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Alternative pathways to understanding and designing for happiness in the home

This article considers the value of making long-term happiness a key priority in designing for the home and how creative methods, art therapy techniques, in particular, can be fundamental in this process. It presents different approaches for investigating home happiness by offering an overview of happiness, design and home literature informing the research process and techniques employed so far. Accordingly, photo elicitation and art therapy techniques are used at different stages of the research to investigate home happiness and locate design directions. This article, therefore, discusses how these approaches could assist designers in the creation of happy home design interventions including commercial products, product-service-systems and/or public/community services, and, through this, potentially lead to happier future homes and more sustainable lifestyles.

Introduction

Happiness can be viewed as the main aim of life (Aristotle n.d./ 2004). Furthermore, 40 per cent of our experienced happiness is said to result from the activities we undertake on a daily basis (Lyubomirsky, 2007). The 'home', being a place of self-expression (Csikszentmihalyi and Rochberg-halton, 1981) can support this by providing spaces for socialising, relaxation and pursuing one's interests. However, happiness has become an expected beneficiary of designed appliances (Manzini, 2006) as opposed to the actions they can facilitate. Historically, these devices, by completing previous human-labour tasks and formerly only available to privileged individuals, were presumed to extend leisure time for all (ibid); creating an association between *'having things'* and *'feeling happy'*. However, many modern designs tend to remove or reduce user involvement (Manzini, 2006, p. 4), encouraging passive interaction and disengagement in the homes that they occupy. This creates a negative cycle of unfulfilment and excessive consumption, resulting in many homes beingfilled with artefacts and experiences failing to facilitate happiness in a meaningful way.

Design could, in the same manner, influence happier and more sustainable home contexts. Service Design, in particular, considers the entire interaction between users and designed objects and scenarios to maximise positive exchanges (Stickdorn and Schneider, 2011) through services or product-service systems. Accordingly, it presents a possible design strategy for creating happier home experiences. However, its associated methods, such as service blueprints or customer journey maps, tend to be deliberate and formulaic, as they rely heavily on consciously contemplating a situation or system to visualise and/or note issues within it or future implications. Processes conducted mostly through cognitive thinking can reduce emotional awareness (Jack et al., 2012) and, in this case, consideration of less overt characteristics of happy home experiences. Resultantly, alternative methods are needed to understand the psychological elements of this context more comprehensively.

Research evidence has shown that image making can stimulate brain regions for responsible emotions being depicted (Lusebrink and Alto, 2004); art making or photography for example. Art creation can be used to elicit emotions that are difficult to verbalise (Levine and Levine, 2011; Malchiodi, 2003) and participant-generated photography can be employed to encourage truthful responses from participants during interview sessions (Lo, 2011; Rose, 2012) when utilising creative research methods. In particular, art making's aptitude in illuminating the subconscious has been acknowledged and used in art therapy (Levine and Levine, 2011; BAAT, 2015). Art therapy techniques, such as art creation

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without speaking, tend to by-pass defensive thinking, allowing individuals to visualise their feelings (Malchiodi, 2007). Given this, how could these creative approaches provide an in-depth insight into the psychological dimensions of the home? Furthermore, could these methods, coupled with service design tools, offer a different means of contributing towards future happy homes?

This research is part of a doctoral consortium with a special interest in Service Design. This article presents the exploratory phases of this investigation, with the view of positioning resulting findings within service design approaches at a later stage. The succeeding text elaborates on the explorations so far by first presenting understandings of happiness, the importance of home in its facilitation and an overview of previous design-led investigations into this space, along with current developments regarding design for happiness. Expanding on this, alternative approaches for exploring design directions for home happiness, such as services, product-service-systems and/or commercial appliances are presented. This includes a brief outline of creative methods explored, their implementation and general findings. Finally, conclusions are drawn from the article's discussions overall.

What is happiness?

