

A DESIGN METHOD FOR ENHANCING WELLBEING THROUGH INTEGRATING POSITIVE DESIGN AND THE HOW OF HAPPINESS

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Abstract. The COVID-19 pandemic has heightened human's awareness on immaterial elements such as work-life balance and self-care. Consequently, designing for well-being has gained significant research interest. This paper explores constructing a design method to serve as a guide for designers aiming to create solutions with a sustainable impact on happiness. This research method is Qualitative Content Analysis (QCA) to investigate the connection between positive design and positive psychology. By connecting positive design with positive psychology, researchers can gain a deeper understanding of human strengths and virtues that contribute to happiness, resilience and fulfillment, providing a rich theoretical framework to draw upon. First, the study conducts an extensive literature review, critically analyzing existing literature on positive design to study the concept of design for happiness. The research also examines positive design to understand the concept of the how of happiness. From here, key components that play major role in human happiness are identified. Then, conceptual mapping techniques are used to visually illustrate the relationship between these paradigms and supporting research studies are also identified to strengthen patterns, relationships and themes within design for happiness and the how of happiness. Additionally, expert interviews were conducted to validate the findings of the conceptual mapping process. Drawing on insights from the conceptual mapping, the research has produced a theoretical based design tool to help designers create solutions that align with the concept of design for happiness from positive design literature and the "how of happiness" from positive psychology literature. This tool, named the Integrated Happiness Matrix, serves as a valuable resource during the empathize and ideation stages of the design thinking process. The matrix incorporates key elements of design for happiness and adopts interview questions inspired by the strategies outlined in the "how of happiness" literature. This matrix facilitates the gathering of multiple user contributions. Designers can utilize it to guide interviews during the empathize stage and combine user responses to spark creative ideas, thereby fostering creativity and embracing diverse perspectives. Overall, the design matrix offers a structured approach to gather insights and generate innovative ideas, focusing on the factors that contribute to people's happiness. Theoretical implications of this research include the bridging of design theory and positive psychology, thereby offering a comprehensive framework for designing with a focus on enhancing happiness. From a practical standpoint, the integrated happiness matrix serves as a valuable tool for designers by guiding them through the empathize and ideation stages of the design thinking process. Through the adoption of this approach, designers have the potential to positively influence users' well-being and contribute to overall life satisfaction by creating products and experiences that prioritize happiness and well-being.

Keywords: *Design for happiness, the how of happiness, design for wellbeing, framework.*

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Received: 4 March 2024;

Accepted: 4 September 2024;

Published: 2 April 2025.

How to cite (APA):

Gumulya, D. (2025). A design method for enhancing wellbeing through integrating positive design and the how of happiness. *New Design Ideas*, 9(1), 150-176 <https://doi.org/10.62476/ndi.91.150>

1. Introduction

The COVID-19 pandemic has reshaped our lifestyles, work dynamics and social interactions, prompting a reevaluation of priorities. Humans have been compelled to adapt to new norms, emphasizing the importance of immaterial aspects such as personal ideals, work-life balance and self-care for leading fulfilling lives (Alonso & Jacoby, 2022). Amidst these changes, experts across various fields, including design, have intensified research efforts to mitigate the impact of these shifts. Design for well-being has emerged as a trending research topic. It is about crafting products, services and environments that enhance physical, emotional and social well-being (Cain, 2020). The pivot towards design for well-being underscores the significance of fostering users' engagement in meaningful activities and experiences that contribute to their overall happiness and satisfaction (Desmet & Pohlmeier, 2013).

As the discourse on design for well-being evolves, attention has turned towards creating sustainable effects on human happiness. This entails empowering individuals to pursue fulfilling and meaningful lives through design interventions (Desmet & Pohlmeier, 2013). Design literature that discusses how design should create sustainable effect of happiness is positive design that created the concept of design for happiness. On the other hand, from the psychological theoretical point of view there is the how of happiness. A phrase coined by Lybormirsky (2008). It is ten years of scientific study about twelve evidence based practical strategies that can increase individual happiness. It emphasizes that happiness is not just a result of external circumstances, but also an intentional and learned skill that can be cultivated through daily practices and habits.

1.2. Research Objectives and Questions

The research is based on the premise that designing products that have a sustainable effect on happiness is a complex task. There is a need for a study that learns about the design method that guides designers on designing products that could bring sustainable effect of happiness by combining insights both from positive psychology and positive design theoretical framework. Connecting positive design with positive psychology offers a rich theoretical framework for researchers to draw upon. Positive design, rooted in the principles of user-centered design, aims to create products, environments and experiences that enhance users' well-being and foster positive emotions (TuDelft, 2022). While positive psychology provides understanding about the essential elements that contribute to well-being and flourishing. By connecting both approaches researchers can deepen our understanding of what truly contributes to human flourishing.

The study aims to integrate the strategies of design for happiness and the how of happiness to develop a more effective design methodology. Previous methodology, Personal Ingredient Matrix developed by Desmet (2011), solely consider an individual's perspective on what contributes to their happiness. However, designing for sustainable happiness requires considering beyond just one person's viewpoint, because every human is unique and has their own subjective nature of well-being and happiness (Freimane, 2022). As a result, the research question is: How might we create a design methodology that integrates the concepts of design for happiness and the how of happiness strategy that considers multiple person's point of view? The objective of this study is to serve as a valuable reference for future designers who aim to create products that can sustainably enhance happiness.

1.3. Research Methodology

The research uses Qualitative Content Analysis (QCA). QCA is a method of qualitative data analysis that involves identifying patterns and themes within unstructured or semi-structured data, such as text, images or videos (Schreier, 2012). The research process is illustrated in Figure 1.

First, the research conducts a comprehensive literature review that encompasses two key areas: positive design and positive psychology. Positive design literature provides insights into the concept of design for happiness, focusing on key components that promote well-being and enhance positive experiences. On the other hand, the literature on positive psychology, specifically the How of Happiness strategy, offers valuable strategies and techniques for cultivating happiness and well-being in individuals in their daily lives. We identify key concepts, principles and methodologies from both fields. To reduce the data, we conducted a fishbone analysis to understand the cause-and-effect relationships among all 12 How of Happiness strategies. This analysis reveals that four key HoH strategies can be connected to the DfH components.

Second, after selecting the four key happiness activities, the next step is to establish a connection between these four HoH (Habits of Happiness) strategies and the four components of DfH (Design for Happiness). This involves conducting theoretical conceptual mapping by examining existing research relevant to both the four key HoH strategies and the four components of DfH and analyzing their correlations.

Third, the study develops the conceptual framework that integrates design for happiness and the How of Happiness strategy and defines the key components that can contribute to sustainable happiness. The theoretical model proposed is a design method. It refers to a specific approach, technique or set of principles used in the process of designing. It provides a structured way to do different kind of activities, make decisions and create solutions that designer might use within overall design process (Cross, 1982). The proposed design method is in the form of a matrix, which serves as a valuable resource during the empathize and ideation stages of the design thinking process. In the matrix, the Design for Happiness components are strengthened by the key strategies of the How of Happiness, providing better interview guide questions. This enables designers to uncover the motivations behind each happiness component. The research outcome is theoretical based design method is based on logical reasoning drawn from both positive design and positive psychology literature. This design matrix provides a structured approach for designers, helping them gather insights and generate innovative ideas centered around the theme of design for happiness.

Lastly, to enhance the validity of our research, we use data source triangulation that involves using multiple data sources to collect information, such as combining data from surveys, interviews and observations, to provide a more comprehensive understanding of the phenomenon being studied (Carter *et al.*, 2014). Hence, we combined our theoretical observations with expert insights by conducting interviews with four experts via online video conferences: two experienced psychologists specializing in counseling and therapy and two product design lecturers with extensive experience in teaching design thinking methodology. This approach aligns with best practices outlined in other research, such as (Zarghani *et al.*, 2024), where expert validation is recognized as a crucial step in enhancing the reliability and overall quality of research outcomes.

