

**Many Paths Lead to Happiness:
Examining Happiness Goal Orientations, Happiness Definitions, and
Happiness-Related Intentions and Behaviors in Everyday Life**

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General Abstract

Can the pursuit of happiness and well-being (HWB) be successful and, if so, under which conditions? Advice on how to be happy frequently suggests that happiness can be controlled if you are willing to invest the necessary effort. The literature to date, however, provides conflicting answers to this question. To resolve these conflicting findings, this dissertation provides several novel tools and operationalizations to study the pursuit of HWB in a more fine-grained, differentiated, and rigorous manner than previous studies. These tools have been used to examine whether the pursuit of HWB is beneficial or detrimental for actual levels of well-being and whether the successful pursuit of HWB depends on how people define and pursue HWB. In particular, I investigated whether a multifaceted definition (i.e., endorsing different facets of HWB simultaneously) and pursuit (i.e., pursuing different facets of HWB simultaneously) of HWB would contribute to higher well-being than a rather unilateral definition and pursuit of HWB (i.e., focusing on one or few HWB facets only). These research questions have been answered in seven studies that are presented in four separate chapters.

Chapter 2 presents four cross-sectional studies (total $N = 1200$) that examined the idea that different dimensions of endorsing the goal of being happy need to be distinguished to explain the conflicting results of previous studies. Using the novel *Happiness Goal Orientations Scale* revealed that one dimension, Happiness-Related Strivings, was positively related to well-being, whereas another dimension, Happiness-Related Concerns, was negatively related to well-being.

Chapter 3 provides an overview of HWB definitions discussed in the philosophical and psychological literature as foundational work for examining how lay people define and pursue HWB in the subsequent studies. In a literature review, a number of specific HWB definitions have been identified. Using a new dimensional classification system to analyze these HWB definitions revealed that (a) no universally accepted HWB definition exists, (b) a majority of HWB definitions in both disciplines were either described as stable and cognitive or as affective and dynamic concepts, and (c) that philosophical and psychological HWB definitions overall describe similar phenomena.

Chapter 4 presents two cross-sectional studies (total $N = 542$) that examine how lay people define and pursue HWB and whether a multifaceted definition and pursuit of HWB contribute to well-being. The novel *Complexity of Definitions and Intentions (CoDI) Scales* revealed eight facets that are important for lay people's definition and pursuit of HWB: absence of negativity, positive attitude, tranquility, personal development, luck, joy and desires, purpose, and belonging.

Further, results showed that defining and pursuing HWB in a multifaceted manner was related to higher levels of well-being than defining and pursuing HWB in a unilateral manner.

Chapter 5 introduces a theoretical model on the pursuit of HWB that integrates HWB definitions, HWB-related intentions, and different characteristics of HWB-enhancing activities as predictors of daily well-being. The model was examined using experience sampling data ($N = 474$; 11,285 single ESM reports). The results revealed that people who endorse several HWB definitions simultaneously also intend to pursue several HWB facets and report higher levels of daily well-being than people who focus on single HWB definitions. Further, the breadth (i.e., how many different facets of HWB were positively affected by one single activity) and frequency (i.e., the overall number of HWB-enhancing activities) of HWB-enhancing activities have been identified as predictors of daily well-being.

Overall, this dissertation shows that people who actively invest in the pursuit of HWB tend to report higher levels of well-being than people who do not. Some people also endorse the goal of being happy by focusing on the possibility of not being happy enough. Those people tend to be passive with regard to their happiness and to report low levels of well-being. Further, people tend not to focus on one specific HWB facets but define and pursue HWB in a multifaceted manner, which is related to higher well-being than defining and pursuing HWB in a unilateral manner. Several important implications for future research have been identified, for example (a) the investigation of a multifaceted definition and pursuit of HWB needs to be expanded, (b) the endorsement and pursuit of happiness should be assessed with multidimensional measures that cover adaptive and maladaptive aspects, and (c) different processes relevant to the pursuit of HWB (e.g., HWB definitions vs. HWB-related intentions vs. HWB-enhancing activities) need to be distinguished.

I | Introduction

1. Introduction

It is a popular belief that one's efforts can influence one's happiness. Since people usually desire to be happy (Diener, 2000; Diener et al., 1998; King & Napa, 1998; Tamir & Ford, 2012), it is not surprising that information on how to be happy is sought and provided in various ways, including social media content, documentaries, self-help books, and happiness courses. For example, a course on how to lead a happier, more satisfying life was the most popular course in Yale University's history (Shimer, 2018). Happiness is associated with a number of outcomes that benefit the individual (e.g., stable marriages, higher incomes) and the society (e.g., better health and therefore lower health care costs, higher work productivity) (Lyubomirsky, King, et al., 2005; Oswald et al., 2015; Tov et al., 2020; but see also Rohrer & Lucas, 2020). For this reason, institutions, governments, and businesses are also increasingly interested in monitoring and promoting happiness (for examples see Bundesministerium für Familie Senioren Frauen und Jugend, 2010; Haake & Ludwigs, 2019; Tobgay et al., 2011; UK Cabinet Office, 2013).

But what does 'happiness' actually mean? In the psychological literature, happiness is frequently used synonymously with the term 'well-being' which refers to aspects like life satisfaction, affect, or optimal psychological functioning (Diener, 1984; Disabato et al., 2019; Ryff, 1989b). In philosophy, happiness describes valued subjective psychological states whereas theories of well-being cover normative value concepts. Consequently, in philosophy, happiness and well-being refer to clearly distinguished concepts (Haybron, 2007; Waterman, 2008)¹. In contrast, lay people often associate a wide range of concepts with happiness, including concepts that some scholars would rather attribute to theories of well-being (Delle Fave et al., 2016; Jongbloed & Andres, 2015; Oishi et al., 2013; Pflug, 2009). Therefore, in this dissertation, both terms *happiness and well-being* (HWB) will be used when referring to how lay people define and pursue happiness. In contrast, the term *well-being* will be used when referring to happiness as an outcome (i.e., actual or experienced levels of happiness). When referring to what academics or lay people believe HWB is, the term HWB *definitions* will be used, and when referring to specific aspects of HWB that people pursue or experience, the term HWB *facets* will be used.