Positive psychology evidence suggests that happiness is both positive emotion, such as joy, and an evaluation of overall life satisfaction—also described as subjective wellbeing (Csikszentmihalyi, 2002; Eid and Diener, 2004; Lyubomirsky, 2007; Seligman, 2002). Furthermore, Maslow's (1943) Theory of Human Motivation suggests a happy/motivated individual has many of their basic and psychological needs satisfied. Additionally, Seligman (2002, p. 61) defines three dimensions or criteria of happiness to achieve *'authentic happiness'* (or long-term happiness) that tend to happen sequentially; the experience of positive feelings—The Pleasant Life, engaging one's strengths—The Good Life, and using them for a greater purpose—The Meaningful Life (Diener and Seligman, 2004; Seligman and Royzman, 2003). The Pleasant Life refers to happiness as momentary pleasure resulting from positive emotions (i.e. warmth) or biological needs being met (i.e. rest) (Csikszentmihalyi, 2002; Seligman, 2002). Following this, The Good Life alludes to happiness as engagement in activities (i.e. socialising, pursuing interests) that utilise one's strengths (i.e. courage, creativity). Finally, The Meaningful Life describes happiness as meaning, involving using one's strengths for a greater cause, such as a charity (Seligman and Royzman, 2003; Seligman, 2002). Consequently, actions for The Good and Meaningful Life appear to please psychological and self-fulfilment needs (i.e. friendship, accomplishment) once basic needs are satisfied—as part of The Pleasant Life (see Figure 1).

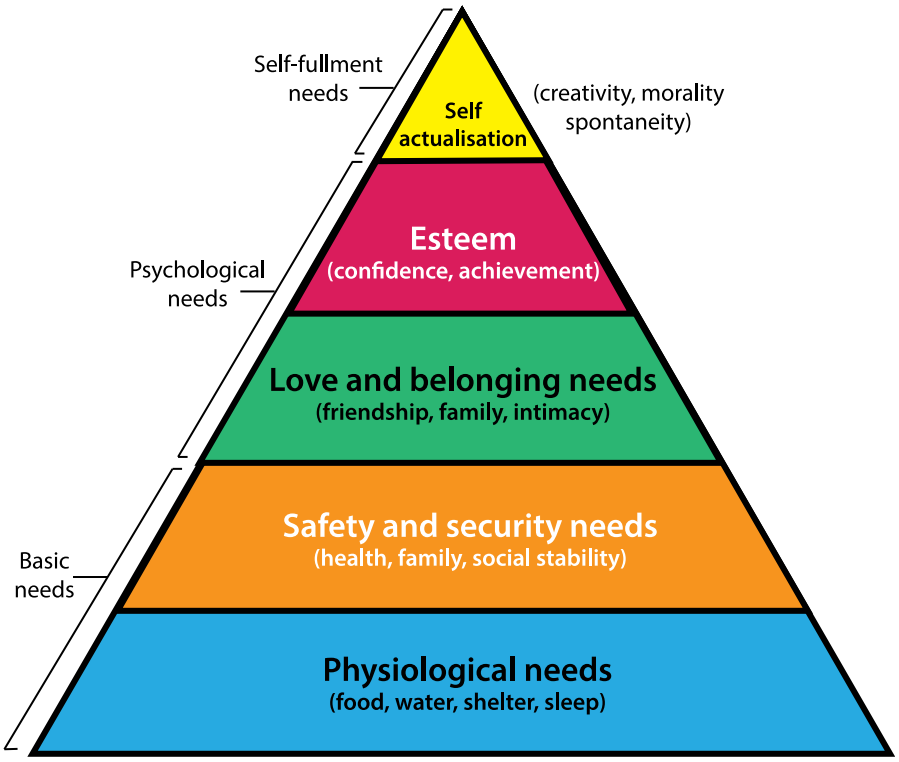


Figure 1: Maslow's (1943) hierarchy of needs

Correspondingly, Maslow's (1943) hierarchy of needs suggests it may be difficult to fulfil psychological needs before attending to lower ones (i.e. physiological). Accordingly, the satisfaction of basic needs can facilitate happiness as pleasure (The Pleasant Life), and happiness as engagement (The Good Life) can serve psychological needs. Furthermore, directing engagement actions towards a higher cause can enable happiness as meaning (The Meaningful Life) and self-fulfilment needs. For the purposes of this research, happiness is referred to as *'authentic'* or long-term happiness, which encompasses all three aspects, such as pleasure, engagement and meaning.