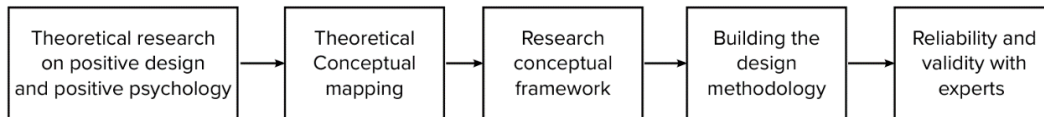


Figure 1. Research Process

2. Theoretical Research

2.1. Factors Contributing to Happiness

There are different perspectives on the concept of happiness. First, happiness is understood as “the degree to which an individual judges the overall quality of his/her own life-as-a-whole favorably” (Veenhoven, 2010). Another perspective defined happiness as “the experience of joy, contentment or positive well-being, combined with a sense that one's life is good, meaningful and worthwhile” defined by Lyubomirsky (2007). Additionally, Brooks (2008) describes happiness as a sense of fulfillment and earned success that arises from using one's talents and abilities to achieve personal and professional goals. Brooks emphasizes that happiness does not stem from external factors like wealth or possessions, but rather from a sense of purpose and meaning in one's life.

Several research studies have identified various factors that can impact happiness. Firstly, in an interview conducted by Brooks for Harvard Business Review and elaborated further upon in his book, he emphasizes four sources of happiness: faith, family, community and meaningful work (Morren, 2022). Secondly, the Harvard Study of Adult Development, a longitudinal study conducted since 1938, explored factors contributing to a fulfilling and healthy life. The study's findings, published by Robert Waldinger in 2015, highlight the importance of quality relationships as a significant predictor of overall well-being. Participants who reported having strong and supportive relationships with family, friends and the community experienced greater happiness and physical health. Conversely, individuals who felt isolated and lacked close relationships reported poorer well-being (Waldinger & Schulz, 2015). The study recommends that individuals should prioritize meaningful relationships over the pursuit of material wealth or personal achievements to achieve a more fulfilling life.

In design literature, happiness is related with designing for emotion research (Marković & Arsovski, 2017). Design for emotion explores on creating products and experiences that elicit emotional responses from users such as surprise and delight, anticipation and exclusivity. Some key principles of designing for emotion include consistency, connecting with users on an emotional level, aesthetics, usability, storytelling, meaningful interaction and reflection (Walter, 2011). According to Yen et al. (2014) incorporating aesthetic design elements such as visual appeal and color harmony has the potential to elicit joy and delight in users. Moreover, Hassenzahl et al. (2013) found that pleasurable and meaningful moments that a person has when interacting with certain design can contribute to happiness. To achieve an aesthetically pleasing and pleasurable design, Kouprie and Visser (2009) recommend applying empathy in the design process through a four-step approach: discover, immerse, connect and detach. By applying empathy in four steps, it allows designers to deeply understand the needs, desires and emotions of users, enabling them to create designs that resonate with users on a personal level. Personalization is another aspect of design that can enhance happiness, as noted by Kim and Lee (2020) design that is tailored to

individual preferences, interests and contexts can evoke a sense of relevance, creativity and ownership, ultimately enhancing user satisfaction and happiness.

Despite variations in wording, these definitions generally converge on the idea that happiness encompasses multiple facets, including both affective and cognitive elements. Moreover, it is recognized that happiness is a feeling that can be experienced in both the short term and the long term, suggesting its multifaceted nature and enduring significance.

When considering factors that influence happiness, it is widely recognized that happiness is a subjective response influenced by internal factors in relation to external circumstances. In this context, design can serve as a powerful medium to facilitate individuals' interaction with their environment by providing meaningful stimuli that can influence their emotions, perceptions and behaviors. Design has the potential to shape and enhance the user's happiness by carefully crafting the aesthetics, functionality and usability of products, services and environments, designers can create positive and engaging experiences that contribute to individuals' overall well-being and happiness.

2.2. Positive Design (PD)

Positive design is an umbrella term for design that has an explicit focus on research and development of solutions that increase people's happiness (TuDelft, 2022). It strives to stimulate or enhance positive emotions and reduce or overcome negative emotions. Positive design can evoke positive emotions through five distinct methods. Firstly, positive design helps people to build a good and optimistic vision for the future by providing them with the opportunities to improve their well-being. Secondly, by empowering individuals to flourish through their skills, providing them with freedom, enhancing their relationships and encouraging them to contribute to society. Thirdly, by allowing people to engage in activities that maintain a balance between pleasure and virtue. Fourthly, by acknowledging that both positive and negative emotions are essential parts of a meaningful and fulfilling life. Finally, positive design takes into consideration the well-being of all stakeholders involved in the design process (TuDelft, 2022).

Positive design has three main components: “design for pleasure”, “design for personal significance” and “design for virtue” (Desmet & Pohlmeier, 2013). Positive design can only be achieved if the three ingredients intersect. In positive design, the sustainable effect of happiness design means that the design helps human flourish. What does it mean? According to Seligman (2011) to flourish means that a person feel that he/she can be optimal and live to one's full potential and the things he does bring him sense of meaning, engagement, interest and purpose in life.

According to Desmet and Pohlmeier (2013) the implementation of positive design may not always give equal attention to all three components: pleasure, virtue and personal significance. There may be instances where one component is emphasized more than the others. However, it is important to ensure that the design does not have any negative impact on the other components in all cases. For example, a design can still provide a pleasurable experience without necessarily promoting virtuous behavior. As long as it doesn't lead to unvirtuous behavior, the design can still be considered positive. Desmet and Pohlmeier, (2013) argue that positive design resides in the “sweet spot” where all three components intersect, indicating the optimal balance and integration of pleasure, virtue and personal significance.

In the following, each ingredient will be introduced and elaborated how they can

be combined to create a framework for positive design (Desmet & Pohlmeier, 2013).

2.2.1. Design for Pleasure

One component of happiness arises from the enjoyment of a person's momentary pleasures. This component emphasizes the present moment, relaxation, enjoyment and freedom from problems. Design can evoke positive feelings by providing comfort, reducing discomfort, providing intellectual stimulation (such as gaining new experiences using new gadgets) or by facilitating pleasurable activities (such as sailing facilitated by a sailboat).

Furthermore, Jordan (2000) elaborates more by giving four distinct types of pleasure that people may seek in human - product interaction which are physical, social, psychological and ideological. Physical pleasure refers to the physical sensations that come from the sensory organs. It is experienced when interacting with a product or environment. For example, when holding and touching a remote-control during interaction can give tactile pleasures. Social pleasure refers to the pleasure experienced when interacting with others in a social context. For example, a coffeemaker can provide good coffee that makes the social gathering more enjoyable. Psychological pleasure refers to the pleasure experienced in the mind or emotions. For example, one can anticipate that word processing software that enables swift and effortless completion of formatting tasks would offer greater psychological pleasure compared to one that is prone to numerous errors by the user. Lastly ideological pleasure refers to the pleasure derived from one's beliefs, values or ideology. For example, a product with biodegradable material could be perceived as representing the importance of being environmentally responsible.

2.2.2. Design for Personal Significance

The second component of happiness comes from a sense of personal meaning with the focus on long- or short-term life goals and aspirations such as getting a bachelor's degree or running a marathon. Personal significance is the importance or value that an individual places on their own life, experiences and contributions (Savva, 2021). It is a feeling of relatedness and a sense of importance that comes from being in a relationship with oneself, with others and with a higher power (Brunette & Viljoen, 2018). Pursuing personal significance can bring people happiness because it provides a sense of purpose and direction in life. In addition to a sense of personal meaning, personal significance can come from the awareness that life is progressing toward a future goal. For example, musical instruments enable musicians to develop their talent or running shoes help certain individuals achieve fitness. Products can also remind users of their current or future goals. When people have a goal or aspiration that they are working towards, it can give their life meaning and motivate them to act. Achieving these goals can bring a sense of accomplishment and satisfaction, which can lead to increased happiness and well-being.

