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# Introducing the third space of design for well-being: Exploring the intersection between problem- and possibility-driven design through a design case on online dating experience

Hajdu, Erika<sup>\*a</sup>; Ertürkan, Hazal<sup>a</sup>; Desmet, Pieter<sup>a</sup>

<sup>a</sup> Delft University of Technology, Delft, The Netherlands

\* hajduerika91@gmail.com

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This paper reports a design case that explored the traditional distinction between problem- and possibility-driven design for promoting user well-being. Problem-driven design identifies and addresses unfulfilled needs to reduce ill-being (i.e., the first space of design for well-being), while possibility-driven design seeks to enhance well-being without addressing existing problems (i.e., the second space of design for well-being). The latter is informed by positive psychology, which studies the conditions for human flourishing. Although possibility-driven design has added a valuable new focus to the design repertoire, it confronts designers with some key challenges that are currently unresolved. Examples of these challenges include finding focus, determining evaluation metrics, and convincing stakeholders. Therefore, to explore an alternative approach for design for well-being, this paper presents a design case which introduces a third space that integrates the two approaches with the intention of combining their strengths. The paper begins by discussing the first two spaces, then introduces the third space approach, and presents the design of a product that supports the well-being of people engaging in online dating. The case is used as a platform to explore and discuss the strengths and weaknesses of the third space, and possible future applications of the integrated approach to design for well-being.

**Keywords:** *possibility-driven design; methodology; design case; subjective well-being*

## 1 Introduction

Picture yourself in a public restroom, your hands still wet from washing, and a queue forming behind you. You reach for the hand dryer, but it proves to be slow and inefficient, and you end up wiping your hands on your clothes instead. This frustrating scenario prompted Dyson's design team to develop the Airblade – a novel type of hand dryer that uses high-speed air flow to dry your hands in a matter of seconds. By addressing the shortcoming of existing hand dryers, Dyson successfully created a new market for high-speed hand dryers. This example illustrates the power of problem-driven design,



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which focuses on solving or reducing problematic scenarios by employing traditional design thinking (Dorst, 2004; Roozenburg & Eekels, 1995). While problem-driven design is highly effective at creating designs that are both desirable and meaningful, it has been argued, however, that it predominantly reduces ill-being and may not necessarily increase positive well-being.

Now, consider a different scenario. You're planning a vacation and seeking a unique and personalised experience. Rather than booking a hotel, you browse Airbnb, a platform that allows individuals to rent out their homes to travellers. You find a distinctive and memorable stay in a local's home, and your vacation becomes an unforgettable experience. Airbnb is an example of possibility-driven design, which is an approach that focuses on exploring and creating new possibilities without starting with a specific problem to solve. The founders of Airbnb recognized the potential of the sharing economy and disrupted the traditional lodging industry. Possibility-driven design has been proposed to complement problem-driven design approaches by intentionally facilitating positive states that go beyond neutrality (Desmet & Hassenzahl, 2012; Desmet & Pohlemeyer, 2013).

Both problem-driven design, which we refer to as the 'first space of design for well-being', and possibility-driven design, which we refer to as the 'second space of design for well-being', have their respective strengths and weaknesses. This paper introduces a 'third space' integrated approach aiming to combine the strengths of these two spaces. This framework serves as an initial attempt to conceptualise and structure a blended approach to design for well-being. It is important to note that this framework is in its preliminary stage and should be viewed as a discussion piece and work in progress, rather than a fully matured work. The intention is to stimulate idea generation and encourage an ongoing discourse on design for well-being.

The paper begins by discussing the first two spaces, introduces the concepts underlying the third space, and presents a design case of the integrated approach. The case involves a design that supports the well-being of people engaging in online dating. The case is used as a platform to explore and discuss some of the strengths and weaknesses of the third space. The paper concludes with reflections on the case, the potential of the third space approach for positive design, and the limitations and possible future applications of the integrated approach to design for well-being.

## **2 Problem-, and possibility-driven design**

For over a decade, design researchers and practitioners have been exploring how design can target subjective well-being through practices such as Positive Design (Desmet et al., 2013), Positive Technology (Riva et al., 2012), Positive Computing (Calvo & Peters, 2014), and Experience Design (Hassenzahl, 2010). While diverse, these initiatives are inspired and informed by knowledge developed in the field of positive psychology that explains the conditions for human well-being and flourishing. Building on that knowledge, they aim to employ design as a means to support people in well-being increasing activities (Jiminez et al., 2014). In possibility-driven design, the design process is typically informed by positive experiences in the context. Some examples of such design cases are *The Inner Garden*, an augmented sandbox promoting mindfulness (Roo et al., 2017), and *atopi*, a service improving the well-being of families with children suffering from atopic dermatitis (Weiß et al., 2020).

Possibility-driven design can be contrasted to traditional problem-driven design, which typically involves analysing existing problems and designing solutions to mitigate or eliminate negative factors (Rozenburg & Eekels, 1995; Desmet & Hassenzahl, 2012). Figure 1 provides a visual representation of the respective impacts on well-being. Problem-driven design may reduce ill-being, but this does not necessarily increase well-being beyond a neutral state (Figure 1, left). The absence of a problem does not automatically equate to being in a positive state (Desmet & Hassenzahl, 2012). In contrast, with its focus on the positive spectrum of human functioning, possibility-driven design has the potential to increase well-being beyond a neutral state, reaching the positive space of human flourishing (Figure 1, right) (Desmet & Pohlmeier, 2013).

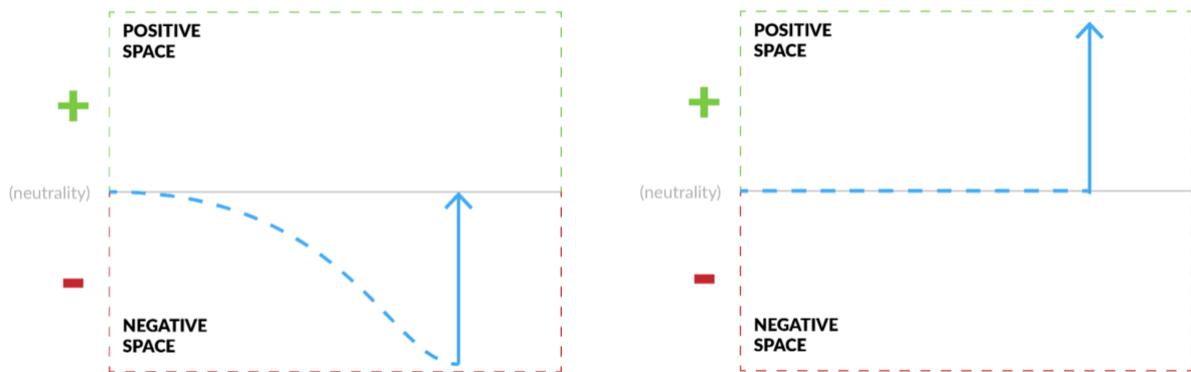


Figure 1. Problem-driven design (left) focuses on the negative, while possibility-driven design (right) focuses on the positive well-being space.

Both approaches have particular strengths and weaknesses. The current paper reflects upon some of these challenges and the potential of an integrated approach that combines the strengths of both approaches, which is introduced as the ‘third space of design for wellbeing.’