Advice on ways to be happy frequently suggests that HWB can be controlled and influenced if one is willing to invest the necessary effort. However, according to the empirical evidence it is not clear whether people can really improve their HWB if they choose to do so. Whereas some

¹ Even though the terms are sometimes also used inconsistently in philosophy.

research suggests that people can successfully work towards increasing or maintaining their HWB (Huta & Ryan, 2010; Peterson et al., 2005; Sin & Lyubomirsky, 2009), other studies found that trying to be happy may have paradoxical effects and even decrease actual levels of well-being (Gruber et al., 2011; Mauss et al., 2011; Schooler et al., 2003; Zerwas & Ford, 2021). The overarching goal of this dissertation is therefore to explore whether the pursuit of HWB can generally be successful and, if so, under what conditions. To reach this goal, I will answer the following specific research questions (RQ):

RQ1: Is the pursuit of HWB beneficial or detrimental for actual levels of well-being?

RQ2: How do academics (RQ2a) and lay people (RQ2b) define HWB?

RQ3: Does the multifaceted definition and pursuit of HWB contribute to actual levels of well-being?

The research questions were examined in four articles that combine seven empirical studies presented in Chapter 2 to Chapter 5. In the next sections of this introduction, I will introduce philosophical and psychological HWB definitions (Chapter 1.1), followed by an overview of the literature on the stability and changeability of well-being (Chapter 1.2) as well as on concepts relevant to lay peoples pursuit of HWB (Chapter 1.3). In these chapters, I will also highlight research gaps in the literature that I addressed with the empirical studies included in this dissertation, which I will briefly summarize at the end of the introduction (Chapter 1.4).

1.1. Definitions of Happiness and Well-Being in Philosophy and Psychology

To understand how lay people define and pursue HWB, it is first important to understand how happiness can generally be defined and pursued according to experts on this subject. Therefore, in this chapter, I will present an overview of the most important HWB definitions that have previously been described in the philosophical and psychological literature. I will end the chapter with an overview of the similarities and differences between the HWB definitions in these disciplines.

1.1.1. *Happiness and Well-Being in Philosophy*

Philosophers have been interested in HWB definitions for thousands of years (for historical overviews, see Kesebir & Diener, 2008; McMahon, 2018). Over time, a vast number of ideas about what HWB constitutes have been developed. Some philosophical HWB definitions differ

from each other only in nuances, whereas differences between some other HWB definitions suggest fundamentally different ways to live.

One of the most prominent groups of HWB definitions covers hedonic definitions. The Greek term *hedonia* is equivalent to the term ‘happiness’ and is used to describe the experience of desired psychological states such as feelings of pleasure, enjoyment, and contentment, and the absence of undesired states such as pain (Alexandrova & Fabian, 2022; Kesebir, 2018; Kesebir & Diener, 2008; Tiberius, 2006). According to hedonic definitions, someone is happy when the positive experiences outweigh the negative ones (e.g., in traditional hedonic theories like utilitarianism; Bentham, 1969; Mill, 1979). Hedonic HWB definitions can differ regarding the types of pleasures that are viewed as important for happiness. For example in quantitative hedonism, any kind of sensory pleasure (e.g., satisfying hunger) matters for the positive balance of pleasure over unpleasant experiences (Mendola, 2006). In contrast, intellectual pleasures (e.g., reading Shakespeare) are more important in qualitative hedonism (Crisp, 2006).

Hedonia is typically contrasted with *eudaimonia*, which can be understood as ‘flourishing’ or ‘realization of one’s true potential’ (Ryff, 1989b; Tiberius, 2006). According to eudaimonic theories, people need to unfold their inner potential or perfect human nature for a well-lived life, for example by achieving certain values or goals, developing and exercising virtues, capacities, or excellences (Haybron, 2008; Hurka, 2015; Irwin, 1999; Tiberius, 2006). Eudaimonic theories have been inspired by Aristotle. According to him, virtues such as justice, kindness, or friendship should be practiced to unfold one’s inner potential and, consequently, to live well (Fowers et al., 2010; Irwin, 1999). In contrast to hedonic theories, these theories are more objective and more about “doing good” than “feeling good”, since they define well-being independent of whether people care about the specified conditions or not (Kesebir, 2018).

Some philosophical HWB definitions cannot be classified as either hedonic or eudaimonic: Desire-based theories define HWB as the satisfaction of desires or preferences (Tiberius, 2006). According to desire-based theories, “it is good for you to get what you want” (Alexandrova & Fabian, 2022, p.6). Life satisfaction theories define HWB as the result of a positive overall judgment about one’s life, such as Sumner’s authentic happiness (Sumner, 1996; Tiberius, 2006). Further, some HWB definitions refer to a predisposition for positive states. For example, the Emotional State Theory of Happiness describes HWB as having positive mood propensities and having a favorable emotional condition towards life in general (Haybron, 2005, 2008). Another category of HWB definitions is objective list theories. Representatives of such theories

identify several aspects that are objectively important for well-being, such as knowledge, aesthetic experience, rational activity, sociability, pleasure, self-respect, virtue, or religion (Alexandrova & Fabian, 2022; Fletcher, 2015). According to objective list theories, someone experiences high well-being who has many of these aspects in his or her life, regardless of whether he or she cares about the specified aspects or not².

In sum, psychological-state based hedonic and value-based eudaimonic theories are the most prominent categories of HWB definitions in philosophy (Kesebir, 2018). However, also other well-known theories exist that cannot be assigned to these two categories (e.g., desire-based theories or life satisfaction theories) (Tiberius, 2006).

1.1.2. *Happiness and Well-Being in Psychology*

In comparison to philosophy, psychology has only recently begun to investigate HWB. For much of the discipline's history, psychologists focused rather on mental illness, poor functioning, and negative emotions. In the latter half of the 20th century, however, there has been a shift toward a greater emphasis on positive aspects and well-being (Myers & Diener, 1995; Tiberius, 2006). Today, the study of HWB is a popular area of research in psychology, with different perspectives on what constitutes HWB and how it can be measured and enhanced.

Most prominently, HWB is defined in terms of subjective well-being, an umbrella term introduced by Diener (1984) that covers cognitive and affective well-being. Cognitive well-being refers to life satisfaction, which is the positive cognitive evaluation of one's life as a whole. Affective well-being refers to the frequent experience of positive affect (i.e., positive mood and emotions like joy or excitement) and the rare experience of negative affect (i.e., negative mood and emotions like sadness or frustration) (Diener, 1984; Diener et al., 1999). According to the subjective well-being perspective, someone is happy if he or she is satisfied with his or her life, frequently experiences positive affect, and rarely experiences negative affect.

