV remote	FUN	INT	
M	Work Tools	FUN	INT	MAL
M	Work Van	FUN	INT	MAL
M	Motorbike	FUN	INT	MAL
M	XBOX 360	FUN	INT	
M	George Forman (grill)	FUN	INT	
M	Mobile Phone	FUN	INT	
M	Lawn Mower	FUN	INT	
M	Workout Weights	FUN	INT	MAL
M	Diamond Belt	FUN		AES
M	Laptop	FUN	INT	
M	Camera	FUN	INT	
M	iPod	FUN	INT	
M	Laptop	FUN	INT	
M	Desktop PC	FUN	INT	
M	Reading Glasses	FUN		AES
M	Sunglasses	FUN		
M	Chess set	FUN	INT	
M	TV	FUN	INT	
M	Sky TV Box	FUN	INT	
F	An outfit of clothing	FUN		FEM
F	Undergarments	FUN		FEM
F	Flute	FUN	INT	
F	Address book	FUN		
F	Credit card/bank card	FUN		
F	Driver's License	FUN		
F	ID Passport	FUN		
F	Camera	FUN	INT	

F	Memory cards	FUN	INT	
F	Quality brand dresses	FUN		FEM
F	Wristwatch	FUN	INT	
F	Reading glasses	FUN		
F	Passport	FUN		
F	Debit card	FUN		
F	Lap top	FUN	INT	
F	Camera	FUN	INT	
F	Winter coat	FUN		FEM
F	Car	FUN	INT	
F	Under wear	FUN		FEM
F	House	FUN	SOC	FEM
F	Bike	FUN	INT	MAL
F	Flute	FUN	INT	
F	Watch	FUN	INT	
F	Purse	FUN		
F	Bed	FUN		
F	Cooker	FUN	INT	FEM
F	Camera	FUN	INT	
F	Hair Brush	FUN	INT	FEM
F	Quicksilver Bag	FUN		FEM
F	Mobile Phone	FUN	INT	
F	Bed	FUN		
F	Flip-flops	FUN		AES
F	Home	FUN	SOC	FEM
F	Makeup	FUN	INT	FEM
F	iPod	FUN	INT	
F	Tweezers	FUN	INT	FEM
F	Car	FUN	INT	
F	Makeup	FUN	INT	FEM
F	TV	FUN	INT	
F	iPod	FUN	INT	
F	Hair straighteners	FUN	INT	FEM
F	Kindle (electronic gadget)	FUN	INT	
F	Washing machine	FUN	INT	FEM

F	Oven	FUN	INT	FEM
F	TV	FUN	INT	
F	Sky TV box	FUN	INT	
F	Makeup	FUN	INT	FEM
F	Elliptical Threading Machine	FUN	INT	FEM

Appendix 2 - Coded Responses to 'Q1. How did you acquire this object?'

ID	Sex	Object	Utility	Value/ Attribute	Response	Theme
1	F	Wrist watch	FUN	AFF	My husband gave it to me as a symbol for his gratitude for me giving birth to our first child.	SV
2	F	Indian wall hanging piece	NFU	AES	I bought it.	Not SV
3	F	Bunnykins dishes	NFU	AFF	Given to my parents for me upon my birth, by my grandparent (late) and aunt (late).	Not SV
4	F	Tinkerbell frame	NFU	AFF	First birthday present given to me by my boyfriend. Picture I took of us for my photograph project.	SV
5	F	Engagement ring	NFU	AFF	He proposed to me on my birthday.	SV
6	F	House	FUN	AFF	Bought the house together.	SV
7	F	Teddy bear	NFU	AFF	Gift from my husband on our first valentine's day together.	SV
8	F	iPod	FUN	AFF	Gift from my husband	SV
1	M	Computer	FUN	INT	I bought it online.	Not SV
2	M	Stereo system	FUN	INT	I ordered it online.	Not SV
3	M	TV	FUN	AFF	Purchased with money from our wedding (first major purchase).	SV
4	M	Newquay hoodies	FUN	AFF	Purchased when we were on our first holiday.	SV
5	M	Tandem bike	FUN	AFF	We found it on the internet. My wife then called me at work to pick it up.	SV
6	M	Kayak	FUN	MAL	Purchased from a local shop.	Not SV
7	M	Bike	FUN	MAL	I bought it.	Not SV
8	M	iPod	FUN	AFF	Gift from my wife.	SV

Appendix 3 - Coded Responses to 'Q2. When did you acquire this object?'