## 2.1 Key challenges in possibility-driven design

Possibility-driven design takes an optimistic approach, encouraging designers to consider broader context and long-term implications, potentially leading to more creative outcomes (Desmet & Hassenzahl, 2012). However, this approach lacks the methodology, rigour, and arguments required to structure the design process and convince stakeholders of the design’s value (Desmet & Pohlmeier, 2013; Peters et al., 2020). This section addresses four challenges of possibility-driven design: finding focus and methods, dealing with subjectivity, evaluating results, and convincing stakeholders.

### 2.1.1 Finding focus

Problem-driven design is characterised by its clear focus on addressing a current limitation or problem. It structures the design process around the problem space, using a problem statement to formulate a design goal and a set of criteria (Dorst, 2004). These criteria guide the product development and serve as a selection tool during ideation, iteration, and validation, providing structure and objectivity. In contrast, possibility-driven design lacks this distinct focus, as the possibility space is essentially boundless. Desmet & Pohlmeier (2013) emphasise the need for methods that can effectively guide the design process, particularly in its early stages. Currently, possibility-driven projects involve gathering user input on positive experiences to explore possible directions (Jiminez et al., 2014;

Laschke et al., 2020), but often lack clear criteria for weighing those directions. While all design practices involve navigating complexity and uncertainty, having a well-defined scope and constraints can be beneficial for guiding the process, strategic planning, and framing.

#### 2.1.2 Dealing with subjectivity

The meaning of conditions for subjective well-being are highly individual and context-dependent (Lomas & Ivtzan, 2016). When designing for positive experiences, it is crucial to consider the recipient's personality, needs, and values, as these factors significantly influence the success of the intervention. Personal fit is essential because what works for one person might not benefit another (Desmet & Pohlmeier, 2013; Sheldon & Lyubomirsky, 2007). Several approaches to deal with the complexity of designing for personal significance have been proposed. Desmet & Pohlmeier (2013) recommend targeting universal needs such as autonomy, competence, and relatedness. Other suggestions are to create customizable solutions or to narrow down the target audience. However, even with a small user base, personal and emotional experiences remain subjective, making it challenging to predict the well-being effect of design interventions.

#### 2.1.3 Evaluating results

Evaluating possibility-driven designs is challenging due to the absence of focused design criteria, the subjective nature of emotional experiences, and the long-term nature of subjective well-being. Jimenez et al. (2014) suggest using general design principles such as 'simplicity' or 'level of innovation' for evaluating design concepts. They also propose measuring the experience evoked by the design as a means for validation. However, these immediate experiences may not fully represent the long-term well-being impact of a design. Well-being assessment methods are needed to evaluate a possibility-driven design contribution, such as the 'happiness factor questionnaire' (Kamp & Desmet, 2014). These methods can help assess the broader well-being impact beyond the immediate experience and provide insights into the long-term effects of the design intervention.

#### 2.1.4 Convincing stakeholders

Problems inherently carry a sense of relevance and urgency, which helps to convince stakeholders to invest in, implement, or use the design outcomes. In possibility-driven design, where the focus is on creating positive experiences, it can be more challenging to generate buy-in from stakeholders. This challenge, referred to as 'the need for buy-in' in well-being-supportive design (Peters et al., 2020), arises because the benefits of possibility-driven design may be less persuasive. Therefore, developing applicable business strategies becomes crucial for the success of possibility-driven design interventions (Desmet & Pohlmeier, 2013; Gopaldas, 2015).

### **3 The third space, exploring a blended approach**

Exploring opportunities broadly at the outset of the design process, rather than focusing on a specific problem area, can create challenges such as those outlined above. To address these challenges, we propose a blended 'third space approach' that combines the strengths of problem-driven and possibility-driven design (see Figure 2) to guide the well-being focused design process. In this framework, we introduce the concept of 'pain points' within the context of enquiry, recognizing the co-existence of positive and negative factors.

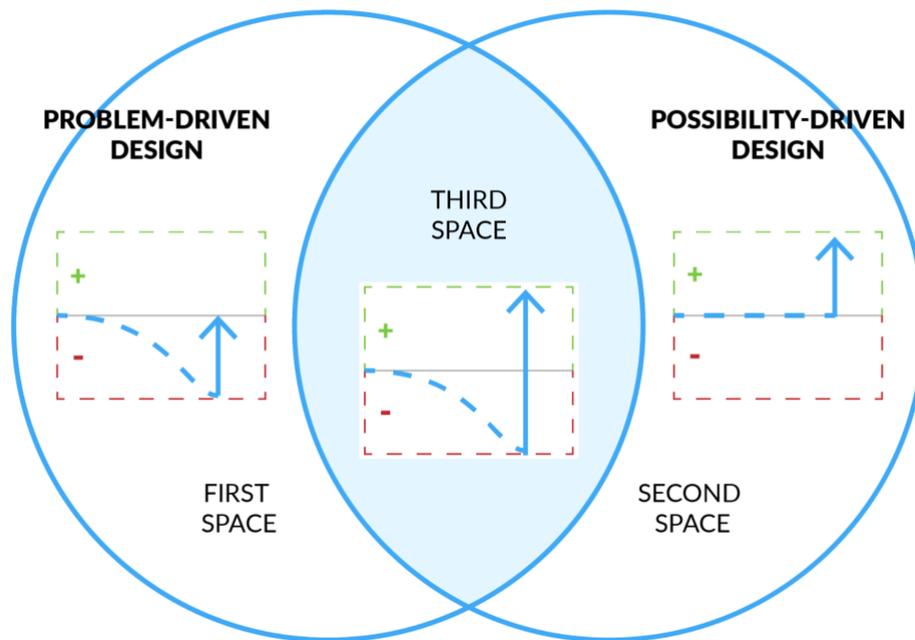


Figure 2. The third space is found in the intersection of problem- and possibility-driven design.

The third space approach begins by identifying ‘pain points’ that act as barriers to the user’s subjective well-being. Once identified, the focus then shifts to creating solutions for these pain points, aligning with traditional problem-driven design. However, instead of stopping there, the solutions are further analysed in order to identify possibility-driven context-specific design opportunities. This approach allows designers to explore possibilities beyond neutrality, thereby unlocking the positive space (Figure 2). Integrating negative experiences into a positive approach aligns with the second wave of positive psychology, which acknowledges the co-existence of positive and negative aspects in many life experiences (Lomas & Ivztan, 2016). For instance, post-traumatic growth involves both positive and negative elements that are interconnected. This nuanced non-dualistic perspective encourages designers to consider negative experiences in positive design projects rather than solely focusing on the positive.

Transitioning from one space to another requires a mindset shift for designers. The premise of this shift is that the solutions generated in the first space (problem-driven design) inform the second space (possibility-driven design) by providing context-specific positive psychological qualities and design criteria. It is important to note that the three design spaces for well-being share several qualities, such as being user-centered, explorative, iterative, and non-linear in approach, which also characterises traditional design thinking. However, the third space approach proposed in this paper differs by its explicit focus on exploring possibilities, which are not solutions to problems, but alternative ways to create meaningful experiences and to fulfil universal human needs. The specific differences of the three design spaces are summarised in Table 1.