Another set of HWB definitions in psychology emphasizes the importance of several psychological needs, such as autonomy, meaning, and positive relationships with others. Meeting these needs allows people to reach their full potential and experience high levels of well-being (Ryan et al., 2008; Ryan & Deci, 2000; Waterman, 2008). Therefore, pursuing goals and

² Eudaimonic theories can also be classified as objective list theories, since they describe certain aspects that are objectively important for well-being. However, some objective list theories also include aspects 'on the list' that rather correspond to hedonic theories (Fletcher, 2015). Therefore, objective list theories cannot necessarily be classified as eudaimonic theories.

engaging in activities that are consistent with one's values and identity is a central ingredient of this category of HWB definitions (Tov, 2018; Waterman, 1993). Such approaches are labeled as 'positive psychological functioning', 'optimal psychological functioning', or 'psychological well-being'. In the following, I will stick to the term *optimal psychological functioning*. One of the most well-known examples of a theory that considers facets of optimal psychological functioning as a central requirement for well-being is the Self-Determination Theory (Ryan et al., 2008; Ryan & Deci, 2000). According to this theory, the basic human needs for autonomy, competence, and relatedness must be fulfilled to experience high levels of well-being. Also widely known are Ryff's six facets of psychological well-being, which are autonomy, personal growth, self-acceptance, purpose in life, mastery, and positive relationships (Ryff, 1989a, 1989b; Ryff & Singer, 2008). Across different theories and measures of optimal psychological functioning, no unified definition exists. Most commonly, these theories and measures refer to the specific facets growth, authenticity, meaning, and excellence (Huta & Waterman, 2014; Kashdan et al., 2008).

The measurement of well-being is an important issue in psychological research and is closely linked to how psychologists define HWB. Well-being is traditionally assessed with retrospective self-report measures (for overviews see Lucas, 2018 or Pavot, 2018). These measures require people to reflect on past experiences and their lives in general to evaluate their well-being. For example, life satisfaction is frequently measured with statements such as "*So far I have gotten the important things I want in life*" (Diener et al., 1985). Similarly, optimal psychological functioning is assessed with statements such as "*I have confidence in my opinions, even if they are contrary to the general consensus*" (Ryff, 1989b). For the measure of positive and negative affect, people are asked to indicate the frequency or intensity of affective experiences such as "*pleasant*" or "*angry*" over a certain time period (Diener et al., 2010). Overall, these measures have good psychometric properties (Diener et al., 2013; Lucas, 2018; Pavot, 2018; Ryff, 2013; Ryff & Keyes, 1995)³.

In sum, HWB in psychology is frequently either defined as subjective well-being, which refers to life satisfaction and affective well-being (Diener, 1984), or optimal psychological functioning, which refers to the fulfillment of basic psychological needs (Ryan & Deci, 2000; Ryff, 1989b). Several psychometrically sound self-report measures have been developed to assess different facets of well-being (Lucas, 2018; Pavot, 2018; Ryff & Keyes, 1995).

³ Except for the rather poor reliability of the 3-item per subscale version of Ryff's Scale (Ryff, 2013; Ryff & Keyes, 1995).

1.1.3. *Comparison Between Philosophical and Psychological Definitions of Happiness and Well-Being*

Hedonic HWB definitions in philosophy correspond to subjective well-being in psychology, whereas eudaimonic HWB definitions in philosophy correspond to optimal psychological functioning in psychology. Psychologists occasionally also use the terms ‘hedonic well-being’ and ‘eudaimonic well-being’ when referring to (facets of) subjective well-being and optimal psychological functioning (Huta & Waterman, 2014; Tov & Lee, 2016), which illustrates the correspondence of terms across disciplines. Because of these theoretical overlaps, the question arises whether philosophical and psychological HWB definitions can be theoretically integrated across the disciplines (Tiberius, 2006). Nevertheless, differences exist in how philosophers and psychologists define and study HWB that should be taken into account. One already mentioned important difference is that ‘happiness’ and ‘well-being’ have clearly assigned meanings in philosophy, but have been used rather interchangeably in psychology (Diener, 1984; Disabato et al., 2019; Haybron, 2007; Ryff, 1989b).

Another notable difference between the disciplines is that philosophers base their HWB definitions on precise theoretical considerations, whereas psychologists typically use an empirical approach to understand the nature of HWB (Prinzing, 2021; Tiberius, 2006). However, there are also exceptions among philosophers, where empirical evidence was used to study HWB (Kneer & Haybron, 2020). Among psychologists, there are also exceptions: The Self-Determination Theory and Ryff’s psychological well-being are both based on eudaimonic theories stemming from philosophy (Ryan & Deci, 2000; Ryff, 1989b, 2013). In general, however, philosophers seek to understand HWB mainly with normative theorizing, whereas psychologists attempt to attain conceptual and theoretical clarity mainly with data-based methods (Prinzing, 2021).

Related to philosophers’ focus on normative theorizing is the fact that they do not seek to offer guidance or practical advice on how to live life or how to improve HWB. In psychology, in contrast, it is an important goal and a publicly visible contribution to provide techniques and advice on how to improve HWB (Alexandrova & Fabian, 2022).

Further, philosophers more often define HWB in an objective manner, whereas psychologists focus on the subjective perspective. According to many philosophical theories such as objective list theories or eudaimonic theories, certain conditions or values must be met for a well-lived life, independent of what people subjectively feel or believe (Fletcher, 2015; Tiberius, 2006). In contrast, psychologists primarily focus on subjective feelings, evaluations, and experiences and even HWB facets that have been inspired by objective philosophical theories are usually assessed

in a subjective manner. For the assessment of Ryff's six aspects of optimal psychological functioning, for example, people indicate whether they *perceive* themselves to be able to resist social pressures, to change in ways that reflect more self-knowledge and effectiveness, or to be capable of strong empathy (Ryff & Keyes, 1995). Although self-report measures of well-being are generally valid (Lucas, 2018; Ryff, 1989b; Ryff & Keyes, 1995), psychological research also showed that people cannot always accurately evaluate certain characteristics in themselves, such as growth (Frazier et al., 2009; Vazire & Carlson, 2011). It is therefore questionable whether this operationalization of eudaimonia in psychology really corresponds to the objective eudaimonic HWB definition of philosophers.

An interesting feature of some subjective HWB definitions is the requirement of authenticity and the availability of information for valid subjective evaluations of one's well-being, which can only be found in philosophy but not in psychology (Alexandrova & Fabian, 2022; Haybron, 2008; Tiberius, 2006). In philosophical HWB definitions that do take the subjective perspective into account, like hedonic or desire-based theories, some philosophers use this 'trick' to get around the fact that people may also be wrong about how well they are doing and what actually is good for them. Representatives of this approach argue that the evaluation of HWB can only accurately reflect an individual's *true* level of well-being if the person is free, informed, and autonomous, that is, unaffected by manipulation, suppression, or influence of any kind (Alexandrova & Fabian, 2022; Haybron, 2008; Sumner, 1996; Tiberius, 2006). Although in psychology it is questioned whether people are the best judge of themselves (Vazire, 2010; Vazire & Carlson, 2011), such limitations of the validity of subjective perspectives are not directly addressed in HWB definitions.