2.2.3. Design for Virtue

The third component of happiness is virtuous behavior, which is a pattern of behavior or a sense of excellence to which one should aspire in order to live a virtuous life. Virtuous behavior often involves helping others, being truthful, being kind and demonstrating other positive values. Virtuous behavior can lead to positive social

interactions and a sense of connection with others. To do virtuous behavior people should know their values and beliefs this can also bring a sense of integrity and self-respect, which can contribute to overall well-being and happiness. For instance, charitable actions are often considered virtuous. Design can promote virtuous behavior, such as designing durable furniture that can be donated to those in need.

2.3. *Design for Happiness (DfH)*

In his other research, (Desmet, 2011) applied the positive design framework to the design process by naming it “design for happiness”. This framework emphasizes that products themselves do not necessarily bring happiness, but rather how people use the products can lead to feelings of happiness. DfH shifts the focus from functional and aesthetic aspects and instead takes into consideration the emotional, social and psychological aspects of the user’s experience with the products so they can contribute to the users’ overall well-being and happiness (Pohlmeyer, 2012). Desmet built DFH (Design for Happiness) based on the premise that individuals can achieve long-term happiness through the pursuit of meaningful personal goals and understanding the reasons behind those pursuits. Personal goals are desired states that individuals seek to obtain, maintain or avoid in various aspects of their lives, such as work, relationships, finances, health and personal growth (Davis, 2023). Desmet’s research concludes that there are four components that make up meaningful personal goals: talent and skill, personal values, enjoyment and contribution to others. These components play an important role in shaping individuals' long-term happiness.

Talent and skill: Personal goals that involve individuals using and developing their talents and skills bring more happiness compared to goals that don't, as they stimulate personal growth, which has been consistently linked to enhancing well-being.

Personal values: Personal goals that are rooted in one's core values and are authentic to oneself contribute more to happiness than goals that are not. Personal values are the central beliefs and principles that guide a person’s habits, actions, views, aspirations and relationships. It lays the foundation for an individual’s behavior, personality and thinking (Gamage *et al.*, 2021). Pursuing goals that conflict with personal values creates psychological tension and has a negative effect on well-being.

Enjoyment: Personal goals that bring rich, enjoyable and meaningful experiences in the process of pursuing them contribute to happiness. While the process itself may not always be enjoyable, the intended result of achieving these goals brings satisfaction and enjoyment.

Contribution to others: Personal goals that implicitly enable individuals to contribute to someone or something outside of themselves have a stronger effect on one's happiness compared to goals that do not involve a sense of contribution, as it stimulates a sense of purpose and relatedness, which have been noted by (Ryan & Deci, 2001).

2.4. Personal Goal Ingredient Matrix (PGI)

Skills & Talents	Enjoyment	Contributions to others	Personal Values
<i>What skills (or talents) do you have?</i>	<i>What activities do you like to do?</i>	<i>What or how do you contribute to others?</i>	<i>What are the underlying values?</i>
playing piano	hiking	teaching someone in need	Balance in life
listening others	travel and learn new culture	i like to donate blood	Community coherence
baking pies	grow your own vegetable	cook for others	Appreciate nature

Figure 2. Personal Goal Ingredient Matrix

To illustrate how Design for Happiness (DfH) operates within the design process, Desmet devised a matrix chart known as the Personal Goal Ingredient Matrix. This matrix encompasses the four key ingredients of happiness that are rooted from the positive design. The underlying principle of the matrix is that filling it with meaningful goals of certain individual can enhance happiness over time (Figure 1). As research by Brunstein (1993) has shown that happiness can be increased if human able to achieve their goals in life. The meaningful personal goals are related in 4 key components: skills & talents, contribution to others, enjoyment and personal values.

This Personal Goal Ingredient Matrix is based on a morphological chart. It is a visual tool used to capture the necessary product functionality and explore alternative means and combinations of achieving that functionality (Börekçi, 2018). It is a method to generate ideas in an analytical and systematic manner by splitting a product/solution into smaller chunks that can then be analyzed and ideated for independently (Smith *et al.*, 2006). The morphological chart method is based on the General Morphological Analysis (GMA) method developed by Zwicky (1967) for the investigation of non-quantifiable problems.

This PGI Matrix allows designers to systematically explore different ideas by combining four key ingredients of happiness: pleasure, personal significance, virtue and enjoyment. By utilizing this matrix, designers can identify unique and meaningful goals for individuals, which can enhance their overall happiness over time.

The column describes the four ingredients of DfH and the row is filled by user's answer about their meaningful goals (Figure 2). The matrix is designed to be used during the empathize and ideation phases of the design thinking process. This can be a valuable tool because according to (Dam & Siang, 2021) the ability to capture what

people say, does, think and feels are crucial during the empathize stage. This matrix is not limited to user interviews only but can also be used to generate new ideas by combining the answers from different users to spark new design ideas, similar to the morphological chart idea generation process. The matrix is built upon the premise that the final design solution will generate happiness for the end-user because it is based on their individual needs and desires.

2.5. Design for Happiness Example



Figure 3. Vegetable book by designers Katja Leuschner and Floris van der Marel

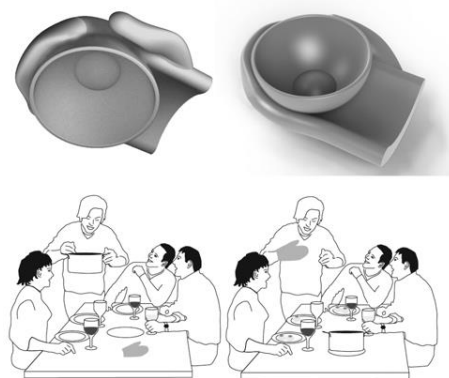


Figure 4. Show off gloves By Dorothea Facchini

The PGI matrix is used as design methodology in design studio in TU DELFT which resulted in the creation of the “vegetable book” by designers Katja Leuschner and Floris van der Marel (Desmet, 2011). The book was inspired by a Dutch elderly man named Pete it is a life-size object intended to be placed in a communal garden as an open invitation for anyone to participate (Figure 3). The book contains information on how to plant various vegetables and fruits. The concept was generated by combining Pete's talents which is his ability to bring people together, his love for growing vegetables, his values of community openness and his contribution of sharing his life experiences and knowledge.

Another example is “show off gloves” by Dorothea Facchini (Figure 4). These silicone gloves are intended for cooking. They enable users to pick up and serve hot food directly from the cooking pot. The gloves are designed based on the characteristics of an individual who possesses a talent in preparing single-pan meals, takes pleasure in exhibiting physical strength, values companionship and the ability to make his or her

friends laugh. Notably, both designs share a common thread in the utilization of the PGI approach, as they are ideas generated based on a person's significant goals and they serve as conversation starters or activity facilitators that involve one person interacting with another.

After conducting a comprehensive analysis of Desmet's positive design, design for happiness and the PGI matrix, we have reached the conclusion that while the PGI matrix has demonstrated effectiveness, there is room for enhancement through the inclusion of diverse perspectives beyond the individual viewpoint. This is because the current PGI matrix, which solely relies on the input of a single person's response. We propose to improve the matrix by incorporating various people's perspectives in the PGI matrix, it can improve idea generation and result in more diverse and innovative design solutions.

2.6. *The How of Happiness Strategy (HoH)*

To enhance the PGI matrix as an existing design methodology for design for happiness, we conducted a literature review in the field of positive psychology, with a specific focus on the book "The How of Happiness" by Sonja Lyubomirsky. This book provides a comprehensive guide to the concept of happiness and presents scientific tools and strategies for increasing an individual's personal capacity for happiness (Lyubomirsky, 2008).