Table 1. Comparison of the three spaces of design for well-being

Feature		First space of design for well-being	Second space of design for well-being	Third space of design for well-being
<b>Focus and approach</b>	<b>Starting point</b>	Discrepancy between the current state of affairs and a desired state.	Potential positive states	Pain points in combination with potential positive states
	<b>Focus</b>	Mitigating or eliminating problems	Supporting positive experiences that increase well-being	Addressing pain points in a way that increases well-being
	<b>Approach</b>	Limited solution space that is determined by identified problems	Open solution space that is determined by possibilities	Open solution space that is determined by possibilities combined with a focused direction that is determined by pain points or barriers for human flourishing
	<b>Impact</b>	Reduce ill-being	Promote well-being	Reduce ill-being and promote well-being
<b>Dealing with subjectivity</b>	<b>Target audience</b>	Focussed target audience	Broad target audience	Broad target audience
	<b>Fulfilled needs</b>	Context-specific needs	Universal needs	Universal needs in the specific context
<b>Evaluating results</b>	<b>Use of design criteria</b>	Measure impact of the design in terms of the design criteria	Measure impact of the design in terms of overall well-being	Measure impact of the design in terms of the design criteria and in terms of overall well-being
	<b>Scope of evaluation</b>	Compare to the current state of affairs	Compare to alternative scenarios	Compared to current state of affairs and alternative scenarios
<b>Convincing stakeholders</b>	<b>Benefits</b>	Clear relevance and urgency	Elusive and visionary	Visionary with a foundation of clear relevance and urgency

### 3.1 Design case example

We present a design case that explored the third space approach in the context of online dating. The project was initiated by the co-first author, Ertürkan, and carried out by the co-first author, Hajdu as part of her MSc graduation project for the Design for Interaction master's program in 2022 at Delft University of Technology (Hajdu, 2022).

We chose online dating as the context for the case because positive relationships are considered an important element of well-being (Seligman 2011), and romantic relationships have been linked to physical and mental health, overall well-being, and happiness (Kansky, 2018). However, the quick and impersonal nature of modern dating can have negative effects on people's well-being (Her &

Timmermans, 2021). The risks posed by digital technology and its impact on well-being make (online) dating a suitable context for introducing well-being interventions.

The project was inspired by Guy Winch’s (2013) proposal to carry out ‘psychological first aid-exercises’ after experiencing ‘emotional injuries’ in daily life, such as moments of rejection, guilt, or failure. While these injuries are a natural part of life, they can be emotionally painful and have a negative impact on people’s subjective well-being (Flynn et al., 2010; Gross & Cassidy, 2019; Nezlek & Kuppens, 2008). According to Winch (2013), practising emotional first aid following minor negative experiences can prevent the development of potential mental health issues and contribute to personal resilience.

Figure 3 illustrates the project’s process of moving between the possibility-driven and problem-driven design spaces. Note that although the illustration suggests a linear process, the actual process was iterative and non-linear in nature. Our design process involved the following steps: (1) exploring pain points in the context, (2) exploring solutions for these pain points, (3) identifying the denominator of solutions to define design focus and requirements, (4) refining the final design, and (5) conducting an evaluation.

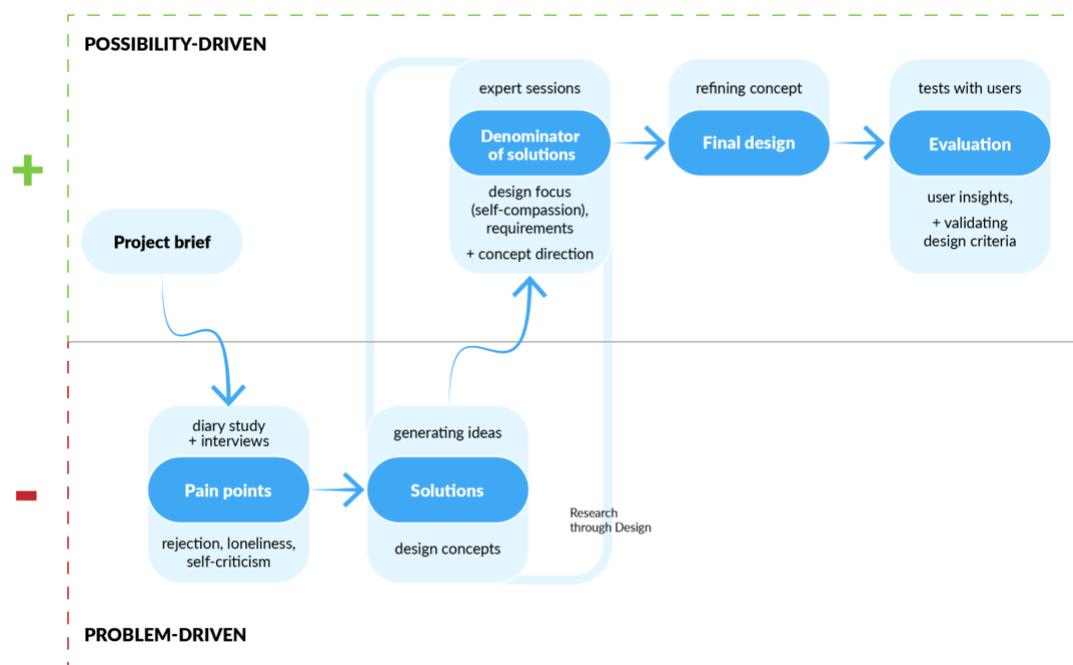


Figure 3. Design process of the described case

### 3.1.1 Exploring pain points

The goal of our project was to increase subjective well-being and dating resilience in the context of online dating. Online dating is a widely practised and diverse phenomenon, with a growing audience of 366 million users worldwide in 2022 (Dixon, 2023; Rosenfeld et al., 2019). Due to the varied nature of online dating practices and the complex and unpredictable interpersonal experiences involved, it was initially challenging to establish a clear focus. To provide guidance, we conducted an exploration of the problem space. Our analysis focused on negative events and ‘pain points’ that have the potential to harm people’s well-being, with the goal of defining a specific focus for exploring possible ways to improve subjective well-being in the online dating context.

Thirteen individuals aged between 22 and 34, who regularly engage in online dating, participated in a diary exercise followed by an interview. Over a 10-day period, participants documented both positive and negative dating experiences, allowing us to gain a comprehensive understanding of their overall dating experience, the emotional effects of these events, and how people cope with those experiences.

Using a deductive approach, we thematically analysed the qualitative data collected from the diaries and the interviews (see Braun & Clarke, 2006). The experiences were classified as positive, negative, or neutral. Negative experiences resulting in emotional injuries were identified as 'pain points'. These were categorised according to the seven emotional injury types outlined by Winch (2013) and represented on a linear map (see Hajdu, 2022), similar to a customer journey map (see Lemon & Verhoef, 2016). We considered the frequency and severity of each pain point. The most prevalent injuries, along with their associated symptoms, were identified as the main negative influences on subjective well-being in the context of online dating. These pain points served as guiding focus for the subsequent design phase.