ID	Sex	Object	Response
1	F	Wrist watch	5 years ago
2	F	Indian wall hanging piece	2 years ago
3	F	Bunnykins dishes	At birth
4	F	Tinkerbell frame	Birthday
5	F	Engagement ring	Birthday
6	F	House	5 years ago
7	F	Teddy bear	3 years ago
8	F	iPod	2 years ago
1	M	Computer	1 year ago
2	M	Stereo system	A while ago
3	M	TV	18 years ago
4	M	Newquay hoodies	2 years ago
5	M	Tandem bike	2 years ago
6	M	Kayak	2 years ago
7	M	Bike	2 years ago
8	M	iPod	2 years ago

Appendix 4 - Coded Responses to 'Q3. How frequently do you use this object?'

ID	Sex	Object	Response	Theme
1	F	Wrist watch	Every day	CE
2	F	Indian wall hanging piece	Every day	CE
3	F	Bunnykins dishes	Never	AT
4	F	Tinkerbell frame	Every day	CE
5	F	Engagement ring	Every day	CE
6	F	House	Every day	CE
7	F	Teddy bear	Never	AT
8	F	iPod	Every day	CE
1	M	Computer	Every day	CE
2	M	Stereo system	2-3 times a week	CE
3	M	TV	Every other day, sometimes daily	CE
4	M	Newquay hoodies	Regularly	CE
5	M	Tandem Bike	Spring and summer	CE
6	M	Kayak	Once a month	CE
7	M	Bike	Three times a month	CE
8	M	iPod	Every day	CE

Appendix 5 - Coded Responses to 'Q4.Where do you keep this object?'

ID	Sex	Object	Response	Theme
1	F	Wrist watch	In my bedside drawer, if not on my wrist	Wear it
2	F	Indian wall hanging piece	Office	Office
3	F	Bunnykins dishes	In a special display in the kitchen	House
4	F	Tinkerbell frame	Next to my bed	House
5	F	Engagement ring	On my finger at all times	Wear it
6	F	House	At our address	House
7	F	Teddy bear	Bedroom	House
8	F	iPod	Kitchen, Office, Gym, Bedroom	House
1	M	Computer	Living room	House
2	M	Stereo system	Living room	House
3	M	TV	Family room, main sitting area	House
4	M	Newquay hoodies	Wardrobe	House
5	M	Tandem Bike	Wife's parent's garage	Garage
6	M	Kayak	Garage	Garage
7	M	Bike	Garage	Garage
8	M	iPod	Back pocket of trousers; in my desk at work	Office

Appendix 6 - Coded Responses to 'Q5. In the event of it breaking, would you donate, dispose, repair or replace this object and why?'