Despite the differences outlined above, philosophical literature should not be ignored in the psychological study of HWB and vice versa. The different approaches of the disciplines (i.e., normative theorizing vs. empirically driven) might even complement each other in the study of HWB. Some well-being researchers have already recognized the potential of interdisciplinary exchange (DeYoung & Tiberius, 2023; Fowers, 2012; Haybron, 2008; Kesebir & Diener, 2008; Prinzing, 2021; Ryan & Martela, 2016; Tiberius, 2006). However, interdisciplinary collaborations between fields can be challenging. One challenge may be that although the HWB definitions of both disciplines seem similar at first, they nevertheless differ, as outlined above. A classification system that integrates HWB definitions of both disciplines and accounts for fine differences (e.g., whether a person must be free, informed, and autonomous for valid subjective evaluations of one's well-being or not) may help to overcome these challenges by providing researchers from different disciplines a common language. Existing classification systems of HWB definitions

(Huta & Waterman, 2014; Parfit, 1984; Woodard, 2013) are too narrow and therefore not sufficient to cover HWB definitions across philosophy and psychology (and even not sufficient to cover newer HWB definitions *within* one discipline; Tiberius, 2006). The development of a classification system that allows to integrate philosophical and psychological HWB definitions is an important next step to foster interdisciplinary theoretical integration. Therefore, it was one aim of this dissertation to develop such a classification system and to integrate philosophical and psychological HWB definitions (see Chapter 1.4.2), which could then be used as a foundation for examining how lay people define and pursue HWB successfully.

1.2. The Stability and Changeability of Happiness and Well-Being

After introducing the most relevant HWB definitions, I will address the question of whether these facets of HWB can be changed at all (independent of one's efforts and purposeful strivings), which is a necessary condition for the successful active pursuit of HWB. In this chapter, I provide an overview of psychological studies on the stability and changeability of subjective well-being and optimal psychological functioning as well as a comparison between both lines of research.

1.2.1. *The Stability and Changeability of Subjective Well-Being*

At the end of the 20th century, it was commonly assumed that well-being is fixed and cannot be changed, at least not in the long run. This assumption was the subject of several theories that suggested that people have a stable and genetically determined set point for well-being, which may fluctuate in response to external factors such as life events, but will inevitably return to its set point (e.g., Brickman et al., 1978; Headey & Wearing, 1989; Lykken & Tellegen, 1996; for an overview see Luhmann & Intelisano, 2018). The common theme across these different theories is that people's emotional systems adjust to almost everything that happens in life – the positive impact of a lottery win and the negative impact of severe accident damage on well-being have both been assumed to fade over time (Brickman et al., 1978). This view suggested that any efforts to improve HWB will ultimately fail.

More recent research does not support the idea of a set point of well-being that persists all life events and experiences for everyone (Diener et al., 2006; Luhmann et al., 2012; Luhmann & Intelisano, 2018). Although genetics indeed appear to be important for subjective well-being indicated by heritability estimates between 30% and 95% (Bartels, 2015; Lykken & Tellegen, 1996; Nes et al., 2013; Nes & Røysamb, 2015), well-being can still be malleable (Brown & Rohrer, 2020) and environmental influences matter (Bartels, 2015; Tov et al., 2022). Further, although after

some life events (e.g., marriage, divorce) subjective well-being seems to return to people's pre-event level, it changes more permanently after the occurrence of other life events (e.g., unemployment) (Lucas et al., 2004; Luhmann et al., 2012; Yap et al., 2012). In addition, whether subjective well-being adapts after certain life events also differs among people indicating that some but not all individuals return to their subjective well-being set point over time (Diener et al., 2006; Lucas, 2007). Today, it is widely acknowledged that although subjective well-being is relatively stable across the lifespan, lasting changes can and do occur (Lansford et al., 2018; Luhmann & Intelisano, 2018).

Contemporary theories often consider both a stable set point and a dynamic deviation from this set point (Luhmann, Krasko, et al., 2021; Luhmann & Intelisano, 2018). Studies that relied on a variety of methods have shown that subjective well-being has indeed both stable and dynamic features (Anusic et al., 2012; Anusic & Schimmack, 2016; Eid & Diener, 2004; Lucas & Donnellan, 2007; Luhmann et al., 2011; Luhmann, Krasko, et al., 2021; Schimmack & Oishi, 2005). According to a meta-analysis, 42% of the variance in affective well-being and 52% of the variance in life satisfaction can be attributed to stable influences (Anusic & Schimmack, 2016). Stable influences refer to trait levels of well-being, that is, how a person feels in general or over longer periods of time. In contrast, dynamic influences refer to state levels of well-being, that is, how a person feels at a particular moment or within a limited period of time (Luhmann, Krasko, et al., 2021; Tov, 2018).

Both trait and state levels of subjective well-being may be subject to change. For example, several studies found age to be related to changes in trait well-being, although different age trajectories have been observed between different study designs, cultures, and well-being facets (Baird et al., 2010; Charles et al., 2001; Fujita & Diener, 2005; Lansford et al., 2018). Other examples of determinants of changes in trait well-being include life events (see above; Lucas et al., 2004; Luhmann et al., 2012; Yap et al., 2012) or interventions aiming to improve well-being (see Chapter 1.3.3; Bolier et al., 2013; Sin & Lyubomirsky, 2009). Newer methods such as experience sampling, the day reconstruction method, and embedded sensors in smartphones have recently increased the investigation of state-level changes in well-being (Horstmann, 2021; Larson & Csikszentmihalyi, 2014; Tay et al., 2014). These methods allow the repeated assessment of well-being and other variables within a short period of time and, consequently, the investigation of fluctuations in well-being within persons. Several stable and time-varying variables have been identified as predictors of state levels of subjective well-being, including the engagement in physical or leisure activities (Maher et al., 2015; Zawadzki et al., 2015), the current location (e.g.,

home vs. work) (Müller et al., 2020), state and trait personality (Eid & Diener, 1999; Geukes et al., 2017; Kritzler et al., 2020), and self-esteem (Kuppens et al., 2010).