### 3.1.2 Explore solutions for the pain points

The next step was to develop design ideas that address the identified pain points. Our assumption driving the process was that exploring solutions for the defined pain points in online dating (feelings of rejection, loneliness, and self-criticism) could provide useful insights for specifying design requirements for the possibility-driven phase. We connected the first-aid techniques of Winch (2013) to the 13 fundamental needs theory of Desmet and Fokkinga (2020), a design-focused framework of human psychological needs. This approach aligns with Desmet & Pohlmeier's (2013) advice to target universal needs with positive design interventions. We generated around 60 initial ideas by applying the first aid strategies to the corresponding needs to deal with rejection and loneliness after an unpleasant dating event. The ideas were grouped thematically based on common qualities (Figure 4) by discussing among the authors. The most mature idea from each theme was selected and elaborated in the form of sketches and storyboards to be used as prototypes for further discussion.

### 3.1.3 Identifying the denominator of solutions

A version of the group Delphi method (Webler et al., 1991) was employed to find the common denominators of the initial ideas. We reached out to 16 possible local partners with expertise in the area of (online) dating and psychology. Four social scientists, who are experts in relationship studies, from Ghent University, Tilburg University, and University of Twente, one partner from a Dutch dating application, and a fellow MSc graduation student from TU Delft working on a similar topic accepted the request. We conducted three video meetings with varying numbers of attendees (3, 3, and 1 per session). Previously selected ideas were presented, and the experts were asked to complete given guiding sentences (e.g., 'I find this useful for...', 'I see problems with...') about each concept. This facilitated the discussions, and comments and suggestions were noted to define design attributes that could help people overcome potential emotional injuries. After each session, the ideas were iterated or discontinued if they lacked potential compared to others (Figure 4).

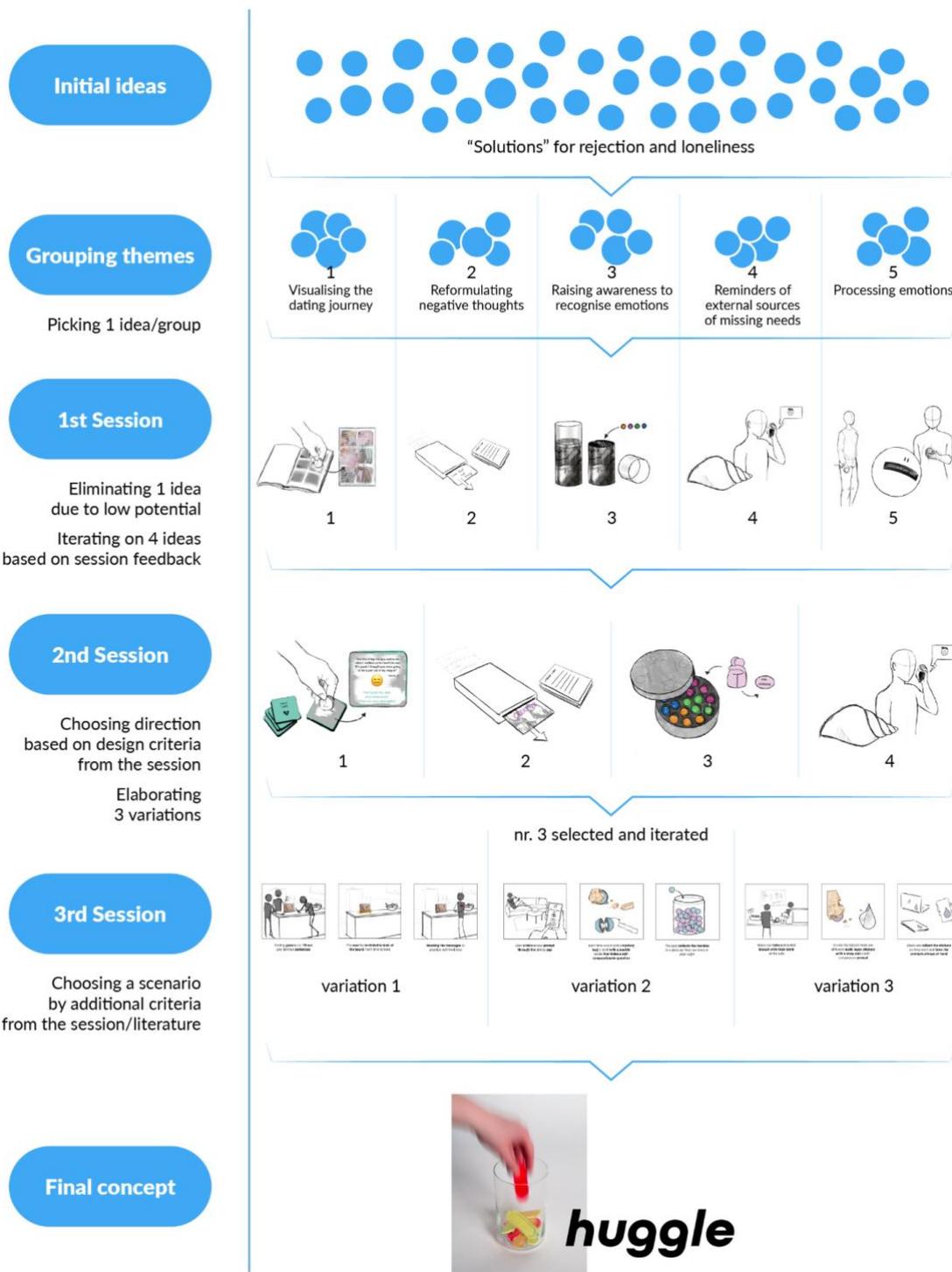


Figure 4. Development and selection process of the concepts

The input from the experts was discussed among the authors, and emerging themes were identified to uncover the common denominators of the concepts. Through these discussions, we defined design

requirements, such as flexibility, unobtrusiveness, the need for feedback and agency, and the promotion of self-compassion.

During the first session, one of the experts highlighted the importance of self-compassion as a positive psychological quality that can help individuals cope with the emotional injuries associated with online dating. Self-compassion, which includes kindness towards oneself, recognizing common humanity, and practising mindfulness (Neff, 2003), aligns with multiple attributes applicable in the context, as supported by literature and other expert opinions. Neff et al. (2005) report that practising self-compassion increases competence, connectedness, emotional intelligence, self-determination, and subjective well-being, improving relationship behaviour and satisfaction in romantic relationships. Positive design interventions focusing on resilience and self-compassion can contribute to emotion regulation, which is shown to enhance personal and societal well-being (Gilbert & Choden, 2014; Petermans & Cain, 2019). Therefore, we defined self-compassion as the guiding objective in the possibility-driven phase. Consequently, we specified our design goal: 'Help young singles to practise self-compassion after an emotional injury when they are dating, allowing them to build their repertoire of healthy coping strategies.' This revised design goal provided a more concrete target, timeframe, and purpose for the intervention while exploring possibilities and, therefore, a structure for elaborating and evaluating the final design.