ID	Sex	Object	Response	Theme
3	F	Bunnykins dishes	No, I'll just cry. It has purely sentimental value now. Not sure of replacing it would be an option as it may be a discontinued or a collectable item.	Not replace
1	F	Wrist watch	I would repair it, replacing it would be out of the question.	Repair
4	F	Tinkerbell frame	Repair it, I like it and it's important to me.	Repair
5	F	Engagement ring	Repair it, nothing could replace it because it's so lovely, and means so much to me.	Repair
6	F	House	The object would be repaired.	Repair
7	F	Teddy bear	Repair It cannot be replaced as it would not have the same meaning and I could not bring myself to give it up!	Repair
2	F	Indian hanging	Yes, I would because it would be damaged, so I would be able to replace it.	Replace
8	F	iPod	I would replace. It's already out of date; there is a newer model available.	Replace
4	M	Newquay hoodies	Depending on how badly it was broken but most likely dispose of it.	Dispose
5	M	Tandem Bike	Repair it because it was broken when we got it and we fixed it.	Repair
7	M	Bike	Repair as bike is to full spec that I want.	Repair
1	M	Computer	Repair it if possible; otherwise buy a new one.	Repair /Replace
2	M	Stereo system	Repair it if possible; replace it if possible I value it very much.	Repair /Replace
3	M	TV	Repair or replace it. We use it a lot and enjoy time together with it.	Repair /Replace
6	M	Kayak	I would first repair it, if I can't repair it would replace it Repairing it is cheaper	Repair /Replace
8	M	iPod	I would replace the object . The cost of repairing it would probably be uneconomical.	Replace

Appendix 7 - Coded Responses to 'Q6. Do you feel emotionally connected to this object?'

ID	Sex	Object	Response	Theme
2	F	Indian wall hanging piece	No	Not AT
1	M	Computer	No	Not AT
6	M	Kayak	No	Not AT
7	M	Bike	No	Not AT
2	M	Stereo system	No. It induces various emotions in me. Frustrating to get the sound just right and joyous when it works.	Not AT
1	F	Wrist watch	Yes	AT
3	F	Bunnykins dishes	Yes	AT
4	F	Tinkerbell frame	Yes	AT
5	F	Engagement ring	Yes	AT
6	F	House	Yes	AT
7	F	Teddy bear	Yes	AT
8	F	iPod	Yes	AT
4	M	Newquay hoodies	Yes, a little bit, that holiday brought us a lot closer as a couple, and this was our only souvenir from it	AT
3	M	TV	Yes, Somewhat, but more connected to the history of it (the first major purchase we made as a couple).	AT
5	M	Tandem Bike	Yes, we have put a few man hours into it.	AT
8	M	iPod	Yes, without it I feel disconnected .To be without it is frustrating. So yes, emotionally connected, but in a reliant sort of way.	AT

Appendix 8 - Coded Responses to 'Q7. Does your partner share your emotional attachment to this object?'

ID	Sex	Object	Response	Theme
5	M	Tandem Bike	Don't know	Not SV
2	F	Indian wall hanging piece	No	Not SV
3	F	Bunnykins dishes	No	Not SV
4	F	Tinkerbell frame	No	Not SV
2	M	Stereo system	No	Not SV
6	M	Kayak	No	Not SV
1	F	Wrist watch	No, not as strong.	Not SV
7	M	Bike	No	Not SV
8	F	iPod	No, but he does share my love of the design and functionality of the object.	SV
7	F	Teddy bear	No, but I think he understands my attachment.	SV
8	M	iPod	No, but I think she feels the same way towards hers.	SV
6	F	House	Yes	SV
1	M	Computer	Yes	SV
5	F	Engagement ring	Yes, I think he does, as much as I do.	SV
4	M	Newquay hoodies	Yes, I would like to think so.	SV
3	M	TV	Yes, mildly.	SV

Appendix 9 - Coded Responses to 'Q8. What makes this object special?'

ID	Sex	Object	Response	Theme
2	F	Indian wall hanging piece	I find it beautiful.	CE
8	F	iPod	The amazing amount of functionality.	CE
1	M	Computer	Nowadays, we can do almost anything online.	CE
2	M	Stereo system	It provides many hours of audio pleasure.	CE
6	M	Kayak	My first kayak and I have special memories of going down rivers.	CE
7	M	Bike	The freedom you have when you're out and the pure adrenalin rush.	CE
8	M	iPod	It's very functional.	CE
1	F	Wrist watch	It symbolises that my husband appreciates what I did for our family.	SV
3	F	Bunnykins dishes	It was a birth gift.	Not CE
4	F	Tinkerbell frame	Boyfriend gave it to me First thing he ever bought me. I took the photograph.	SV
5	F	Engagement ring	He chose it, on his own, just for me. It symbolises our commitment to each other.	SV
6	F	House	It's my home and where my kids are spending their childhood, which will stay with them forever.	SV
7	F	Teddy bear	It was given to me on our first Valentine's day together It signifies that he cared deeply early on in our relationship.	SV
3	M	TV	We enjoy it together; it's one of our common interests.	SV
4	M	Newquay hoodies	It's not the object that's special, it's the memories we remember when we wear it.	SV
5	M	Tandem Bike	Because we can share it together, and it's fun, and we sorted it together.	SV