A home for happiness

Being comprised of many interactions

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between objects, people and social norms (Dovey, 1985; Ingold, 2011; Massey, 2005), the home is a complex system. It can facilitate meaningful experiences with others by providing spaces for eating, creativity and self-expression, satisfying both basic, psychological and self-fulfilment needs—supporting long-term happiness. However, current domestic environments mainly contribute to happiness as pleasure (The Pleasant Life), for example, by providing microwaves to heat up ready-made meals, televisions supplying entertainment with minimal effort, and seemingly limitless electricity, creating convenient light and warmth. Correspondingly, these home experiences can discourage engaging (The Good Life) and meaningful (The Meaningful Life) activities by requiring little action from the recipient to achieve fundamental requirements.

Furthermore, it has been suggested that activities to trigger happiness (i.e. acts of kindness, connecting with others), and sustainability (i.e. sharing products and resources, pro-active citizenship) are complementary (Escobar-Tello, 2010; Escobar-Tello and Bhamra, 2013). For example, happy individuals tend to have high levels of self-esteem, and once their basic needs are satisfied, they generally consume less (i.e. buy less things), are more open to adopting environmental and socially conscious behaviours (i.e. recycling, purchasing ethically and sustainably sourced goods), and are slower to change their belongings or environments (ibid). Additionally, those living in environmentally-friendly homes tend to be happier (Netuveli, 2016). Therefore, actions associated with happiness could provide an alternative means to a more sustainable future. Given the centrality of home life, it is important that it provides scaffolding for happiness and, through this, supports more sustainable lifestyles.

So far, research exploring the home environment/dynamics/system, have mainly come from built environment and technological perspectives where happiness is overlooked or not the focus. For example, within the built environment literature, happiness tends to either feature as a small proportion of a larger health and wellbeing theme (Robertson et al., 2014; UK Green Building Council, 2016), be implied by examining health benefits of particular building infrastructures but not acknowledged (Brownson et al., 2009; Pfauth and Abushousheh, 2015; Roster et al., 2016) or omitted entirely when considering sustainable construction (Affinity Sutton, 2011; Anastaselos et al., 2016; Lazarus, 2009). Similarly, technologically orientated explorations touch on home happiness aspects as part of bigger research projects examining subjects such as technology use and meaning-making in domestics routines (LEEDR (Low Effort Energy Demand Reduction) project, 2014; Mitchell et al., 2014; Pink and Leder Mackley, 2014; Pink et al., 2015), home technology for wellbeing (Dewsbury and Edge, 2001; Dewsbury et al., 2001), and home values (Haines et al., 2007). Furthermore, some suggest but do not openly mention home happiness through discussions of prevalent household activities/patterns (Crabtree, 2003; O'Brien et al., 1999; Rodden et al., 2004).

Considering the home from these perspectives does not examine the domestic happiness aspects holistically. Viewing the home through a happiness lens necessitates the investigation of all home interactions for pleasure, engagement, meaning to conceptualise home happiness—or lack of—and all relevant components of these experiences, such as technology, the built environment and social aspects, to better understand how domestic happiness can be supported. This article focuses on investigating the home from this perspective, to examine the sometimes overlooked social elements and identify potential avenues for design for happiness in this context.

Review of current *'design for happiness'* approaches

The need to encourage and/or facilitate happiness has become increasingly popular within design in recent years; providing influence towards more sustainable societies (Escobar-Tello and Bhamra, 2009, 2013; Escobar-Tello, 2016), forming part of the overall aim of wellbeing (Pohlymeyer, 2012; Vaajakallio and Honkonen, 2013) or being the final goal ((Desmet and Pohlmeyer, 2013; Hassenzahl et al., 2013; Petermans and Pohlmeyer, 2014)—however, some appear to appeal to happiness more as emotion/pleasure (Desmet and Pohlmeyer, 2013; Hassenzahl et al., 2013) or overall wellbeing (Pohlymeyer, 2012; Vaajakallio and Honkonen, 2013) instead of long-term happiness.

Wellbeing is differentiated by Seligman (2011) as that which is constructed through the evaluation of five elements: positive emotion, engagement, meaning, positive relationships and accomplishment (PERMA)—a mix of objective and subjective descriptions as opposed to *'authentic happiness'*, solely subjectively reported.