#### 3.1.4 Diving into possibilities and refining final design

Given the refined design goal and criteria, we conceptualised and detailed a product service 'Huggle' (see Figure 5), which is integrated into an online dating app. This idea fulfilled most of the requirements identified during the expert sessions. Huggle allows users to develop their own 'emotional first aid kit', aiming to build healthier coping habits, enhance dating resilience, and prevent serious psychological injuries that may arise from potentially harmful events in online dating (Owens & Waters, 2020).

Upon registration, users receive Huggle, a collection of self-compassion prompts, from the dating platform. The collection aims to strengthen users' competence, autonomy, and relatedness. Every prompt includes an instruction indicating when to use it. Users can consult these prompts after negative experiences that might harm their subjective well-being, such as being rejected on the platform when another person does not respond. Each prompt consists of a statement of acceptance based on self-compassion strategies and exercises (Neff, 2003; Neff, n.d.; Saulsman et al., 2017), such as 'It's normal to feel sad about this', followed by a question or instruction, for example, 'What would an outsider say about this?' or 'Let's find my favourite photos with the people most important to me'. By sending a pop-up message during these potentially harmful moments, the application encourages people to open, read, and reflect on a prompt, fostering acceptance and observation of their feelings instead of turning to self-criticism and withdrawal (Winch, 2013).

To enhance the immersive experience and promote mindfulness, the prompts are packed in foam-like mycelium material. Unpacking the packaging provides users with an immersive moment of mindfulness by inviting them to 'pluck and pick' (Karana et al., 2018) the material. Additionally, we incorporated reminders within the dating app and suggested keeping the physical product within sight to encourage continuous engagement. The physicality of the collection facilitates meaningful

activities, enables recollection, and enhances the profoundness of user's experiences (Desmet & Sääksjärvi, 2016). By using one's personalised 'first-aid kit' repeatedly, not only during negative moments, users can gradually increase self-compassion and, consequently, improve their competence and subjective well-being (Neff et al., 2005).

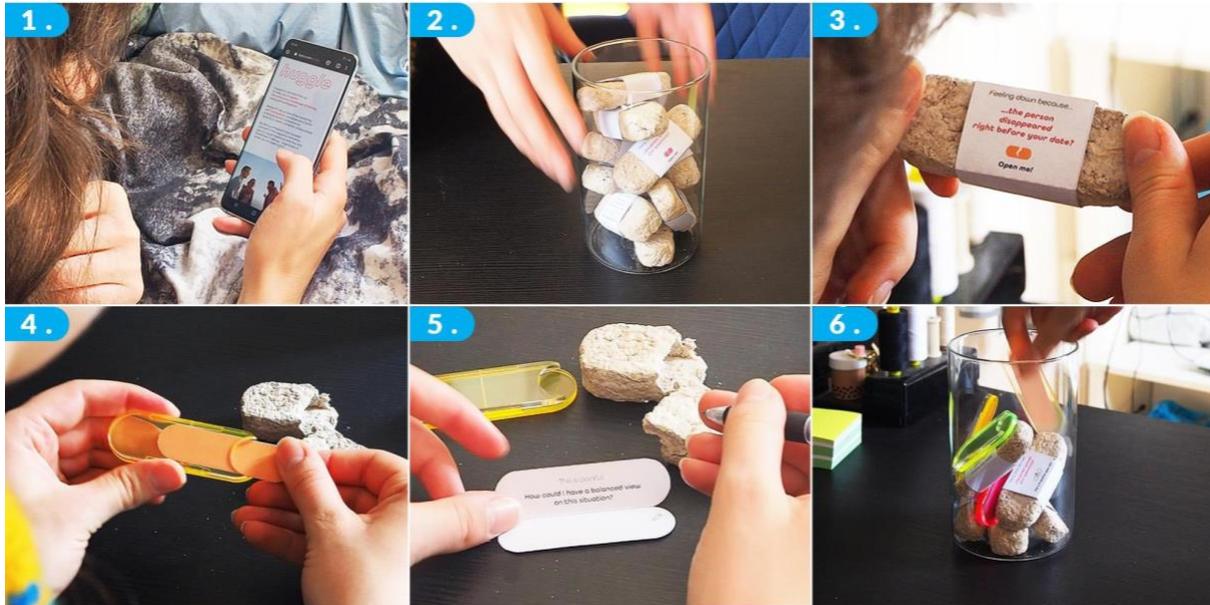


Figure 5. Final concept; a product service that allows users to build their 'emotional first aid kit' using self-compassion prompts. 1; The product is offered when signing up for the online dating service. 2; Collection of mycelium-covered prompts in a glass jar. 3; Packaged prompt with instructions. 4; Inside the package; colourful acrylic case holding a note with the self-compassion prompt. 5; User filling and personalising a prompt. 6; Colourful self-compassion prompts collected in the jar.

### 3.1.5 Testing and validation

To evaluate the effectiveness and user experience of Huggle, two evaluation studies were conducted. The objective was to gather user insights, assess the impact of the design, and determine if the intervention successfully conveyed self-compassion while meeting the design requirements, as suggested by Jiminez et al. (2014).

In the first study, four current users of dating apps were recruited locally and provided with Huggle for a period of ten days. Participants maintained a survey-type diary where they documented their dating-related events, their usage of the product, and explanation for their choices. At the end of the testing period, the diaries were utilised during semi-structured interviews to further explore participants' experiences with the design. To measure changes in self-compassion, participants completed the short version of the self-compassion scale (Raes et al., 2011) both before and after the testing period.

The second study investigated the practical necessities and barriers associated with using Huggle. Seven participants with varying levels of experience in online dating took part in an hour-long think-aloud session (Ericsson & Simon, 1980). They explored the use of Huggle through a simulated scenario. A digital prototype of a chosen dating application (Tinder) was used to simulate signing up for the

service and going through a common rejection experience. In both studies, detailed notes were taken, and a thematic analysis was conducted to gain insights into the design's effectiveness considering the predefined design criteria.

## **4 Discussion**

The Huggle design case explored the challenges of possibility-driven design through the integrated 'third space approach' to design for well-being. Incorporating context-related 'pain points', helped us to leverage the strengths of problem-driven design, such as finding focus, dealing with subjectivity, and evaluating results in a structured way.

### **4.1 Finding focus**

Focusing on the 'emotional injuries' (Winch, 2013) as 'pain points' occurring in online dating served as an entry point at the beginning of the project, guiding the design process by giving a focus. We explored opportunities to solve these pain points, while also targeting universal needs such as competence, autonomy, relatedness as context-specific guiding principles. This provided a clear direction for the possibility-driven phase.

### **4.2 Dealing with subjectivity**

We applied the suggestions to target universal needs, and allow customization to deal with the subjectivity of well-being (Desmet & Pohlmeier, 2013). Consequently we explored the universal human needs in the online dating context, which were competence, autonomy, and relatedness (Desmet & Fokkinga, 2020). The process resulted in a product service that allows users to collect and reflect on their coping strategies after minor emotional injuries, personalising the product themselves, therefore embracing their subjective coping strategies through fulfilling one or more of these needs in a self-compassionate manner.