The 12 happiness activities outlined in "The How of Happiness" by Sonja Lyubomirsky are further elaborated below, providing a deeper understanding of each activity:

1. ***Practicing gratitude*** involves cultivating a sense of wonder, thankfulness and appreciation for life. It entails directing our attention to the present moment and acknowledging the factors that contribute to the goodness of our lives. Engaging in this practice can result in happiness, as (Unanue *et al.*, 2019) have indicated a direct correlation between expressing gratitude and experiencing positive effects on both mental and physical well-being.

2. ***Cultivating optimism*** involves developing a habit of focusing on the positive aspects of any situation. It is not only about acknowledging the present moment, but also includes reflecting on the past and looking forward to a brighter future. Embracing a positive mindset enables individuals to navigate challenges and setbacks with greater resilience and optimism, empowering them to overcome obstacles and maintain a hopeful outlook on what lies ahead (David, 2020).

3. ***Avoiding overthinking and social comparison*** involves the ability to reduce excessive rumination about the meaning, causes and consequences of events in life, as well as refraining from comparing oneself to others. This can be achieved by reinterpreting and redirecting negative thoughts towards more neutral or optimistic perspectives. In addition, it is important to avoid making comparisons with others and just focus on one's personal journey. By doing so, individuals can cultivate a healthier mindset and maintain a positive outlook on their own unique path in life. In addition, another longitudinal research study on 350 university students in Japan has indicated that differences in the valuation of happiness and the influence of social culture can determine whether certain individuals tend to ruminate or not (Takai *et al.*, 2023).

4. ***Practicing acts of kindness*** involves exhibiting kindness, generosity and a willingness to share or assist others. The essence of practicing kindness lies in nurturing compassion. Sonja emphasizes the importance of timing and variety for acts of

kindness to be effective. As time is important in acts of kindness, individuals should carefully consider when and how they are going to engage in these acts. To maintain variety, it is suggested by Sonja that individuals need to create a list of kind activities that they enjoy. These acts can be mixed and matched daily, requiring creativity and effort to continually vary them. As Revealed by the study of Inam et al. (2021) engaging in acts of kindness can bring happiness as it promotes social connections and instills a sense of purpose,

5. ***Nurturing social relationships*** involves being exceptionally skilled at maintaining intimate connections with friends and family. At times of stress, distress and trauma social support is needed. To foster social support, individuals should prioritize making time to express admiration, appreciation and affection towards others. This is further supported by (Waldinger & Schulz, 2015), who have indicated that building and maintaining meaningful relationships is crucial for happiness. Their research highlights that strong social connections provide support, companionship and a sense of belonging, all of which contribute to overall well-being.

6. ***Developing coping strategies for stress*** involves the actions taken by individuals when they experience pain, stress, or suffering due to negative circumstances or situations. It is how people effectively manage stress. In her book, Sonja suggests two approaches to cope with stress: problem-focused coping, which involves developing action plans to solve problems and emotion-focused coping, which entails engaging in activities or practices that individuals enjoy and may include reframing the situation in a positive light (such as seeking lessons from the experience or finding silver linings) and acceptance, which involves learning to live with and accepting the reality of what has occurred). Another study discovered that there is a negative relationship between stress and happiness (Schiffirin & Nelson, 2010). The findings confirm the common belief that individuals who are unhappy tend to have higher levels of stress compared to those who are happy. Therefore, learning effective stress management techniques can reduce negative emotions and enhance overall well-being. Having healthy coping mechanisms helps individuals navigate challenges more effectively.

7. ***Learning to forgive*** involves consciously reducing the desire to avoid or seek revenge against someone who has significantly harmed or affected us. It is a process of releasing negative emotions, resentment and the need for retaliation. The aim of practicing forgiveness is to let go of anger, bitterness and the having the urge for vengeance, allowing individuals to heal and move forward. It requires developing empathy, understanding and compassion towards the person who has hurt us and choosing to release the negative emotions associated with the experience. According to (Worthington *et al.*, 2007) forgiveness lead to greater sense of emotional wellbeing because it helps individuals to let go negative emotions such as anger, resentment and bitterness.

8. ***Doing activities that truly engage*** and captivate one's attention is referred to as “flow”, a concept introduced by Mihaly Csikszentmihalyi. It is a state where individuals become deeply absorbed and immersed in their actions, completely focused and unaware of themselves. The essential element in achieving flow is to find activities that strike a balance between one's skills and the challenges presented. Flow can contribute to increased happiness as it involves productive engagement, providing a sense of fulfillment and positively impacting both oneself and others (Iida & Oguma, 2013). This state of flow creates a rewarding experience that enhances overall well-

being.

9. ***Savoring life's joys*** involves the ability to generate, amplify and prolong the delight derived from positive experiences that have occurred in the past, are unfolding in the present or are anticipated in the future. It involves learning to fully appreciate and derive pleasure from ordinary, everyday moments (Bakker *et al.*, 2011). Sonja also emphasizes the significance of savoring life's joys with family and friends, as being in the company of others can enhance positive reminiscence. To enhance the experience of savoring life's joys, individuals should practice their ability to imagine and transport themselves to different places and times at will. Reminders of happy memories can evoke the pleasant emotions associated with the original experience, highlighting the inherent value of reminiscing about positive past experiences (Speer *et al.*, 2014).

10. ***Committing to life's goals*** involves striving for something personally significant and enjoying the process of engaging in challenging activities that align with life's goal. There are five characteristics of a good life goal: intrinsic, authentic, approach-oriented, harmonious, activity-based, flexible/appropriate. In addition, Sonja highlights six key benefits of committing to life's goal in her book. Firstly, it provides a sense of purpose and control over one's life. Secondly, it bolsters self-esteem and enhances confidence and efficacy. Thirdly, it adds structure and meaning to daily routines. Fourthly, it increases productivity and fosters a sense of direction during difficult times. Lastly, it promotes social engagement and connectedness. By committing to meaningful goals, individuals can experience a greater sense of fulfillment, purpose and overall well-being as they strive towards their own aspirations (Ryan & Deci, 2000).

11. ***Practice religion and spirituality*** involves various activities that cultivate individuals' faith in a higher power or a greater realm beyond human existence. These activities include attending religious services, engaging in private prayer and participating in collective worship. These practices offer individuals opportunities to connect with like-minded individuals who share similar beliefs and values. Sonja highlights the importance of working on faith, which offers a framework for understanding the world and provides individuals with guidance and moral values. The practice of religion and spirituality contributes to happiness by fostering a belief system that brings a sense of coherence, purpose and significance to one's life (Martela & Steger, 2016).

12. ***Taking care of the body both physically and mentally*** is about taking control of one's body and mind health. Doing physical activities is good for increasing happiness because according to (Craft & Perna, 2004) it releases endorphins, which are natural mood enhancers and promotes better sleep, reduced stress and increased self-esteem. Aside from physical activity, doing positive behavior like smiling, enthusiastic and look compassionate can increase happiness, because according (Seligman, 2011) acting like a happy person aligns with principles from cognitive-behavioral therapy (CBT), which suggests that changing behaviors can lead to changes in thoughts and emotions. By engaging in positive behaviors associated with happiness, individuals can rewire their brain and cultivate more positive emotions.

In the book, Sonja suggests that everyone should reflect on these 12 happiness activities and consider which ones resonate with them and align with their personal values and circumstances. It is important to recognize that different activities may work for different people and individuals should choose the ones that are most relevant and beneficial to their own well-being.

According to Sonja one of the challenges in implementing the HoH strategy is “Hedonic Adaptation”, which refers to the tendency of individuals to return to a relatively stable level of happiness after experiencing positive or negative events (Klausen *et al.*, 2022). For example: if we get a new car at first, we feel happy about it, but after sometimes we get used to it and the car doesn’t bring much happiness as before. To overcome this challenge, Sonja highlights the importance of incorporating variety and novelty into the activities carried out within each HoH strategy (Lybormirsky, 2008). It has been observed that individuals need to engage in new and diverse experiences after a certain period to prevent themselves from becoming too accustomed to their current circumstances. The new and diverse experience ultimately will increase their overall sense of happiness and fulfillment. This can involve exploring new activities, hobbies or seeking out novel experiences.