1.2.2. *The Stability and Changeability of Optimal Psychological Functioning*

Theories of optimal psychological functioning imply a rather dynamic construct. Discovering and pursuing one's inner potential, fulfilling psychological needs such as social relationships, and engaging in activities that are consistent with one's values indicate a process of goal pursuit that may be realized to varying degrees at different times, for example when facing new challenges or when entering new life stages (Deci & Ryan, 2000; Ryff, 1989a; Ryff & Singer, 2008; Sheldon & Prentice, 2017; Waterman, 1993). For instance, Ryff assumed optimal psychological functioning to be changeable as a response to psychosocial development, life transitions, and how well people master the challenges of adulthood over the life course (Ryff, 1989a). Similarly, the Self-Determination Theory describes processes that are susceptible to change, like motivation and goal pursuit, as a prerequisite for the fulfillment of basic psychological needs, which, in turn, is a central requirement for optimal functioning according to this theory (Prentice, 2019). Therefore, the theoretical foundations suggest that optimal psychological functioning should be changeable. Nevertheless, studies also found optimal psychological functioning to be relatively stable across periods of nine months (Lamers et al., 2012) and 20 years (Joshanloo, 2019a). Further, as for subjective well-being, genetics appear to be important for optimal psychological functioning indicated by heritability estimates between 36% and 64% (Bartels, 2015; Bartels & Baselmans, 2015; Gigantesco et al., 2011).

As for subjective well-being, previous studies found evidence for both trait-level and state-level changes in optimal psychological functioning. For example, several studies found age to be related to differences in trait optimal psychological functioning, with some facets being higher (e.g., autonomy) and some facets being lower (e.g., purpose in life) in older than in younger people (Ryff, 1989b, 2013; Ryff & Keyes, 1995). However, authors of longitudinal studies disagree on whether age-related changes in optimal psychological functioning are meaningful or negligible (Kling et al., 1997; Kwan et al., 2003; Springer et al., 2011). Further, in line with Ryff's theoretical deliberations, higher levels of trait optimal psychological functioning were accompanied by the successful psychosocial development and mastering of life challenges (Kling et al., 1997; Kwan et al., 2003; Ryff, 2013; Vleioras & Bosma, 2005). Trait-level changes could also be observed as a result of interventions aiming to improve optimal psychological functioning (see Chapter 1.3.3; Bolier et al., 2013; Versluis et al., 2016; Weiss et al., 2016). Studies also identified predictors of

state optimal psychological functioning, including engagement in solitary activities (Tse et al., 2022), moral need satisfaction (Prentice et al., 2020), and activity diversity (Lee et al., 2018).

1.2.3. *Comparison Between Subjective Well-Being and Optimal Psychological Functioning and Conclusion*

Both groups of prominent HWB facets in psychology, subjective well-being and optimal psychological functioning, appear to be relatively stable but have also the potential for long-term (i.e., trait level) and short-term (i.e., state level) changes. A direct comparison indicated greater stability of optimal psychological functioning than subjective well-being (Joshani, 2019). However, direct comparisons of the stability and change of these two groups of HWB facets are rare which might lead to biased impressions regarding possible mechanisms that affect overall levels of well-being (Huta & Ryan, 2010).

Finally, although HWB can change, this does not necessarily imply that changes can be willingly and successfully initiated by people. For example, even if it is possible to alter well-being with certain behaviors, people must be aware of these possibilities, willing to invest in their HWB, and then actually engage in this behavior. Literature on whether people successfully pursue HWB and whether the successful pursuit of HWB depends on the specific facets that people try to attain or maintain will be reviewed in the next chapter.

1.3. How Lay People Define and Pursue Happiness and Well-Being

Most people around the world express the desire to be happy (Diener, 2000; Diener et al., 1998; King & Napa, 1998; Tamir & Ford, 2012). However, people differ in values and beliefs with respect to HWB, as well as in how and how successfully they pursue HWB. In the next sections, I present an overview of how lay people view and approach HWB and what is currently known about the successful pursuit of HWB.

1.3.1. *Lay Definitions of Happiness and Well-Being*

Lay people differ in how they define HWB for themselves (Joshani, 2019b; McMahan & Estes, 2011b). Several scales have been developed with the aim to measure the extent to which people endorse certain definitions of HWB. One example is the Beliefs About Well-Being Scale (McMahan & Estes, 2011b) that measures the extent to which people consider the experience of pleasure, the avoidance of negative experiences, self-development, and contribution to others as required aspects for happiness. A related scale, the Orientations to Happiness Scale (Peterson et al., 2005), measures the endorsement of pleasure, engagement, and meaning as different ways to

be happy. Another related scale is the Hedonic and Eudaimonic Motives for Activities Scale (Huta & Ryan, 2010) that measures to what extent people typically approach activities with the intention to pursue hedonic and eudaimonic HWB facets. Overall, the application of these scales showed that hedonic and eudaimonic HWB definitions were not only endorsed in the philosophical and psychological literature (Chapter 1.1), but also by lay people (Grimm et al., 2015; McMahan & Estes, 2011b; Ruch et al., 2010).

The picture of lay people's endorsement of certain HWB definitions that emerges from results based on these scales is incomplete as these scales cannot be compared with each other for the following reasons: The Orientations to Happiness Scale (Peterson et al., 2005) does not distinguish between different processes relevant for the pursuit of HWB, since it conflates general attitudes or definitions, everyday intentions, anticipated behaviors, and actual levels of well-being. Besides, also other shortcomings of this scale have previously been identified (e.g., problems with the validity; Henderson et al., 2014). In contrast, the Beliefs About Well-Being Scale (McMahan & Estes, 2011b) focuses specifically on HWB definitions, whereas the Hedonic and Eudaimonic Motives for Activities Scale (Huta & Ryan, 2010) focuses on intentions to pursue activities. Therefore, the two scales cover different processes of the pursuit of HWB and are not directly comparable to each other (see also Huta & Waterman, 2014). The distinction between HWB definitions and intentions to actually invest in HWB in everyday life (henceforth: *HWB-related intentions*) is important, since people do not always live and act in consistency with their beliefs. Additionally, people would likely not pursue HWB facets that they perceive to be uncontrollable, even when they generally endorse these HWB facets. Therefore, it can be expected that HWB definitions and HWB-related intentions capture different information on the pursuit of HWB. To examine how lay people define and pursue HWB in depth, a tool that systematically distinguishes between these different processes is necessary. However, such a tool did previously not exist.

Lay definitions of HWB have previously also been investigated with qualitative studies (Brailovskaia et al., 2022; Delle Fave et al., 2016; Pflug, 2009). Qualitative studies demonstrated that besides hedonic and eudaimonic HWB definitions that are prominent in the academic literature, lay people also define HWB in ways that are not covered by the scales presented in the previous section. For example, Delle Fave et al. (2016) found that the majority of a cross-cultural sample defined HWB as inner harmony, an umbrella term for positive affective states that are characterized by low levels of arousal like inner peace or tranquility. Some studies also showed that people define HWB in terms of favorable external circumstances that cannot be controlled, like good luck or fortune (Brailovskaia et al., 2022; Oishi et al., 2013; Pflug, 2009). However,

these and possibly other HWB definitions have not been included in scales that measure how lay people define and pursue HWB although they do seem to be important for lay people.