### **4.3 Evaluating results**

The evaluation of the design intervention was supported by the design criteria derived from the pain points. Instead of assessing the general happiness and well-being of users, we used context-specific measures that relate to the stimulus (Kamp & Desmet, 2014) as a more objective approach. We explored whether the intervention meets the design criteria, and helps people to be more self-compassionate. However, the ten days testing period was not enough to observe significant change in people's overall self-compassion formed throughout an entire lifetime. Yet, participants of the evaluation studies reported self-compassionate behaviour which might eventually lead to long-term impact. We also found that people assess the usefulness of the design differently when it is applied to their current situation, as opposed to evaluating fictional scenarios. In-context tests were positive, while participants of the simulated scenario were not convinced of the solution. We concluded that contextual factors and sufficient time are necessary for validating positive design interventions.

### **4.4 Providing user benefits by acknowledging the negative**

As suggested by the second wave of positive psychology, a balanced harmony between the positive and negative aspects of life is essential for well-being and flourishing (Lomas & Ivtzan, 2016). Findings indicated that acknowledging flaws and negative emotions arising after an event and complementing them with positive or neutral ones through self-compassion prompts allowed people to accept the

reality of negative experiences, take a different perspective, and deal with well-being-related challenges. Instead of a purely positive-focused approach, a balanced view can help people engage with, and therefore benefit from the design intervention.

#### **4.5 Limitations of the case study**

A thorough evaluation would require a longitudinal impact study. In this project, users' narratives were used to evaluate the product's immediate well-being effects. The self-compassion scale that was used to test the impact of product usage proved ineffective. Self-report scales of subjective well-being are suitable for determining one's overall well-being, but they provide no or little information about that specific impact of the design intervention (Kamp & Desmet, 2014), especially within such a short time-frame.

We did not investigate to what extent the design would convince stakeholders outside our user base. The pain points within the context might contribute to creating a sense of urgency that possibility-driven design interventions miss, but this assumption needs to be validated. Although the industry expert who participated in the project expressed a positive opinion about the design, it should be noted that this expert was affiliated with a well-being-supportive dating platform. In the evaluation studies, we used Tinder as the fictional host of the intervention, as the most popular dating app worldwide (Statista Research Department, 2022). Participants expressed a desire for the product to be integrated into the dating platform, indicating that active integration (Gaggioli et al., 2017) has the general potential to support acceptance. However, user feedback suggested that a mismatch between the nature of the intervention and the image of the hosting service might pose a barrier. Multiple participants found it unlikely that popular dating platforms would genuinely care about their users' well-being, leading them to distrust well-being-focused products offered by these platforms. These findings suggest that integration is not just a technical task, but also a branding and business challenge. Therefore, it needs to be explored further how the third space approach can convince business stakeholders.

#### **4.6 Limitations of the approach**

The third space proposes to incorporate the problem-oriented approach leading with pain points and the possibility-driven approach exploring the possibilities beyond the solutions for those. The pain points can be defined from real problems or plausible issues in the context that can stand as a barrier to the positive design goal (e.g., increasing happiness). As described in the case above, defining 'emotional injuries' (Winch, 2013) in the online dating context as pain points helped us to identify the scope, context-specific strategies, and positive qualities to promote. However, pain points vary in different contexts and defining them where there are no apparent threats for the user's flourishing might be challenging.

The third space approach enables design researchers and practitioners to find a scope and structure while exploring possible opportunities and a wide range of ideas to improve well-being. However, focusing on the threats in the context and broadening the explorations of possibilities from there might bring a risk of missing the consideration of other kinds of opportunities outside of the solution space guided by the pain points.

#### **4.7 Future implications**

The proposed 'third space approach' might help the positive design field that uses the principles of the first wave of positive psychology, which brought attention to enhancing the positive to contribute one's well-being rather than focusing on only understanding and fixing one's ill-being (Seligman, 2011; Seligman & Csikszentmihalyi, 2000). Positive design primarily focuses on stimulating positive experiences, emotions and states to enhance well-being, and help people and communities to thrive (Desmet & Pohlmeier, 2013). However, the prominence of the first wave of positive psychology facilitated a set to think more in-depth and criticise the notions of positive and negative (see Pawelski, 2016a, 2016b; Held, 2004; Wong, 2011). The second wave of positive psychology brought a dialectical perspective that suggests positively-valenced qualities can lead to negative outcomes; conversely, negative qualities can result in positive outcomes (Lomas & Ivtzan, 2016). For example, unrealistic optimism can lead to risky health-related behaviours (Weinstein et al., 2005) or the other way around; anger can facilitate well-being by triggering proactive coping against a situation hindering one's well-being (Tavris, 1989). The second wave introduced 'the principle of co-valence' referring to experiences that include a blend of positive and negative aspects (Lomas, 2016), and the 'principle of complementarity' referring to the complex balance of negative and positive elements of life that well-being and flourishing depends upon. We propose that moving between the positive and negative spaces and integrating both sides of the spectrum into design processes might help positive design researchers and practitioners to incorporate the dialectics of experiences, emotions, and well-being emphasised by the second wave of positive psychology.

The third space approach might help find scope and constraints for the design process while also dealing with the complex mechanisms of well-being that were brought to attention by the second and emerging third wave of positive psychology. The third wave suggested broadening the scope of well-being one step further and going beyond the individuals as the primary focus, looking at broader systems (e.g., organisations, groups), and exploring the socio-cultural factors and processes (e.g., politics, economics) affecting people's well-being (Lomas et al., 2021). Therefore, incorporating the knowledge gained in the second and third waves of positive psychology into the design and research processes of design for well-being requires considering even more complex elements and mechanisms affecting well-being. As suggested by the 'third space approach', starting with pain points in the context and using those to define scope and constraint might help manage the complexity and uncertainty of well-being affecting factors.

As previously mentioned, it is important to acknowledge the preliminary nature of the third space framework, given the evolving nature of the research area. This paper aims to contribute to the ongoing discourse and invites researchers and designers to engage in further exploration and development, with the goal of refining the third space to a more mature and refined framework. Comparative case studies offer a promising avenue to further explore distinctions and commonalities among the three design spaces. Through these case studies, insights can be gained regarding the particular strengths and weaknesses of each space, and their suitability for specific design challenges. Additionally, stakeholder consultations and engagement with design practitioners and end-users can provide insights for refining and differentiating the three spaces. By gathering feedback and insights from these key stakeholders, the framework can be tailored to better address their specific needs,

enhancing its practicality and effectiveness. By pursuing these lines of inquiry, the proposed framework, as a work in progress, will undergo continuous refinement and development. Ideally, this will ultimately contribute to the advancement of design for well-being, providing designers with practical approaches and guidance to support their endeavours in creating meaningful and impactful designs that enhance the well-being of individuals and communities.

## 5 Conclusion

This paper proposes a novel approach that integrates the problem-driven and possibility-driven design spaces into a third space for designing for well-being. This approach combines the strengths of both problem-driven and possibility-driven design to create a holistic approach to design that focuses on both solving problems and inspiring possibilities. By identifying user needs and potential problems through a problem-driven approach, and then shifting to a possibility-driven approach to explore creative ways that address these needs, designers can create results that not only meet user needs but also inspire and uplift users, enhancing their overall well-being.