3. Result & Discussion

This section outlines the process of improving the Personal Goal Matrix for Design for Happiness by incorporating happiness activities from Sonja's book, “The How of Happiness”. The rationale behind the improvement of the personal goal matrix is divided into five stages: In the first stage, we identify the relationship between each construct of positive design and the construct of design for happiness. In the second stage, we analyze the essential components of the 12 happiness activities from HoH using fishbone analysis. The third stage involves integrating Design for Happiness with the concepts from HoH. The fourth stage, we summarize our research, we create a conceptual mapping and finally, we enhance the Personal Goal Matrix and propose a new name for it, the Integrated Happiness Matrix.

3.1. The Rationalization Between Positive Design and Design for Happiness

The three components of positive design, namely design for pleasure, design for virtue and design for personal significance, are closely related to the four components of design for happiness: talent and skill, enjoyment, personal values and contribution to others. The argument presented below draws from various publications by Desmet (Desmet, 2011; Desmet & Hassenzahl, 2012; Desmet & Pohlmeier, 2013) establishing connections between them to support the following points.

Design for pleasure of PD is closely connected to the cultivation of talent and skills of DfH, acknowledging that individuals derive greater happiness when they can nurture their abilities and experience personal growth (Desmet & Hassenzahl, 2012; Desmet & Pohlmeier, 2013). This aligns with the concept of enjoyment, another component of design for happiness, which emphasizes engaging in meaningful and rewarding activities (Desmet & Hassenzahl, 2012; Desmet & Pohlmeier, 2013). Design for pleasure focuses on the happiness derived from savoring the present moment, where happiness arises from the accumulation of individual pleasurable experiences (Desmet & Hassenzahl, 2012). Thus, it becomes evident that talent and skills, along with enjoyment, are integral to design for pleasure as they contribute to creating momentary pleasure and enhancing overall happiness.

Design for personal significance of PD is intimately linked to personal values of DfH as it revolves around the pursuit of goals and actions that align with one's fundamental beliefs, principles and aspirations. Personal values act as compasses that shape individuals' choices and behaviors, guiding them towards a life that is true to

themselves. As individuals engage in activities that truly lie with their personal values, they experience sense of authenticity, satisfaction and alignment to their inner selves. Schwartz's theory of basic human values supports this connection, highlighting that personal values represent enduring convictions about what is essential in life and exert a powerful influence on individuals' attitudes and behaviors (Schwartz, 2012). Prioritizing and actively pursuing goals that align with personal values contribute to an enhanced sense of self-worth, meaning and purpose in individuals' lives.

Design for virtue of PD focuses on the pursuit of a virtuous life, which includes behaviors such as helping others, being truthful, showing kindness and embodying positive values. This emphasis on virtuous actions aligns with the concept of contributing to others of DfH. Both design for virtue and contribution to others are integral to long-term happiness, as the need for relatedness, which involves feeling connected to and caring for others, is a fundamental psychological need for well-being (Ryan & Deci, 2000). When individuals engage in acts of helping others, it nurtures a sense of purpose, connection and fulfillment, ultimately enhancing their happiness and overall well-being (Niemi & Ryan, 2009). Therefore, the component of design for virtue is closely linked to the notion of contribution to others and can exert a positive influence on one's happiness.

3.2. Fishbone analysis on the 12 happiness activities

After conducting a comprehensive literature review on the 12 happiness activities, we utilized a fishbone diagram to analyze and categorize the potential causes associated with each activity (Ishikawa, 1976).

The fishbone analysis begins with the question: What are the core activities that bring most people happiness? From this starting point, we analyze the cause-and-effect relationships between all the 12 HoH strategies. The aim of doing fishbone analysis is to reduce the data that is key in Qualitative Content Analysis method.

First, we identify a cause-and-effect relationship between practicing gratitude, avoiding overthinking and cultivating optimism. A person can practice gratitude by avoiding overthinking and cultivating an optimistic mindset. Next, we identify a cause-and-effect relationship between engaging in activities that are truly engaging, committing to life's goals and taking care of one's physical and mental health. A person can feel engaged in their activities if what they are doing aligns with their life goals and contributes to their overall physical and mental well-being. Another cause-and-effect relationship is identified between savoring life's joys, practicing religion and spirituality and developing coping strategies. A person can naturally feel joy in life if they practice religion and have effective coping strategies for facing problems. Finally, we identify a cause-and-effect relationship between practicing acts of kindness, nurturing social relationships and learning to forgive. A person can practice acts of kindness by nurturing social relationships and learning to forgive others.

This diagram proved to be an effective tool for identifying and organizing the underlying factors that contribute to the success and impact of these happiness activities (Figure 5). By employing the fishbone diagram, we gained a deeper understanding of the intricate cause-and-effect relationships between the various happiness activities. Moving forward, we focused on four key happiness strategies from the "How of Happiness": savoring life's joy, practicing gratitude, performing acts of kindness and engaging in truly engaging activities. Based on the fish bone analysis we identified that these 4 strategies are the most common and general activities that can bring happiness

to most people. For example, a person may not follow a religion but still can savor joy in his life. Doing activities that are truly engaging can be activities that may not necessarily improve physical health but can still significantly enhance happiness.

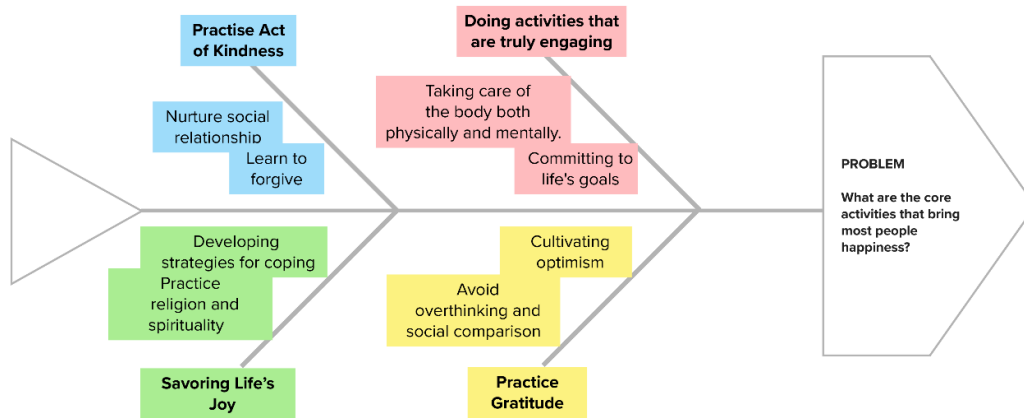


Figure 1 Fish Bone analysis of The How of Happiness Strategy

In addition to utilizing the fishbone diagram, we conducted thorough literature review to reconfirm the result of the fishbone analysis which is to focus on 4 HoH happiness: savoring life's joy, practicing gratitude, performing acts of kindness and engaging in truly engaging activities. By gathering evidence from existing research, we aimed to support our arguments. Reviewing previous studies and scholarly literature provided a solid foundation for our claims and ensured the credibility of our analysis.

- The first pattern is the relationship between engaging in truly enjoyable activities and committing to life's goals. According to Sonja, both activities involve undertaking engaging endeavors that provide a sense of accomplishment upon completion. When individuals engage in enjoyable activities that are aligned with their goals, they experience a higher level of intrinsic motivation, perseverance and fulfillment (Little *et al.*, 2007). Additionally, committing to life's goals is closely linked to taking care of one's body and mind. According to Little *et al.* (2007) by committing to meaningful goals, individuals gain a sense of purpose, motivation and drive, which empowers them to take control over their lives and make positive health choices. Sustaining healthy habits over time becomes a priority because maintaining good health can enhance cognitive function, emotional well-being and overall productivity. This, in turn, enables individuals to stay focused and motivated toward their goals. As a result, we have decided to prioritize doing activities that are truly engaging as the root cause for the other two happiness activities: committing to life's goals and taking care of the body physically and mentally.