Appendix 10 - Coded Responses to 'Q9.What functions does this object serve?'

ID	Sex	Object	Response	Theme
1	F	Wrist watch	Anything that an ordinary watch would do	CE
6	F	House	All functions, for living, eating, sleeping, cleaning, shelter, and family life	CE
8	F	iPod	Email, social networking, music, playing games, watching TV, making notes, reading, internet, voice recorder	CE
1	M	Computer	You can more or less check anything you need to check	CE
2	M	Stereo system	It makes me happy	CE
3	M	TV	Information, entertainment, family movie night	CE
4	M	Newquay hoodies	They keep us warm	CE
5	M	Tandem Bike	Fun	CE
6	M	Kayak	It allows me to travel on water. It's really me	CE
7	M	Bike	Pleasure	CE
8	M	iPod	Internet, email, music, photos, games, videos, calculator, alarm clock, maps	CE
2	F	Indian wall hanging piece	Decorative	Not CE
3	F	Bunnykins dishes	Originally, it was a very special dinner set Now it's on display and a reminder of special memories	Not CE
4	F	Tinkerbell frame	Decoration, memory	Not CE
5	F	Engagement ring	It's more decorative than functional	Not CE
7	F	Teddy bear	Does not serve any function other than to look nice	Not CE

Appendix 11 - Coded Responses to 'Q10. Please describe your reaction when you first saw this object'

ID	Sex	Object	Response	Theme
4	M	Newquay hoodies	I was unsure when I just saw them.	Not CE
6	M	Kayak	How much?	Not CE
7	M	Bike	Bought it.	Not CE
6	F	House	Good smell but needs lots of work in the inside.	CE
1	M	Computer	Nothing special, but when I learned how much you can use it, I was excited.	CE
2	M	Stereo system	I wanted to have it, since the first time I heard a high-end sound system.	CE
3	M	TV	I was like a kid in a candy shop I couldn't wait to get it home.	CE
5	M	Tandem Bike	It was old and broke! And has no seats.	CE
8	F	iPod	I was first sceptical. I didn't think the functionality would be so good.	CE
2	F	Indian wall hanging piece	I liked it. It symbolises the tree of life which appeals to me.	Not CE
3	F	Bunnykins dishes	Likely, I had no reaction, given my age; however each time it was brought out especially for me, I was very excited I felt I had been given a great privilege. In addition it was very cute.	Not CE
4	F	Tinkerbell frame	I thought it was cute and thoughtful as I like Tinkerbell.	Not CE
1	F	Wrist watch	It was perfect "bling bling" to life, just as our son.	SV
5	F	Engagement ring	I cried, which is really unlike me, it's the most beautiful and perfect thing ever.	SV
7	F	Teddy bear	It made me happy. I felt loved and I felt special that it had been given to me. It made me feel close to my partner and that he felt close to me and wanted to give me something I could keep forever	SV
8	M	iPod	Very happy. It was a gift and was something I had desired very much. It's also quite fashionable to have, so I felt quite trendy.	SV
8	F	iPod	I originally bought one as a gift for my husband- he had also bought one as a gift for me!	SV

Appendix 12 - Coded responses to 'Q11. Please describe the design and aesthetic of this object and how does it appeal to you?'