In summary, this paper contributes to the field of design for subjective well-being by introducing the third space approach, which offers structure and focus to the design process. Through a case study analysis, the paper illustrates how the third space approach can help designers discern positive qualities from negative experiences. The approach involves identifying 'pain points' in the context and generating solutions, followed by identifying the common denominators of these solutions, which the designer uses to generate requirements and criteria that guides the possibility-driven development phase. Furthermore, the requirements derived from the problem-driven exploration provide scaffolding for evaluation and validation. Leveraging the strengths of problem-driven design can help mitigate the challenges that arise with possibility-driven design, such as finding focus and methods, dealing with subjectivity, evaluating results, and convincing stakeholders.

While we have positioned problem-driven and possibility-driven design as two distinct approaches, the reality is more nuanced. Rather than classifying design projects as one or the other, it's important for designers to be flexible and open-minded, willing to adjust their approach as they go to meet the needs of users and stakeholders. Whether a design project is problem-driven, possibility-driven, or a bit of both, what matters most is the ability of the designer to adapt and respond to the needs of users and stakeholders. By embracing a combined approach that focuses on both solving problems and inspiring possibilities, designers can create solutions that not only meet user needs but also improve their quality of life, contributing to a more sustainable and healthy society. And who knows - perhaps the next Dyson Airblade or Airbnb will be born out of a combined approach that pushes the boundaries of what is possible and creates a truly revolutionary design.

## References

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Calvo, R. A., & Peters, D. (2014). *Positive Computing: Technology for Wellbeing and Human Potential*. MIT Press.

- Desmet, P. M. A., & Fokkinga, S. (2020). Beyond Maslow's Pyramid: Introducing a Typology of Thirteen Fundamental Needs for Human-Centered Design. *Multimodal Technologies and Interaction*, 4(3), Article 3. <https://doi.org/10.3390/mti4030038>
- Desmet, P. M. A., & Hassenzahl, M. (2012). Towards Happiness: Possibility-Driven Design. In M. Zacarias & J. V. de Oliveira (Eds.), *Human-Computer Interaction: The Agency Perspective* (pp. 3–27). Springer. [https://doi.org/10.1007/978-3-642-25691-2\\_1](https://doi.org/10.1007/978-3-642-25691-2_1)
- Desmet, P. M. A., & Pohlmeier, A. E. (2013). An Introduction to Design for Subjective Well-Being. *International Journal of Design*, 7(3), 15.
- Desmet, P. M. A., Pohlmeier, A. E., & Forlizzi, J. (2013). Special Issue Editorial: Design for Subjective Well-Being. *International Journal of Design*, 7(3), 1–3.
- Desmet, P. M. A., & Sääksjärvi, M. C. (2016). Form Matters: Design Creativity in Positive Psychological Interventions. *Psychology of Well-Being*, 6(1), 7. <https://doi.org/10.1186/s13612-016-0043-5>
- Dixon, S. (2023). Digital Market Outlook: Dating service users worldwide 2017-2027, by segment. *Statista*. <https://www.statista.com/forecasts/891146/eservices-dating-services-online-user-by-segment-worldwide>
- Dorst, K. (2004). On the Problem of Design Problems—Problem solving and design expertise. *J. of Design Research*, 4(2), 0. <https://doi.org/10.1504/JDR.2004.009841>
- Ericsson, K. A., & Simon, H. A. (1980). Verbal reports as data. *Psychological Review*, 87(3), 215–251. <https://doi.org/10.1037/0033-295X.87.3.215>
- Flynn, J. J., Hollenstein, T., & Mackey, A. (2010). The effect of suppressing and not accepting emotions on depressive symptoms: Is suppression different for men and women? *Personality and Individual Differences*, 49(6), 582–586. <https://doi.org/10.1016/j.paid.2010.05.022>
- Gaggioli, A., Riva, G., Peters, D., & Calvo, R. A. (2017). Chapter 18 - Positive Technology, Computing, and Design: Shaping a Future in Which Technology Promotes Psychological Well-Being. In M. Jeon (Ed.), *Emotions and Affect in Human Factors and Human-Computer Interaction* (pp. 477–502). Academic Press. <https://doi.org/10.1016/B978-0-12-801851-4.00018-5>
- Gilbert, P., & Choden. (2014). *Mindful Compassion: How the Science of Compassion Can Help You Understand Your Emotions, Live in the Present, and Connect Deeply with Others*. New Harbinger Publications.
- Gopaldas, A. (2015). Creating firm, customer, and societal value: Toward a theory of positive marketing. *Journal of Business Research*, 68(12), 2446–2451. <https://doi.org/10.1016/j.jbusres.2015.06.031>
- Gross, J. T., & Cassidy, J. (2019). Expressive suppression of negative emotions in children and adolescents: Theory, data, and a guide for future research. *Developmental Psychology*, 55(9), 1938–1950. <https://doi.org/10.1037/dev0000722>
- Hajdu, E. (2022). *Emotional first aid for broken hearts: Translating psychological strategies into a tangible form* [Master's thesis, Delft University of Technology]. <http://resolver.tudelft.nl/uuid:94630b46-2ddb-48f5-bf13-f510498ace42>
- Hassenzahl, M. (2010). *Experience Design: Technology for All the Right Reasons*. Morgan & Claypool Publishers.
- Held, B. S. (2004). The Negative Side of Positive Psychology. *Journal of Humanistic Psychology*, 44(1), 9–46. <https://doi.org/10.1177/0022167803259645>
- Her, Y.-C., & Timmermans, E. (2021). Tinder blue, mental flu? Exploring the associations between Tinder use and well-being. *Information, Communication & Society*, 24(9), 1303–1319. <https://doi.org/10.1080/1369118X.2020.1764606>
- Jiminez, S., Pohlmeier, A., Desmet, P., & Huzen, B. (2014). Learning from the positive: A structured approach to possibility-driven design. The Colors of Care: The 9th International Conference on Design & Emotion. Bogotá, 607–615.
- Kamp, I., & Desmet, P. M. A. (2014). Measuring product happiness. *CHI '14 Extended Abstracts on Human Factors in Computing Systems*, 2509–2514. <https://doi.org/10.1145/2559206.2581274>
- Kansky, J. (2018). What's Love Got to Do With it? Romantic Relationships and Well-Being. In E. Diener, S. Oishi, & L. Tay (Eds.), *Handbook of Well-Being* (p. 24). UT: DEF Publishers. DOI:nobascholar.com
- Karana, E., Blauwhoff, D., Hultink, E.-J., & Camere, S. (2018). When the Material Grows: A Case Study on Designing (with) Mycelium-based Materials. *International Journal of Design*, 12(2), 119–136.
- Laschke, M., Braun, C., Neuhaus, R., & Hassenzahl, M. (2020). Meaningful Technology at Work—A Reflective Design Case of Improving Radiologists' Wellbeing Through Medical Technology. *Proceedings of the 2020*