Taken together, studies that used psychometric scales to assess how lay people define and pursue HWB showed that lay people endorse hedonic and eudaimonic HWB definitions (McMahan & Estes, 2011b; Ruch et al., 2010). However, these scales either mingle different processes of lay people's definition and pursuit of HWB or concentrate only on one of such processes (McMahan & Estes, 2011b; Peterson et al., 2005). These scales also ignore HWB definitions beyond hedonia and eudaimonia that have turned out to be important for lay people (Brailovskaia et al., 2022; Delle Fave et al., 2016). For a comprehensive study of lay people's pursuit of HWB, therefore, novel measures without these shortcomings are needed. Therefore, one aim of this dissertation was to develop a scale that integrates and distinguishes different processes related to lay people's pursuit of HWB and that covers more HWB facets than previous scales (see Chapter 1.4.3).

1.3.2. *Beliefs on Whether the Pursuit of Happiness and Well-Being is Worthwhile*

Concepts that address the question of whether people generally endorse the goal of being happy and find it worthwhile to invest in their HWB include the fear of happiness, controllability of happiness, and valuing happiness. *Fear of happiness* or *aversion of happiness* describes the extent to which people hold negative views about experiencing or expressing HWB and avoid it for different reasons (Joshani, 2013, 2022; Joshani & Weijers, 2014). It has particularly been investigated in cross-cultural studies to demonstrate that the Western view of HWB as a supreme value does not universally apply (Joshani, 2022; Joshani et al., 2014). Indeed, fear of happiness is present in many non-Western nations but can also be found in individuals of Western nations (Gilbert et al., 2012; Joshani, 2013; Joshani & Weijers, 2014). Reasons for fearing happiness include the beliefs that being happy makes it more likely that bad things will happen, that it makes one a worse person, and that it can lead to envy, negative feelings, and negative consequences for others (Joshani & Weijers, 2014). Fear of happiness is related to a range of negative outcomes, including lower life satisfaction (Joshani, 2013), depression, self-hatred (Gilbert et al., 2012), and loneliness (Joshani, 2022). It is worth noting that the fear of happiness concept refers to HWB mostly in a hedonic manner and does therefore not allow any conclusions regarding more virtue-based eudaimonic HWB definitions.

People differ also in how controllable they perceive HWB to be (Titova & Sheldon, 2019). The controllability of HWB has been studied with concepts such as *illusory control on emotions* (Kaufmann et al., 2018), *incremental theories of well-being* (Passmore et al., 2018), or the *externality*

of happiness (Joshanloo, 2017). These concepts refer to individual differences in the belief that HWB is not malleable or dependent on external factors beyond one's control (Joshanloo, 2017; Passmore et al., 2018). Higher perceived controllability motivates people to pursue HWB due to the positive outlook of being successful in doing so (Howell et al., 2016; Passmore et al., 2018). Moreover, the perception of HWB as being controllable is related to positive outcomes such as self-compassion (Passmore et al., 2018), psychological resilience (Joshanloo, 2017), and higher levels of different well-being facets (Joshanloo, 2017; Kaufmann et al., 2018; Passmore et al., 2018; Titova & Sheldon, 2019).

The study of the concept of *valuing happiness* led several researchers to the conclusion that searching for HWB will ultimately be self-defeating (Gruber et al., 2011; Mauss et al., 2011; Zerwas & Ford, 2021), an idea also expressed by philosophers (Kesebir, 2018; Kesebir & Diener, 2008). Valuing happiness describes the extent to which people endorse the goal of being happy (Ford et al., 2014) and is often assessed with the Valuing Happiness Scale (Mauss et al., 2011). Studies frequently found higher levels of valuing happiness to be associated with negative outcomes, such as loneliness (Mauss et al., 2012), depression (Ford et al., 2014), and lower levels of well-being (Gruber et al., 2011; Mauss et al., 2011; Zerwas & Ford, 2021). Authors of these studies explain these negative outcomes with feelings of disappointment as a consequence of unrealistic HWB-related expectations (Bastian et al., 2012; Mauss et al., 2011; Schooler et al., 2003). Further, people who want to be happy are supposed to monitor their well-being more closely which, in turn, interferes with the experience of well-being (Schooler et al., 2003; Schooler & Mauss, 2010; Zerwas & Ford, 2021). However, other studies did not replicate the negative relationship between valuing happiness or similar concepts and actual levels of well-being (Catalino et al., 2014; Luhmann et al., 2016; Peterson et al., 2005). For example, people who made everyday decisions in a way that increased the likelihood of positive experiences reported higher well-being than people who did not (Catalino et al., 2014; Datu & King, 2016). What can explain these conflicting results? Luhmann et al. (2016) suggested that valuing happiness might not be a unidimensional construct as originally proposed, but instead covers two or more distinct dimensions, some of which may be positively and some negatively related to well-being. Similarly, Zerwas and Ford (2021) suggested that two traits need to be distinguished that independently affect the process of the pursuit of HWB. They proposed that people differ regarding how strongly they value HWB as an important goal and regarding the extent to which they are concerned about their HWB when the desired level of well-being is not reached. Previous work on valuing happiness is presumed to have conflated these two traits, leading to the contradictory results

described above. The ideas of Luhmann et al. (2016) and Zerwas and Ford (2021) both suggest that the divergent findings on the associations between valuing happiness and well-being might be explained by distinguishing different dimensions or processes relevant for valuing and endorsing happiness. However, this idea has not been empirically tested so far.

In sum, different concepts address the question of whether people endorse the goal of being happy and find it worthwhile to invest in their HWB: Fear of happiness (Joshani, 2013), the controllability of HWB (Joshani, 2017; Passmore et al., 2018), and valuing happiness (Ford et al., 2014). Lower perceived controllability and higher fear of happiness were associated with lower levels of well-being (Joshani, 2013, 2017; Passmore et al., 2018). For valuing happiness and related constructs, the literature revealed both positive and negative associations with well-being (Catalino et al., 2014; Luhmann et al., 2016; Zerwas & Ford, 2021). These divergent findings might be explained by distinguishing different dimensions relevant for the endorsement of the goal of being happy (Luhmann et al., 2016; Zerwas & Ford, 2021). Therefore, it was one aim of this dissertation to develop a multidimensional scale to assess the endorsement of the goal of being happy and to investigate, whether different dimensions of this scale differ in their relations with well-being (see Chapter 1.4.1).