ID	Sex	Object	Response	Theme
1	F	Wrist watch	It's a silver coloured wrist watch with plenty of diamonds .The clock face is pink (my favourite colour). It's feminine but yet sporty (like me). When I wear it I don't need another piece of jewellery.	SP (D)
2	F	Indian wall hanging piece	Symmetrical outline with floral core. I usually like that combination. I also like the colours.	AES
3	F	Bunnykins dishes	I appreciate the cuteness of the design for children, little bunnies around the rim of each piece, with a centre motif (different on each piece) which tells a story through the characters. The colours are muted, yet varied on the motif central, but the base colour is a cream colour which is soft for children, rather than a stark white the bunny motif (repeated pattern) has neutral brown and greens are gentle on the eyes, because those bunnies are frozen mid-hop They look happy and it encourages the imagination	AES
4	F	Tinkerbell frame	Green picture frame with Tinkerbell at the side of the circle where the picture is, mirror slides out of the side. I like it because it's pretty, sparkly and girly	AES
5	F	Engagement ring	I's perfect, so me It's really lovely shape and size It's sparkly and just really pretty	SP (D)
6	F	House	Memories, warmth and I love the roses at the front of the house.	AFF
7	F	Teddy bear	It is a brown teddy bear, about 7 inches tall. It is scruffy and squidgy! It looks sweet and I automatically love it when I look at it, it puts a smile on my face.	EMO
8	F	iPod	It is sleek and curvy and just the right size for your hand or your pocket. You can buy cases to customise the look of it which is good. It has a touchscreen which is really cool and it is really easy to use .The vast amount of different uses for this object is staggering. You can make it totally personal to you and your life style. I use mine for work and play.	CE

ID	Sex	Object	Response	Theme
1	M	Computer	It is a blue computer. It is not the look of it, but what you can use it for	CE
2	M	Stereo system	2 speakers, 1 amplifier, 1 CD player and cables. Its appearance makes me happy because it looks like it have the potential to sound good and make good music, and that makes me happy.	CE
3	M	TV	Not very appealing aesthetically, big box TV .Remember it's 18 years old actually quite ugly, but the picture quality was amazing for the time period.	CE
6	M	Kayak	It appeals as its very comfy I like bright colours.	CE
7	M	Bike	Speed.	CE
8	M	iPod	It's small, sleek and white. It's very aesthetically pleasant. It's smooth with no sharp edges, and fits snugly into the palms of your hand I'd actually describe it as quite sexy.	CE
4	M	Newquay hoodies	Its bright red with Newquay written in yellow and zippy (my nickname she gave me) written in yellow down the right arm . The fact we could get matching ones and get our names printed was what what appealed to me.	SV
5	M	Tandem bike	It purple with two seats and sets of handle bars and pedals, because we have lots of fun on it.	SV

Appendix 13 - Coded Responses to 'Q12. Does your partner own any objects that you despise and why?'

ID	Sex	Response	Why	Theme
6	F	Climbing/kayaking equipment	He spends time away from home and family.	MAS
3	F	Hockey equipment	It stinks no matter how cleaned or how frequently. Should stay out of the house because it stinks. Bulky always in need of repair or replacement. It's Expensive. It's a reminder of late night games, tournaments and weekends away	MAS
5	M	Bike	Her road bike, because she goes faster than me on it.	MAS
8	F	Clothing	I feel they are no longer stylish, but that he feels comfortable wearing them.	FEM
7	F	Clothing	Despise is a strong word. Maybe some bad clothes?	FEM
5	F	Clothing	His work clothes are fine for work but I wish he wouldn't wear them casually, even if they're comfortable.	FEM
6	M	Hair Hair brush Wedding Box	They are left everywhere. It's left over the place full of loose hair! Nice box with stuff in, but she insists it lives on my side of the wardrobe and not hers. It takes up too much space!	FEM
3	M	Not really	I even like her winter pyjamas and underwear. I suppose I don't like her Celtic music collection - awful noise! I only had to listen to it once	
1	F	Not really	We're very good at throwing/giving away things we don't use. I get to choose his clothes and accessories	
2	M	No	She is a sensible person	
7	M	Nothing		
2	F	No		
1	M	No		
4	M	No		
8	M	No		