- CHI Conference on Human Factors in Computing Systems, 1–12.  
<https://doi.org/10.1145/3313831.3376710>
- Lemon, K. N., & Verhoef, P. C. (2016). Understanding Customer Experience Throughout the Customer Journey. *Journal of Marketing*, 80(6), 69–96. <https://doi.org/10.1509/jm.15.0420>
- Lomas, T. (2016). Flourishing as a dialectical balance: Emerging insights from second-wave positive psychology. *Palgrave Communications*, 2(1), Article 1. <https://doi.org/10.1057/palcomms.2016.18>
- Lomas, T., & Ivtzan, I. (2016). Second Wave Positive Psychology: Exploring the Positive–Negative Dialectics of Wellbeing. *Journal of Happiness Studies*, 17(4), 1753–1768. <https://doi.org/10.1007/s10902-015-9668-y>
- Lomas, T., Waters, L., Williams, P., Oades, L. G., & Kern, M. L. (2021). Third wave positive psychology: Broadening towards complexity. *The Journal of Positive Psychology*, 16(5), 660–674. <https://doi.org/10.1080/17439760.2020.1805501>
- Neff, K. D. (n.d.). Self-Compassion Exercises by Dr. Kristin Neff. Self-Compassion. Retrieved 15 March 2022, from <https://self-compassion.org/category/exercises/>
- Neff, K. D. (2003). The Development and Validation of a Scale to Measure Self-Compassion. *Self and Identity*, 2(3), 223–250. <https://doi.org/10.1080/15298860309027>
- Neff, K. D., Hsieh, Y.-P., & Dejjitterat, K. (2005). Self-compassion, Achievement Goals, and Coping with Academic Failure. *Self and Identity*, 4(3), 263–287. <https://doi.org/10.1080/13576500444000317>
- Nezlek, J. B., & Kuppens, P. (2008). Regulating Positive and Negative Emotions in Daily Life. *Journal of Personality*, 76(3), 561–580. <https://doi.org/10.1111/j.1467-6494.2008.00496.x>
- Owens, R. L., & Waters, L. (2020). What does positive psychology tell us about early intervention and prevention with children and adolescents? A review of positive psychological interventions with young people. *The Journal of Positive Psychology*, 15(5), 588–597. <https://doi.org/10.1080/17439760.2020.1789706>
- Pawelski, J. O. (2016a). Defining the ‘positive’ in positive psychology: Part I. A descriptive analysis. *The Journal of Positive Psychology*, 11(4), 339–356. <https://doi.org/10.1080/17439760.2015.1137627>
- Pawelski, J. O. (2016b). Defining the ‘positive’ in positive psychology: Part II. A normative analysis. *The Journal of Positive Psychology*, 11(4), 357–365. <https://doi.org/10.1080/17439760.2015.1137628>
- Petermans, A., & Cain, R. (2019). *Design for Wellbeing: An Applied Approach*. Routledge.
- Peters, D., Ahmadpour, N., & Calvo, R. A. (2020). Tools for Wellbeing-Supportive Design: Features, Characteristics, and Prototypes. *Multimodal Technologies and Interaction*, 4(3), Article 3. <https://doi.org/10.3390/mti4030040>
- Raes, F., Pommier, E., Neff, K. D., & Van Gucht, D. (2011). Construction and factorial validation of a short form of the Self-Compassion Scale. *Clinical Psychology & Psychotherapy*, 18(3), 250–255. <https://doi.org/10.1002/cpp.702>
- Riva, G., Baños, R. M., Botella, C., Wiederhold, B. K., & Gaggioli, A. (2012). Positive Technology: Using Interactive Technologies to Promote Positive Functioning. *Cyberpsychology, Behavior, and Social Networking*, 15(2), 69–77. <https://doi.org/10.1089/cyber.2011.0139>
- Roo, J. S., Gervais, R., Frey, J., & Hachet, M. (2017). Inner Garden: Connecting Inner States to a Mixed Reality Sandbox for Mindfulness. Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems, 1459–1470. <https://doi.org/10.1145/3025453.3025743>
- Roozenburg, N. F. M., & Eekels, J. (1995). *Product design: Fundamentals and methods*. Wiley.
- Rosenfeld, M. J., Thomas, R. J., & Hausen, S. (2019). Disintermediating your friends: How online dating in the United States displaces other ways of meeting. Proceedings of the National Academy of Sciences, 116(36), 17753–17758. <https://doi.org/10.1073/pnas.1908630116>
- Saulsman, L., Campbell, B., & Sing, A. (2017). Module 6: Self-Compassionate Behaviour. In Building Self-Compassion: From Self-Criticism to Self-Kindness. Perth, Western Australia: Centre for Clinical Interventions. <https://www.cci.health.wa.gov.au/Resources/Looking-After-Yourself/Self-Compassion>
- Seligman, M. E. P., (2011). Flourish: a new understanding of happiness and wellbeing: and how to achieve them. London: Nicholas Brealey.
- Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55, 5–14. <https://doi.org/10.1037/0003-066X.55.1.5>
- Sheldon, K. M., & Lyubomirsky, S. (2007). Is It Possible to Become Happier? (And If So, How?). *Social and Personality Psychology Compass*, 1(1), 129–145. <https://doi.org/10.1111/j.1751-9004.2007.00002.x>

- Statista Research Department. (2022). Dating apps: Most downloaded worldwide 2021 [Infographics]. Statista. <https://www.statista.com/statistics/1200234/most-popular-dating-apps-worldwide-by-number-of-downloads/>
- Tavris, C. (1989). *Anger: The Misunderstood Emotion*. Simon and Schuster.
- Webler, T., Levine, D., Rakel, H., & Renn, O. (1991). A novel approach to reducing uncertainty: The group Delphi. *Technological Forecasting and Social Change*, 39(3), 253–263. [https://doi.org/10.1016/0040-1625\(91\)90040-M](https://doi.org/10.1016/0040-1625(91)90040-M)
- Weinstein, N. D., Marcus, S. E., & Moser, R. P. (2005). Smokers' unrealistic optimism about their risk. *Tobacco Control*, 14(1), 55–59. <https://doi.org/10.1136/tc.2004.008375>
- Weiß, V., Minge, M., Preim, B., & Hußlein, S. (2020). Positive Design for Children with Atopic Dermatitis—Enhanced Problem-Solving and Possibility-Driven Approach in the Context of Chronic Disease. *Multimodal Technologies and Interaction*, 4(4), Article 4. <https://doi.org/10.3390/mti4040069>
- Winch, G. (2013). *Emotional First Aid: Healing Rejection, Guilt, Failure, and Other Everyday Hurts*. Penguin.
- Wong, P. T. P. (2011). Positive psychology 2.0: Towards a balanced interactive model of the good life. *Canadian Psychology / Psychologie Canadienne*, 52, 69–81. <https://doi.org/10.1037/a0022511>

#### **About the Authors:**

**Erika Hajdu:** currently working as a design researcher at Erasmus University Rotterdam. Her interests lie in supporting knowledge-sharing, academic impact, personal and professional development, and well-being through design research.

**Hazal Ertürkan:** researcher and designer. She is the founder of Studio Bleu. Currently, she collaborates with Polymorf as a creative director. Her research of interest includes design for experience and exploring how novel narrative forms, physical and digital mediums facilitate communication and understanding of novel interactions and experiences.

**Pieter Desmet:** Professor of Design for Experience at Delft University of Technology. He explores how design affects emotions, moods, and human well-being. He chairs the Human-Centered Design department and founder of the Delft Institute of Positive Design.

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