- The second pattern we identified is the relationship between practicing gratitude and cultivating optimism, as both activities fall under the same happiness strategy. Practicing gratitude involves appreciating the things that happen in life, which requires individuals to maintain an optimistic outlook (Wood *et al.*, 2010). When one is grateful, they are focusing their attention on the present moment and the goodness of their lives, hence they will be less likely to compare themselves to others or engage in overthinking (Lyubomirsky *et al.*, 2011; Seligman *et al.*, 2005). Additionally, both practicing gratitude and cultivating optimism can be part of a problem-focused coping strategy. This is supported by the fact that gratitude facilitates a shift in perspective by

focusing on the good things of one's life, even in difficult situations. This positive reframing helps individuals find meaning and purpose in challenging situations, leading to better coping outcomes (Emmons, 2003; Wood *et al.*, 2010). Therefore, we have chosen to prioritize the practice of gratitude as the root cause for the other happiness activities: cultivating optimism, avoiding overthinking and social comparison and developing strategies for coping.

- The third pattern we have identified unveils the correlation between practicing acts of kindness and fostering nurturing social relationships, as well as cultivating the ability to learn to forgive. Engaging in acts of kindness, as emphasized by Inam *et al.* (2021), not only strengthens social connections but also entails releasing negative emotions and directing one's focus towards the well-being of others. In light of these findings, we have made the decision to prioritize the practice of acts of kindness, as it serves as a primary factor in nurturing social relationships and fostering a forgiving mindset.

- The fourth pattern is the relationship between savoring life's joy, practice religion and spirituality and developing coping strategies for stress, because when individuals fully appreciate and derive pleasure from ordinary, everyday moments they usually do it with family and friends and this can be related to practicing religion and spirituality. In her book Sonja also highlighted that spending time with the closest person can be one of effective strategies to manage stress. According to a study by Bryant and Veroff (2007), individuals who engaged in savoring activities experienced lower levels of stress and greater overall life satisfaction. By actively savoring positive moments, individuals can create a buffer against the negative effects of stress and cultivate a more positive emotional state. Furthermore, a study by Krause (2006) explored the role of religious involvement and positive emotions in older adults. The findings revealed that the practice of spirituality provides a framework for individuals to find meaning and purpose in life, leading to a deeper appreciation and savoring of joyful moments. Therefore, we have chosen to prioritize savoring life's joy as a happiness activity instead of practicing religion and spirituality. This decision is based on the interrelationship between these two concepts, recognizing that an individual's religion and spirituality are personal and sensitive matters that may be challenging to address during the interview stage. By focusing on savoring life's joy, we can explore a more universal aspect of happiness that can be experienced and understood by individuals from various backgrounds and beliefs.

- Based on the fishbone analysis (Figure 5) and literature review, we have decided to prioritize the development of the PGI matrix, focusing on four key happiness activities: engaging activities, savoring life's joys, expressing gratitude and practicing acts of kindness. These four activities serve as the foundation for other HoH activities and align with the matrix's aim to capture the habits that make many people happy.

- By designing interventions centered around these activities, we aim to maximize their effectiveness in enhancing individuals' capacity for happiness. This strategic approach allows us to target specific areas that have been identified as influential factors in promoting personal well-being and fulfillment.

3.3. Integrating the How of Happiness Strategy with Design for Happiness

After selecting the four key happiness activities, the next step is to establish a connection between the chosen four HoH (Habits of Happiness) strategies and the four components of DfH (Design for Happiness), analyzing their correlation. Figure 6

visually represents the interconnected nature of DfH and HoH. For instance, doing activities that truly engage are closely tied to skills and talents since individuals can develop and nurture their talents through participation in engaging activities. Theoretically, the act of immersing oneself in truly engaging activities is referred to as “flow”. According to (Nakamura & Csikszentmihalyi, 2009) flow can enhance skill acquisition by providing immediate feedback and opportunities for deliberate practice. Additionally, flow experiences enable individuals to continuously challenge themselves and improve their skills, ultimately leading to higher levels of expertise in a specific domain (Deci & Ryan, 1985).

Likewise, savoring life's joys directly contributes to experiencing enjoyment and contentment, because it allows. According to Bryant and Veroff (2007) when individuals engage in savoring, they amplify positive emotions and prolong the experience of joy, happiness and gratitude. By being fully present, paying attention to the details and relishing the positive aspects of an experience. It helps individuals extract more pleasure, meaning and fulfillment from life's moments, leading to a heightened sense of enjoyment and happiness.

Practicing gratitude aligns with personal values, particularly the values that align with individuals' inner selves. People who have a clear sense of their personal values and life goals are more likely to recognize and appreciate contributions and experiences that align with these values, leading to a greater sense of gratitude. Knowing that personal values can't be reduced only to express gratitude, because the study tries to identify factors that can contribute to happiness for many people hence it focuses on practising gratitude based on the premises of previous research. A study by Wood et al. (2010) found that individuals who engaged in gratitude exercises reported higher levels of personal values, including compassion, forgiveness and integrity, as they become more aware of their values and strive to align their thoughts, emotions and actions with these values. Moreover Russo et al. (2024) states the relationship between gratitude and personal values because gratitude often stems from and reinforces core personal values such as humility, empathy and appreciation. When a person values these traits, they are more likely to practice gratitude.

Practicing gratitude aligns with personal values, it is defined by Gamage et al. (2021) as central beliefs that shape behavior, personality and thinking. It is further asserted by the authors that people with a clear sense of their personal values and life goals are more likely to recognize and appreciate contributions and experiences that align with these values, leading to a greater sense of gratitude. It's important to note that personal values encompass more than just expressing gratitude. This study aims to identify factors that contribute to happiness for many people, hence the study focuses on practicing gratitude based on the premises of previous research. A study by Wood et al. (2010) found that individuals who engaged in gratitude exercises reported higher levels of personal values, including compassion, forgiveness and integrity, as they became more aware of their values and strived to align their thoughts, emotions and actions with these values. Moreover, Russo et al. (2024) emphasize the relationship between gratitude and personal values, noting that gratitude often stems from and reinforces core personal values such as humility, empathy and appreciation. When a person values these traits, they are more likely to practice gratitude.

Lastly performing we argue that acts of kindness serve as the fundamental aspect of contributing to the well-being of others. In their study, (Buchanan & Bardi, 2010) conducted experiments to examine the effects of performing acts of kindness, acts of

novelty or no acts over a period of 10 consecutive days. The findings revealed that individuals who engaged in acts of kindness or acts of novelty experienced a significant increase in life satisfaction. The study also emphasized the importance of novelty in interventions aimed at enhancing happiness. In a six-week longitudinal study conducted by Nelson et al. (2016), the researchers examined the effects of engaging in prosocial behavior on the well-being of 473 individuals. The findings supports the (Buchanan & Bardi, 2010)'s conclusion that directing one's attention towards others through prosocial actions is a consistent source of happiness. In addition, the study emphasized that engaging in acts of kindness towards others strengthens social connections, fosters increased social support and cultivates a greater sense of community and these are the factors that contribute to long term happiness.

3.4. Conceptual Mapping

Through the theoretical research conducted, we have synthesized and mapped out the relationships between the constructs of positive design, design for happiness and the how of happiness (Figure 6). We have explored existing research that supports and establishes connections between these constructs. By integrating these findings, we aim to enhance our understanding of how positive design and design for happiness contribute to overall well-being and happiness. This synthesis enables us to identify the commonalities, overlaps and potential synergies between DfH and HoH constructs, thereby ensuring comprehensiveness in the current study.