1.3.3. *Activities to Enhance Happiness and Well-Being*

Activities that people engage in with the goal to enhance their HWB (henceforth: HWB-enhancing activities) can be better controlled than changing their personality or life circumstances (Caunt et al., 2013). Consequently, such activities can be an effective strategy to improve or maintain one's well-being. The benefit of HWB-enhancing activities has been investigated in the past with intervention programs that require participants to use specific strategies to improve their well-being. Examples for HWB-enhancing activities in such intervention programs include practicing optimism, writing letters to express gratitude, performing acts of kindness, being mindful, practicing a positive reevaluation of negative events, practicing self-compassion, describing funny experiences, and socializing (Barnes & Mongrain, 2020; Gander et al., 2020; Rowland & Curry, 2019; Sin & Lyubomirsky, 2009). Literature reviews and meta-analyses suggest that both subjective well-being and optimal psychological functioning can be improved through participation in such intervention programs (Bolger et al., 2013; Ghielen et al., 2018; Meyers et al., 2013; Sin & Lyubomirsky, 2009; Versluis et al., 2016; Weiss et al., 2016).

HWB-enhancing activities that people choose themselves differ from activities of intervention programs regarding the specific behaviors people engage in and sometimes also regarding their

effectiveness in improving or maintaining well-being. Examples for such activities that people frequently choose are watching TV, internet surfing, reading, sleeping, shopping, sports, outdoor activities, socializing, pursuing personal goals, or performing religious activities (Grimm et al., 2015; Henderson et al., 2013; Oerlemans et al., 2011; Proyer, 2013; Tkach & Lyubomirsky, 2006; Warner & Vroman, 2011). These activities were often measured by assessing the amount of time or the frequency spent with certain categories of activities. Several studies found positive associations between the engagement in such self-chosen HWB-enhancing activities and actual levels of well-being, indicating that people are capable to choose activities that improve or maintain their well-being (Henderson et al., 2013; Huta & Ryan, 2010; Ortner et al., 2018). However, people also engage in HWB-enhancing activities that they assume would make them happy, but that fail to meet that goal, indicating that people are not always good at anticipating what will make them happy (Hsee & Hastie, 2006; Schiffer & Roberts, 2018; Zelenski et al., 2013). Sometimes people also refrain from engaging in effective HWB-enhancing activities, even though they are aware of their benefits for well-being (Schiffer & Roberts, 2018).

It remains an open question why some people successfully engage in HWB-enhancing activities and others do not. Possibly, investing in certain facets of HWB is more beneficial for well-being than investing in other facets (e.g., hedonic vs. eudaimonic activities), which will be discussed in Chapter 1.3.4. Further, Lyubomirsky and Layous (2013) suggested the Positive-Activity Model to explain under which conditions HWB-enhancing activities do work best. According to this model, certain characteristics of the persons (e.g., motivation or effort), certain characteristics of the activities (e.g., their frequency), and a person-activity fit determine whether and to what extent HWB-enhancing activities can be successful.

In sum, engaging in HWB-enhancing activities can predict higher levels of well-being (Bolier et al., 2013; Henderson et al., 2013; Sin & Lyubomirsky, 2009). However, not every HWB-enhancing activity people engage in does promote well-being successfully (Hsee & Hastie, 2006; Zelenski et al., 2013). To understand under which conditions HWB-enhancing activities can be successful, Lyubomirsky and Layous (2013) suggested taking person characteristics and characteristics of HWB-enhancing activities into account. It was one aim of this dissertation to operationalize and examine different characteristics of HWB-enhancing activities and to integrate person and activity characteristics in the investigation of the pursuit of HWB (see Chapter 1.4.4).

1.3.4. *The Most Promising Path to Happiness and Well-Being*

Philosophers have sometimes expressed extreme opinions in favor of either a hedonic or eudaimonic way of life (Kesebir & Diener, 2008), and psychological research was also often driven by the question of which HWB facet should be pursued for the highest probability of success (McMahan & Estes, 2011a; Ortner et al., 2018; Steger et al., 2008). Some previous studies found that defining and pursuing HWB in a eudaimonic manner is related to higher levels of well-being than defining and pursuing HWB in a hedonic manner (McMahan & Estes, 2011b; Steger et al., 2008). However, such studies often showed that pursuing both HWB facets was in general positively related to well-being, even though to varying degrees depending on the specific facet for well-being outcomes (Henderson et al., 2013; Huta & Ryan, 2010; McMahan & Estes, 2011b, 2011a; Ortner et al., 2018; Steger et al., 2008). Because some of these studies assessed only a few facets of well-being (e.g., only subjective well-being; Joshanloo, 2021; Ruch et al., 2010; Sirgy & Wu, 2009) skewed impressions may have been formed regarding possible mechanisms affecting overall levels of well-being (Huta & Ryan, 2010).

In studies that investigated the potential advantages of eudaimonic HWB-enhancing activities over hedonic HWB-enhancing activities (or vice versa), HWB-enhancing activities have often been assigned to either hedonic or eudaimonic activities by experts or researchers (Ruch et al., 2010; Steger et al., 2008). This approach mistakenly assumes that HWB-enhancing activities are objectively tied to certain facets of HWB and that activities are exclusively tied to one facet of HWB only (Henderson et al., 2014; Henderson & Knight, 2012). For example, someone might read a book that is enjoyable (i.e., a hedonic activity), but at the same time they might have the impression that they are developing as a result of reading the book (which would correspond to an eudaimonic activity). Allowing participants to self-assign activities to specific HWB facets frequently revealed that some HWB-enhancing activities correspond to multiple HWB facets simultaneously (Grimm et al., 2015; Huta & Ryan, 2010; Waterman et al., 2008; Zuo et al., 2017). The artificial separation of hedonic and eudaimonic HWB-enhancing activities seems therefore not appropriate to represent how people experience these activities.