Pohlymeyer (2012) describes 'design for happiness' approaches in relation to Seligman's (2011) wellbeing theory; such as providing a source, symbol, enablement or support for happiness. These product-based strategies appear to offer an effective means of emphasising individual emotional happiness. However, facilitating collective long-term happiness in the home requires a complex combination of pleasant, engaging and meaningful experiences, which may be facilitated by multiple objects, people and scenarios—acknowledged/supported by service design strategies. It would, therefore, be interesting to explore design directions that support these three areas of happiness simultaneously using alternative approaches.

Correspondingly, Desmet and Pohlymeyer (2013) discuss a framework related to design for happiness; *'positive design'*, divided into three areas—design for pleasure, design for virtue and design for personal significance—relating to Seligman's (2002) *'authentic happiness'* frameworks. Design for pleasure focuses on triggering positive emotion (The Pleasant Life). Design for personal significance is about emphasising the achievement of short and long-term goals, such as developing a skill (The Good Life), and design for virtue encourages virtuous behaviour, such as philanthropy (The Meaningful Life). Positive design should consider all three, for example, by ensuring that a design for pleasure product does not have any negative impact on the other two areas (ibid). Collectively, positive design strategies appear to have the ingredients for long-term happiness but all need to be concurrently employed to enable this in the home. Many homes are full of design for pleasure objects, such as televisions and dimmer switches, lacking design for personal significance or virtue, leading to contexts that do not fully support long-term happiness. Furthermore, attempting to introduce these into the home is difficult, as each inhabitant/family will have different strengths to emphasise, activities they enjoy or that offer meaning. With this in mind, how could design directions that directly facilitate long-term happiness be developed for the home?

Lastly, Hassenzahl et al. (2013, p. 22) describes a set of needs—relatedness, popularity etc.—in which their fulfilment can result in positive experiences through design. However, pleasant moments are just one aspect of long-term happiness. Nonetheless, facilitating home experiences where actions for pleasure/basic needs support those for psychological/engagement/meaning could enable happier home scenarios. Maslow's (1943) hierarchy of needs suggests that designs for basic needs (i.e. security) that collectively support psychological needs (i.e. development of strengths) could encourage household actions to gradually move up the pyramid (see Figure 1) increasing overall contentment—especially those from disadvantaged backgrounds. Accordingly, designs for home happiness should collectively facilitate pleasure (through basic need satisfaction), engagement and meaning. Consequently, a systemic approach is required to create design concepts that acknowledge these three areas, complementing the home as a complex system. Service Design, a multi-disciplinary meta-level strategy used to create relevant systems based on the needs of the individuals involved (Tafel-Viia et al., 2012), appears to offer applicable tools for developing home happiness designs in this manner. However, before these methods can be employed, the happiness dimensions of home need to be investigated in-depth. The following sections will, therefore, lay out creative approaches taken for exploring possibilities for home happiness design.

Explorations on home happiness

In order to *'design for long-term home happiness'*, it was first necessary to identify important happiness triggers in the home. Investigating happiness in the home, something not yet readily quantifiable and heavily subjective, required the application of a set of qualitative methods that allow the deep exploration of how home happiness is experienced/created from the viewpoint of the inhabitants. Creative methods presented appropriate research strategies for this investigation. As previously mentioned, these techniques, using photography and art making, could be used to elicit feelings (Lusebrink and Alto, 2004) from participants.

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Furthermore, it has been suggested that it is difficult to engage in rational and emotional thinking simultaneously (Jack et al., 2012) so it was deemed appropriate to emphasise the latter. Additionally, in design research, creative methods are commonly used to encourage ideation and user contribution, and can be divided into three groups; probes, toolkits and prototypes (Sanders and Stappers, 2014). Prototypes are composed to communicate early constructions of emerging design ideas to others before the final solution is complete (Kolodner and Wills, 1996; Sanders and Stappers, 2012; Yang and Epstein, 2005), and are employed towards the end of the design process. As formerly stated, Service Design presents applicable methods for the conceptualisation of home happiness design prototypes. The following, therefore, introduces creative methods that were critiqued and used to investigate home happiness to inform service design approaches, while offering alternative avenues in exploring this context.