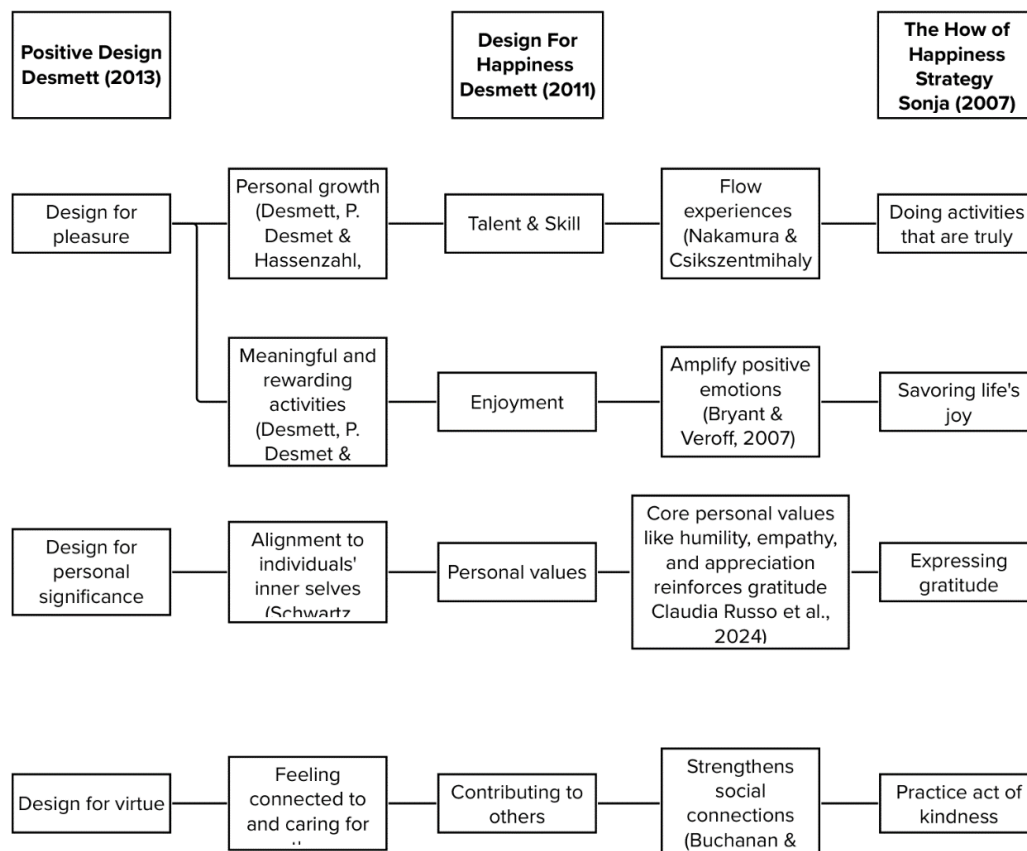


Figure 6. Literature Research Conceptual Mapping

Based on an extensive review of the literature, we have developed a conceptual map that illustrates the key concepts, relationships and connections identified in the literature regarding our research topic. The conceptual map serves as a guide and foundation for our research to construct design methods (Figure 6).

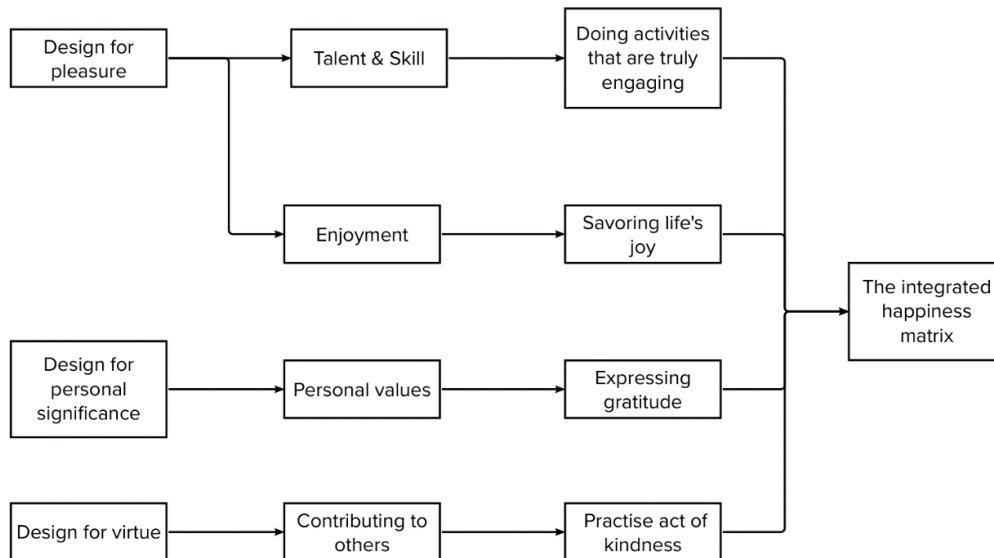


Figure 7. Research Conceptual Map

3.5. Building Up the Integrated Happiness Matrix

In this stage, we construct our design method and name it the Integrated Happiness Matrix. Within the matrix, we incorporate guided questions for each variable of DfH (Design for Happiness), drawing from Sonja's explanations of each happiness activity. These questions serve the purpose of offering individuals a framework for self-reflection and exploration. By engaging with these questions, individuals can gain a deeper understanding of their personal values, aspirations and areas for personal growth and development.

In addition to including prompt questions for each DFH (Design for Happiness) variable based on the the how of happiness strategy. In addition, we enhance the matrix by incorporating additional perspectives from diverse users, thus ensuring a comprehensive and inclusive approach. By having different users respond to the interview questions, our goal is to create a matrix that not only covers a wide range of perspectives but also captures the unique needs and experiences of individuals.

In this research, we propose the “Integrated Happiness Matrix” as an enhanced PGI matrix, which serves as a powerful design tool for identifying happiness activities that hold true significance and generate enduring effects of happiness. The matrix provides valuable insights into the four key ingredients that contribute to people's happiness: talent and skills, enjoyment, personal values and contribution to others. Each of these ingredients is further amplified through the inclusion of prompt questions derived from the How of Happiness activities. By incorporating these prompt questions, the Integrated Happiness Matrix facilitates a comprehensive exploration of each ingredient, enabling individuals to delve deeper into their own sources of happiness and well-being. This matrix serves as a valuable resource for designers to discover

innovative ideas that can have a lasting and transformative impact on one's well-being and overall happiness.

Table 1. Integrated Happiness Matrix

Design for happiness	The how of happiness	Interview questions	User 1	User 2	User 3
Talents & Skills	Doing activities that are truly engaging	What activities do you enjoy most, where your talents shine, making time fly by?			
		What new experiences do you want to try that match your skills?			
		What do you like learning on your own, where you quickly excel thanks to your talents?			
Enjoyment	Savoring life's joy	What activities bring you the most joy and meaning in life?			
Personal values	Expressing gratitude	What are your most important beliefs or principles and how do they affect what you do every day?			
		What are three things in your life for which you are thankful?			
		One way to induce you to be grateful?			
		Effective ways to express your gratitude?			
Contribution to others	Practice act of kindness	What acts of kindness do you aim to perform?			
		How frequently do you intend to be kind and pick one day that fits you?			
		How much you willing to do?			
		Who do you like to help?			

4. Reliability and Validity

The reliability and validity of the integrated happiness matrix are ensured through a rigorous process of expert validation involving individuals with backgrounds in psychology and design. As mentioned by Wahyuni (2016) conducting interviews with experts in the field is crucial to validate the research findings. To validate the research findings interviews were conducted with experts in two stages.

In the first stage, psychologists were interviewed. These experts brought their extensive research experience in psychology, providing valuable insights and perspectives that greatly contributed to the study's credibility.

The second stage involved interviewing lecturers specializing in product design. These lecturers possessed vast experience in teaching with design thinking approaches, making them well-suited to provide valuable input on the integration of happiness and design principles.