Appendix 14 - Coded Responses to 'Q13. Please describe objects that reflect you or your personality'

ID	Sex	Response	Theme	Attributes
1	F	Simple, but classy, eye catching things; less is more	SP(D)	FEM
2	F	My prayer beads (spiritual). My handbags are large and have many pockets which is perfect for my practical nature My mobile phone (good quality). I like art work that have structure and fluidity	SP(PR) SP(PR) SP(PR)	 FEM FEM
3	F	I love traditional style decor, especially French, wrought iron, curlicue staircases, heavy wooden doors, old stone homes covered in wisteria, wood burning fireplaces. I like objects that tell a story and don't go out of style Relaxed furniture with heirloom quilts and blankets. I am colour specific. I don't love all things old. Sometimes I love trendy objects to modernise the old. I am very affected by seasons and like to change my decor colours according to the seasons crimson, orange, purple in autumn; sage, gold, burgundy in winter, pastel, floral in springs, and, pink, aqua blue and vibrant green in summer	SP(D)	FEM
4	F	Cameras, map of the world, wall planner, flower print shorts, jet ski, bikini, life guard uniform , purple high heels, leggings, contact lenses, Avatar DVD, wet suit, sunglasses Hand-made blue anklet; Help for heroes wrist band	SP(PR)	FEM
5	F	I think most of what I own reflects me. I love pretty things with stars, flowers, sparkles, that kind of thing	SP(D) SP(D)	FEM FEM
6	F	Calendar, hair bands and hair clips.	SP(D)	FEM
7	F	Pictures of my friends and family on special occasions. I like to have keepsakes to remind me of happy times with the people I love and I like to go out and have fun. My wedding ring - simple and elegant with diamonds because I like to sparkle. My wedding dress, traditional white princess style dress with diamond details. I have traditional values and believe in the fairy tales. I also like to stand out and be a bit different.	SP(PR)	FEM
8	F	Furnishings and accessories around our house are the objects that most reflect my style and personality. I tend to favour quite masculine colours and shapes. We don't have lots of pictures on our walls. These are very personal. My kitchen accessories are all very modern and sleek, which I think reflect my attitude and outlook on life.	SP(PU) SP(PR)	 MAS

ID	Sex	Response	Theme	Attribute
1	M	Balls, tennis balls, tennis rackets; I work with them, so I spend many hours every day with balls and rackets.	SP(PR)	MAS
2	M	Cars Stereo, Televisions, Clothing, Furniture, Houses.	SP(PR)	
3	M	Guitar, Stereo, Music library, Movies (collectables), Library of books, Espresso machine.	SP(PR)	MAS
4	M	Cader uniform ,Rock Climbing Equipment, Guitar, Piano, Aerobics and fitness clothing, Bike Tent, Rugby ball, Sunglasses, 3 piece suit ,Altar tower tickets, Plane ,Helicopter.	SP(PR)	MAS
5	M	Bikes, mountains, and roads Remote control toys, White Board, My TRG kit, Motors .	SP(PR)	MAS
6	M	Computers (geeky) Kayak/ Climbing (Adventure); Picture of kids (caring).	SP(PR)	MAS
7	M	Bike (fast fun loving, freedom, and adventures); Work tools (creative).	SP(PR)	FEM
8	M	Camera, IPod, Computer, GPS. I love techy things, I like objects to fulfill a task that makes my life either interesting or easier; I like things that are clever; I love iPods, digital cameras, computers etc. I love my GPS, it tells me where I am going, and where I have been.	SP(PR)	MAS

**Appendix 15 - Coded responses of objects chosen by men perceived to be
valuable to their partners which were congruent with objects chosen by
partners**