Identifying home happiness triggers

Probes usually consist of designed packages that invite participants to complete a series of tasks and self-document themselves without observation—commonly used at the beginning of the design process for inspiration (Gaver et al., 1999; Gaver, Boucher, et al., 2004) or to build user empathy (Haines et al., 2007; Mattelmäki, 2005). However, using the probe method for exploring home happiness triggers presented difficulties. Probe results (i.e. emotional honesty) can be unreliable as they are completed unobserved. Furthermore, probe tasks would disrupt normative home routines.

Alternatively, photo elicitation is a qualitative interview method that uses images created by participants or provided by the researcher to encourage emotional and honest answers during discussions (Harper, 1999; Rose, 2012). Furthermore, participant-generated visuals can motivate contemplation on previously unconsidered concepts (Lo, 2011; Rose, 2012). This method was used to engage participants on an emotional level in which they were asked to capture imagery of their domestic routines. Thirteen individuals from ten different UK home-owning families took part, taking as many or as few images as they desired. Participants then discussed their home depictions for approximately an hour in one-to-one semi-structured interview sessions. Executing the exercise in this fashion allowed participants to record domestic moments rapidly with freedom and privacy, causing minimal disruption to home life. To encourage honest depictions of home happiness triggers, the aims of the research were not discussed with individuals prior to the activity. During semi-structured interviews, the content of the imagery led the discussions, allowing topics related to happiness, and meanings to be elicited indirectly, encouraging truthful responses (see Figure 2 for examples of images taken).

In this manner, photo elicitation was used as a combined creative (i.e. participants created a photographic narrative of their domestic routines) and interview method (i.e. they attended a semi-structured interview afterwards to discuss these) to identify important home happiness needs and activities (Corrigan-Doyle et al., 2015, 2016b).

Building an initial theory

During design development stages, toolkits are used to allow users to contribute their ideas to the design process employing collaborative activities (Sanders and Stappers, 2012, 2014b), also referred to as co-design or participatory research methods (Sanders and Stappers, 2014a). Within toolkits exist projective methods that enable participants to express feelings difficult to verbalise (Evenson and Dubberly, 2010; Mattelmäki, 2006), such as collage making or concept mapping (Butler-Kisber and Poldma, 2010). Following this methodology, toolkits aim to facilitate collective creativity between stakeholders and designers (Sanders, 2001, 2006), creating culturally relevant solutions (Sanders and Stappers, 2012). Given this, emotional exploration is not the main focus. For example, materials employed for tasks aimed at accessing unconscious feelings (i.e. projective methods) are usually predefined—a collage activity usually

provides individuals with pre-prepared images and words—allowing participants to create illustrations rapidly together (Sanders and Stappers, 2012).

In contrast, the primary aim of art therapy techniques is the depiction of inner thoughts and feelings through artistic expression (Malchiodi, 2003, 2007; Rubin, 2011). Originally used in art therapy to treat physiological and mental disorders or to aid in self-development (BAAT (British Association of Art Therapists), 2015; Malchiodi, 2007), these have been borrowed and used in other research contexts (Awan, 2007; Deacon, 2006; Gauntlett and Holzwarth, 2006; Hogan and Pink, 2012), but not previously in design or within service design. Bearing the closest resemblance to projective methods (i.e. collage) employed in toolkits, they are used to express feelings and thoughts that are difficult to put into words. However, art therapy techniques give greater attention to individual emotional expression and reflection. Preparatory exercises (i.e. *'image awareness'*) explore how participants construct their worldviews (i.e. significant imagery and/or experiences) to enable insights during art activities (Malchiodi, 2007). Silence can be utilised for greater concentration (Silverstone, 2009) and spontaneous art making for illustrating unconscious emotions (Rubin, 2001), including honest illustrations of home happiness. Furthermore, personal reflections of an artwork's meaning, with outsider interpretation reframed (i.e. the meaning of the artwork is understood to only be known by its creator), by-passes defensive thinking and encourages free self-expression (Malchiodi, 2007). Art therapy techniques were employed to deeply examine happiness aspects of home life, in particular, how positive family experiences occur and how they can be facilitated. See Figure 3 for examples of artwork created using art therapy techniques in this research.