By involving experts from both psychology and design, the validation process encompassed a multidisciplinary approach, ensuring the robustness and validity of the integrated happiness matrix. Their expertise and feedback helped to refine and strengthen the research findings, ultimately enhancing the reliability of the study's conclusions.

The experts' short profile is presented in Table 2 and the interview process is depicted in Figure 6.

Table 2. The profile of the Experts

No.	Expert Interviewed	Data Source	Institution	Qualification
1	Expert 1	Indepth Interview	Pelita Harapan University	Clinical psychologist who provides continuing and comprehensive mental and behavioral health care for individuals, couples, families and groups.
2	Expert 2	Indepth Interview	Youth Shine academy	Lecturer in product design who has taught design thinking course for 10 years
3	Expert 3	Indepth Interview	Pelita Harapan University	Lecturer in product design who has taught product design studio for 10 years
4	Expert 4	Indepth Interview	Seoul Tech University	

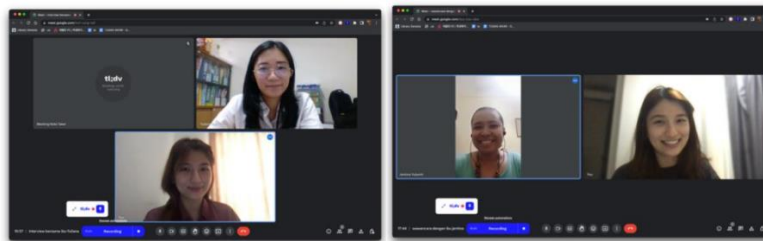


Figure 2. Validation with Psychologist

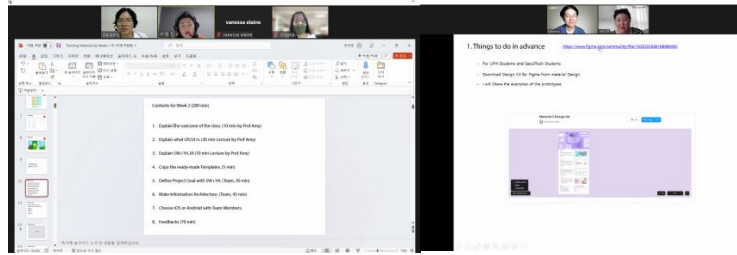


Figure 8. Validation with product design lecturers

From the interview with the psychologist, several key points were identified: One of the key findings from the interview with the psychologist validating the integrated happiness matrix was the confirmation of the strong correlation between the design for happiness component and the how of happiness activities. They support if the research decides to focus on four happiness activities: expressing gratitude, savoring life's joy, doing activities that truly engaging and act of kindness.

Aside for confirming the psychologist also highlighted the importance of considering individual and cultural background differences and preferences when designing for happiness. They emphasized that customization and personalization play a crucial role in promoting a sense of ownership and positive emotional experiences.

Furthermore, the psychologist emphasized the significance of other human values such as autonomy, competence and relatedness, as these psychological needs are closely interconnected with subjective well-being. Overall, the psychologist's insights supported the integration of psychology and design in the pursuit of creating product design that enhances happiness. The validation from the psychologist further strengthens the reliability and applicability of the integrated happiness matrix in guiding design practices for promoting well-being.

From the second stage of the validation process, which involved interviews with product design lectures, the research finding reveals the validation of the integrated happiness matrix as a valuable tool for design projects. The lecturers emphasized the matrix's usefulness in guiding designers to incorporate happiness and well-being into the design process. They acknowledged its potential to enhance user satisfaction and create meaningful experiences.

However, concerns were raised regarding the subjectivity aspect of the matrix. The lecturers expressed caution about the subjective nature of happiness. They emphasized the importance of considering individual differences and cultural variations in interpreting and applying the matrix. Designers should recognize that what may bring happiness to an individual might not have the same effect on others. The subjectivity of happiness presents a challenge in accurately capturing and addressing diverse user needs and expectations.

Additionally, the lecturers highlighted the need for a holistic approach that goes beyond solely focusing on happiness. While the matrix provides a framework for integrating happiness into the design process, it should not overshadow other critical aspects such as functionality, usability and sustainability. Designers should strive for a balanced approach that considers multiple dimensions of user experience.

In addition, there were concerns raised about the assessment tools used to measure the long-term impact of designs on user happiness. It is crucial to have reliable and comprehensive measurement techniques that can accurately capture the sustained effects of design choices on user well-being over time. These concerns emphasize the

importance of developing assessment tools that go beyond immediate reactions and consider the enduring impact of design solutions on user happiness.

Another concern is a challenge in objectively assessing the impact of design choices on user happiness. Hence, both the lecturers recommend that developing reliable measurement techniques that capture the subjective experience of happiness and its relation to design elements would enhance the effectiveness of the integrated happiness matrix as a design tool.

In conclusion, the interview with the psychologist provided valuable insights into the validation of the integrated happiness matrix as a tool for design projects. The psychologist's confirmation of the strong correlation between the design for happiness component and the how of happiness activities supports the focus on key happiness activities such as expressing gratitude, savoring life's joy, engaging in meaningful activities and practicing acts of kindness. The psychologist also emphasized the importance of considering individual and cultural differences in designing for happiness, highlighting the role of customization and personalization in creating positive emotional experiences. Furthermore, the psychologist highlighted the significance of other human values like autonomy, competence and relatedness in relation to subjective well-being. These insights reinforce the integration of psychology and design in promoting well-being through product design.

5. Conclusion

This study has comprehensively addressed the research question of how to create a design methodology that integrates the concepts of design for happiness and the how of happiness strategy. The integrated happiness matrix is an improved version of Desmet's Personal Goal Ingredient Matrix. It incorporates multiple perspectives and includes four "how of happiness" (HoH) strategies as prompt questions, helping users identify activities that can sustainably enhance their happiness.

The development and validation of the integrated happiness matrix have provided valuable insights and guidelines for future designers seeking to create products that can effectively and sustainably enhance happiness. By incorporating principles of positive design, design for happiness and the how of happiness strategy, this methodology offers a comprehensive framework for designing products that go beyond functionality and contribute to the overall well-being of users.

However, this study has limitations. Firstly, it primarily focused on developing the methodology itself, necessitating further investigation into the actual implementation and impact of the integrated happiness matrix in real design projects. To address this, the research extended through a collaborative distance learning User Experience Design workshop with Seoul Tech National University. This workshop, conducted over four weeks between January and February 2023, aimed to implement the design methodology and conduct empirical studies, with results to be discussed in a subsequent publication. Additionally, future research should examine the consequences of implementing the matrix in design projects and assess whether they align with concerns raised by psychologists and product design lecturers regarding cultural background differences, preferences in data collection, designers' subjectivity and cultural biases during data analysis. If the matrix has already been implemented, future research can focus on developing reliable measurement techniques to assess the process. This includes identifying questions that delve deeply to capture users'

happiness, determining additional prompts that may be needed and exploring which combination of happiness components generates the most ideas.

Overall, this study serves as a valuable reference for future designers who aspire to create happiness-enhancing products. The integrated happiness matrix is grounded in theory while remaining practical and accessible to designers. Ideally, the methodology will assist designers in intentionally designing to promote human flourishing and in embodying these concepts through tangible and applicable designs that can make a real-world impact.

Acknowledgement

The authors wish to express our appreciation for the support, guidance and collaboration received from various individuals and organizations involved in the preparation of this research work. Special thanks are extended to:

- Dr. Martin L. Katoppo, S.T., M.T., who serves as the Dean of the Faculty of Design at Pelita Harapan University.
- Dr. Ir. Susinety Prakoso, M.A.U.D., M.L.A. who holds the position of Head of the Institute of Research and Community Services at Pelita Harapan University.
- It is important to note that this article forms part of an internal research publication identified by the reference number P-61-SoD/I/2023.

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