Couple	Male perception of objects valuable to partner	Female choice of objects valuable to her	Utility	Value
1	Wedding Ring	Wedding Ring	NFU	SV
	Watch	Wrist Watch	FUN	SV
	Photo Album	Photo Album	FUN	SV
	Camera	Digital Camera	FUN	Not SV
3	Wedding Ring	Wedding ring	NFU	SV
	Wedding Album	Wedding Album	NFU	SV
	Kids Pictures	Family Photo Album	NFU	SV
	Clothes (special dresses)	Outfit of clothing	FUN	Not SV
4	Ring (I bought for her)	Ring (he bought for me)	NFU	SV
	Car	Car	FUN	Not SV
	Computer	Laptop	FUN	Not SV
5	Road Bike	Bike	FUN	Not SV
	Bible	Bible	NFU	Not SV
	House	House	FUN	SV
	Bed	Bed	FUN	SV
6	Hair Brush	Hair Brush	FUN	Not SV
	Photo Frame of Children	Photos	NFU	SV
7	Car	Car	FUN	Not SV
	Wedding Ring	Wedding Ring	NFU	SV
	Wedding Dress	Wedding Dress	NFU	SV
	Wedding Album	Wedding Photo Album	NFU	SV
8	iPod (I bought for her)	iPod (He bought for me)	FUN	SV
	Laptop	Laptop	FUN	Not SV
	TV	TV	FUN	Not SV
	Sky Box	Sky TV Box	FUN	Not SV

Appendix 16 - Coded responses of objects chosen by women perceived to be valuable to their partners which were congruent with objects chosen by the partners

Couple	Female perception of objects valuable to partner	Male choice of objects valuable to him	Utility	Value
2	Audio System	Stereo	FUN	Not SV
	TV	TV	FUN	Not SV
	Speakers	Stereo	FUN	Not SV
3	Guitars	Guitar	FUN	Not SV
	Wedding Album	Wedding album	NFU	SV
	Laptop Computer	Computer	FUN	Not SV
	Motorbike	Bike	FUN	Not SV
	Bible	Bible	NFU	Not SV
4	Guitar	Guitar	FUN	Not SV
	Photo Collage I made him	Picture frame with photos	NFU	SV
	iPhone	Phone	FUN	Not SV
	Camera	Camera	FUN	Not SV
	Lap top	Computer	FUN	Not SV
	Car	Car	FUN	Not SV
5	Bike	Mountain Bike	FUN	Not SV
	Car	Car	FUN	Not SV
	Laptop	Laptop	FUN	Not SV
6	TV	TV	FUN	Not SV
	Climbing Equipment	Climbing Equipment	FUN	Not SV
	Phone	iPhone	FUN	Not SV
	Laptop	Computer	FUN	Not SV
	Kayak	Kayak	FUN	Not SV
	Bed	Bed	FUN	Not SV
7	Motorbike	Motorbike	FUN	Not SV
	Van	Work van	FUN	Not SV
	TV	TV	FUN	Not SV
	Mobile Phone	iPhone	FUN	Not SV
	XBOX	XBOX 360	FUN	Not SV
8	iPod Touch	iPod	FUN	Not SV
	TV	TV	FUN	Not SV
	Computer	Desktop PC & Laptop	FUN	Not SV
	Sunglasses	Sunglasses	FUN	Not SV

Appendix 17 - Coded Responses to 'Q14. Other thoughts and comments'

ID	Sex	Response
1	F	We are not materialistic. We only buy things we need. Both of us have been traveling, working, and living abroad for a very long time, so we understand the value of not being attached to many things
2	F	
3	F	That was easy to do
4	F	
5	F	
6	F	
7	F	
8	F	
1	M	I think I am totally the wrong person for this, but I tried my best
2	M	
3	M	
4	M	
5	M	
6	M	I found it hard to think of objects, which is strange as we are surrounded by so many! once obtained a lot become mundane just because you get used to them. you wonder how you would really if something like the TV broke, how long could you last before getting a another one!
7	M	
8	M	My objects (apart from my wedding ring and chess set) are not generally sentimental. Objects to me are functional and clever and if possible multifunctional.