The viability of using art therapy techniques in the exploration of positive family experiences was tested through a pilot (Corrigan-Doyle et al., 2016a). Following this, these methods, such as silent and spontaneous art making, were utilised with participants to explore pleasant family moments in more detail. This involved two studies, each comprising of a two-hour art-making workshop—one had five participants, and the other had six, all from different UK households. During these, individuals created artworks based on significant objects/images in the home, random home associations and positive family experiences. Additionally, follow-up individual semi-structured interviews of half an hour were held, which allowed participants to discuss their illustrations in detail, without interpretation or input from the researcher, enabling deeper understandings of their happy home experiences and how they were created. These conversations provided participants with additional time for reflection on the workshop's outcomes and privacy for more open contemplations on the meanings of their artwork.

Results

Taking a qualitative approach with creative methods (i.e. photo elicitation and art therapy techniques), this research has begun to produce some promising findings for design for home happiness.

Exploration and location of home happiness needs

This enquiry began by identifying important needs for home happiness to provide a firm foundation for future design interventions and deep investigation of home dynamics. Taking a grounded theory approach, analysis of interview discussions using the photo elicitation method revealed ten needs for home life happiness (Corrigan-Doyle et al., 2015, 2016b). Those associated with Maslow's (1943) fulfilment and psychological needs included self-love, reciprocal love, companionship, reflection of values and comfort (emotional)—corresponding with activities for meaning and engagement. Those in relation to basic needs were consistency, security, privacy, freedom, control and comfort (physical)—relating to actions for pleasure. In order to achieve (long-term) home happiness all these needs required fulfilling. Furthermore, it was identified that positive family experiences could satisfy many of these needs simultaneously (ibid), accommodating activities for pleasure, engagement and meaning concurrently. For example, it is possible for individuals to pursue a hobby, such as cooking (engagement), while eating with (pleasure) and caring for family members (meaning). In this case, undertaking an engaging activity satisfies the need for self-love. Additionally, performing this with or for household



Figure 3: Artwork Created Using Art Therapy Techniques

individuals can fulfil companionship and reciprocal love needs. In light of this, it seemed that supporting positive family moments showed the most promise for design for home happiness and was brought forward for deeper exploration in subsequent research.

Formulation of theory for design for home happiness

Following results from the photo elicitation study, workshops employing art therapy techniques were used to critically examine positive family experiences extensively. Findings generated from these workshops and subsequent semi-structured interviews led to the development of a theory for home happiness (i.e. how positive family experiences are created) (publication forthcoming). It was found that all positive family experiences were composed of four core physically enacted characteristics. These included a physical binder—an environment and/or objects that facilitated a group interaction (i.e. comfortable communal space, table and chairs), an emotional binder—an inclusive activity of common interest (i.e. talking, playing), synchronised rest periods (of family members), and individuals being together. In this manner, it was theorised that designs for home life happiness should support positive family experiences by exploring how these binders could be facilitated and emphasised through design. Analysis of results showed that the remaining components for positive family experiences (i.e. being together, synchronising rest periods) naturally occurred once appropriate physical binders (i.e. food, couch) were in place to support potential emotional binders (i.e. eating and talking together). Furthermore, the quality of the positive family experience (i.e. how many home happiness needs it satisfied) could be improved by employing suitable physical binders that jointly facilitated emotional binders for basic needs (happiness as pleasure), and for psychological and self-fulfilment needs (happiness as engagement and meaning). In this manner, the design solution could be the physical binder(s) or it could employ a range of pre-existing physical binders (i.e. through a service) to create scenarios that facilitated these interactions.

Conclusions

Home can support long-term happiness by providing a platform for happiness activities. However, previous home explorations have not made happiness the focus, instead concentrating more generally on health and wellbeing, sustainability and domestic routines/practices from built environment and technology outlooks. Given this, possibilities for home happiness requires extensive investigation. Furthermore, viewing the home from a happiness lens demands an exploration of the home as a complex system, examining all relevant activities for pleasure, engagement and meaning, including how these are supported—or not. Accordingly, most current domestic spaces do not appear to facilitate all these aspects as many designed

household objects offer little scope for user initiative (i.e. engagement) or self-expression (i.e. meaning).

Notably, several 'design for happiness' and related strategies have emerged, including positive design; design for pleasure, virtue and personal significance, based on Seligman's (2002) 'authentic happiness'. Consequently, when one is applied without negatively affecting the remaining two, as suggested by (Desmet and Pohlmeyer, 2013), it does not necessarily facilitate all three aspects of long-term happiness which are seemingly essential when designing for home happiness. Furthermore, employing this approach for multiple individuals is challenging, as it tends to emphasise personal emotional happiness instead of collective long-term happiness. In response, this article presented possible pathways to locate suitable directions for designing for home happiness. Furthermore, Service Design was identified as a suitable design strategy to formulate these findings into design concepts at a later stage. It is a systemic approach and therefore complementary to the home as a complex system.

Creative methods offered applicable approaches for exploring home happiness because they can elicit emotional as opposed to rational responses. However, those commonly used in design research were deemed unsuitable. Probes would disrupt household routines and return unreliable responses. Projective methods in toolkits appeared to focus more on group collaboration and participation as opposed to deep individual emotional reflection—necessary when exploring home happiness. Instead, photo elicitation was successfully used to reveal various activities and underlying needs for home happiness. It provided minimal disruption to participants' lifestyles, and content could be investigated in detail in subsequent semi-structured interviews, inadvertently eliciting home happiness themes. Furthermore, art therapy techniques, being primarily aimed at the generation of self-awareness (BAAT (British Association of Art Therapists), 2015; Liebmann, 2004; Malchiodi, 2007; Silverstone, 2009), provided an extended period of investigation into participant's feelings around home happiness and were used to develop a theory for designing for home happiness. Art therapy techniques appear particularly promising in the exploration of happy experiences. They seem to enable the extensive examination of how subjective moments are conceptualised—such as positive family experiences, how they manifest and can be supported.

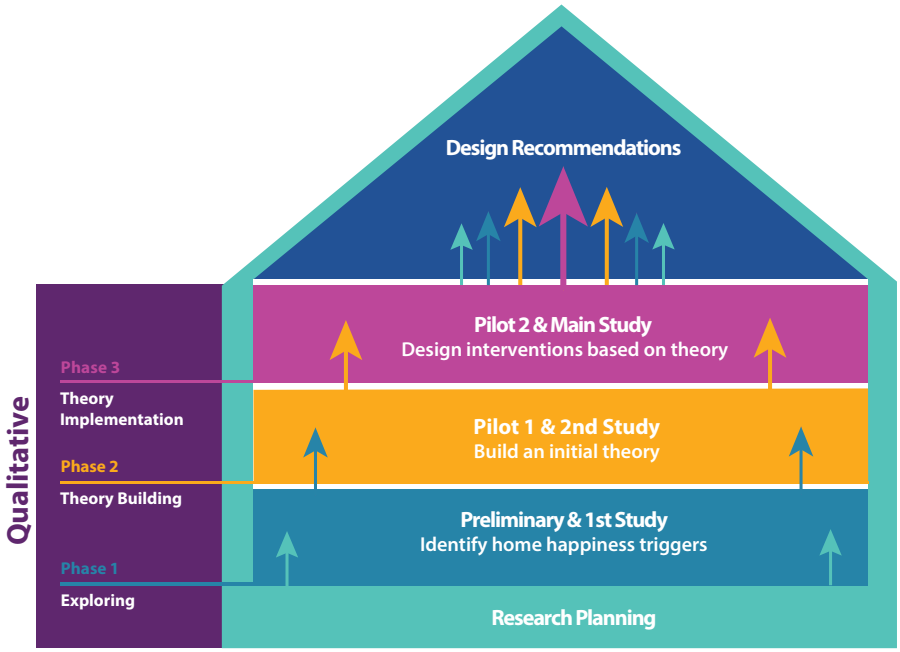


Figure 4: Research Phases

The next steps of this research will aim to validate these results by implementing the theory for home happiness in a series of workshops with service design approaches to develop an overall process for exploring and designing for happy domestic experiences. A deeper understanding of positive moments and conceptualisation of alternative happy home experiences will enable the mediation of a more fulfilling and happy society through design, starting with the home.