Many researchers nowadays agree that this unilateral approach (i.e., considering either the hedonic or the eudaimonic perspective in isolation) is inadequate, as well-being is a multifaceted construct, and that different facets of HWB should be pursued simultaneously for the highest levels of well-being (Henderson et al., 2013; Henderson & Knight, 2012; Huta & Ryan, 2010; Waterman et al., 2008). Such a multifaceted pursuit of HWB is assumed to contribute to higher

levels of well-being because it may foster a better distribution of personal resources, the satisfaction of a wider range of needs, as well as positive spillover or compensation effects (Huta & Ryan, 2010; Ortner et al., 2018; Sheldon & Niemiec, 2006; Sirgy & Wu, 2009). Some studies supported this idea by demonstrating that defining or pursuing different facets of HWB simultaneously was related to higher levels of well-being than focusing on specific HWB facets only (Grimm et al., 2015; Henderson et al., 2013; Huta & Ryan, 2010; Sirgy & Wu, 2009). However, these studies relied on the scales presented in Chapter 1.3.2 and therefore, the weaknesses already mentioned above also apply to these studies: Important HWB definitions beyond hedonia and eudaimonia and/or different relevant processes for the pursuit of HWB are not appropriately taken into account. Nevertheless, these studies demonstrate that people in general do not have a predominant definition of HWB (Grimm et al., 2015) and that some people do indeed define and pursue HWB in a multifaceted manner.

Overall, different paths to HWB can contribute to well-being and several facets of HWB should be pursued simultaneously for the highest levels of well-being (Grimm et al., 2015; Huta & Ryan, 2010). Studies that investigated a multifaceted pursuit of HWB covered only a few HWB facets relevant for lay people and did not address different processes relevant for the pursuit of HWB. Further, studies need to be designed in a way that allows operationalizing a multifaceted pursuit of HWB, for example, by not artificially separating between hedonic and eudaimonic HWB-enhancing activities (Henderson et al., 2014; Henderson & Knight, 2012). Therefore, one aim of this dissertation was to examine whether a multifaceted pursuit of HWB benefits well-being by (a) considering more HWB facets than previous studies, (b) distinguishing and including different processes relevant for the pursuit of HWB, and by (c) operationalizing these processes in a way that allows to investigate the multifaceted pursuit of HWB (see Chapter 1.4.4).

1.4. The Present Dissertation

In the literature review presented above, I identified open questions, ambiguous results, and shortcomings of previous research that should be addressed to better understand whether the pursuit of HWB can generally be successful and, if so, under which conditions. The present dissertation aims to close these gaps. It consists of four chapters covering seven⁴ studies to examine whether the pursuit of HWB is beneficial or detrimental for actual levels of well-being (RQ1; Chapter 2 & Chapter 5), how academics (RQ2a; Chapter 3) and lay people (RQ2b; Chapter

⁴ A common data set was used in Chapter 2 and Chapter 4.

4) define HWB, and whether a multifaceted definition and pursuit of HWB contribute to actual levels of well-being (RQ3; Chapter 4 & Chapter 5). The following sections introduce the specific aims addressed in these studies as well as the methods used.

1.4.1. *Happiness Goal Orientations (Chapter 2)*

Chapter 2 covers four studies to examine whether the pursuit of HWB is beneficial or detrimental for actual levels of well-being (RQ1) since previous literature has revealed conflicting results for this question (Catalino et al., 2014; Luhmann et al., 2016; Zerwas & Ford, 2021). Some authors suggested that these divergent findings might be explained by distinguishing different dimensions relevant for the endorsement of the goal of being happy (e.g., endorsing HWB as an important goal vs. being concerned about not being happy enough; Luhmann et al, 2016; Zerwas & Ford, 2021). To date, this idea has not been empirically tested.

I used data from four cross-sectional studies ($N_1 = 217$, $N_2 = 462$, $N_3 = 242$, $N_4 = 279$) to reach two study aims. The first aim was to develop a new multidimensional scale to measure the so-called *Happiness Goal Orientations*. The scale development was inspired by theories of motivational systems and goal pursuit and conducted by using item analyses as well as exploratory and confirmatory factor analyses. To provide evidence on the reliability and validity of the scale, bivariate correlations, Cronbach's alphas, and ordinary least square (OLS) multiple regressions were examined. The second aim was to investigate whether the different dimensions of Happiness Goals Orientations are differently related to well-being.

1.4.2. *Integrating Philosophical and Psychological Definitions of Happiness and Well-Being (Chapter 3)*

The study presented in Chapter 3 aimed to address how academics (particularly philosophers and psychologists) define HWB (RQ2a) as foundational work for examining how lay people define and pursue HWB in the subsequent studies. Although popular philosophical and psychological HWB definitions appear to overlap strongly, notable differences exist between the disciplines. The development of a classification system that allows to integrate philosophical and psychological HWB definitions is an important step to integrate HWB definitions between the disciplines.

The main aim of this study was to present a new dimensional taxonomy to describe and classify philosophical and psychological HWB definitions, which allows to capture finer differences between single HWB definitions than the existing categorical classification systems (Huta & Waterman, 2014; Parfit, 1984; Woodard, 2013). This dimensional taxonomy was then used to

highlight similarities and differences among several philosophical and psychological HWB definitions that have been identified in a literature review.

1.4.3. *Introducing the CoDI Scales (Chapter 4)*

Chapter 4 covers two studies to examine how lay people define HWB for themselves (RQ2b) and whether a multifaceted definition and pursuit of HWB contributes to actual levels of well-being (RQ 3). Previous research suggests that different facets of HWB should be pursued simultaneously for the highest levels of well-being. However, the few existing studies that investigated a multifaceted pursuit of HWB covered only a small selection of HWB facets that are relevant for lay people (Grimm et al., 2015; Huta & Ryan, 2010). Further, these studies were based on scales that either conflate different processes or cover only specific processes relevant for the pursuit of HWB (e.g., HWB definitions only; McMahan & Estes, 2011).

The central aim of the two cross-sectional studies ($N_1 = 263$, $N_2 = 279$) was to examine associations between a multifaceted definition and pursuit of HWB and actual levels of well-being. Due to a lack of sufficient measures, I developed two parallel scales to assess a range of different HWB definitions and HWB-related intentions and to operationalize a multifaceted definition and pursuit of HWB. The resulting *Complexity of Definitions and Intentions (CoDI) Scales* were developed on basis of the HWB definitions identified in Chapter 3. The scale development was conducted using item analyses as well as exploratory and confirmatory factor analyses. To provide evidence on the reliability and validity of the scale, bivariate correlations and Cronbach's alphas were examined. Further, associations between a multifaceted definition and pursuit of HWB and different facets of actual levels of well-being were examined.

1.4.4. *Theoretical Model of the Pursuit of Happiness and Well-being (Chapter 5)*

Chapter 5 presents one study that further examined whether a multifaceted definition and pursuit of HWB contribute to actual levels of well-being (RQ3) and whether the pursuit of HWB in general is beneficial or detrimental for actual levels of well-being (RQ1). Besides HWB definitions and HWB-related intentions already examined in Chapter 4, HWB-enhancing activities were additionally examined as a relevant process for the pursuit of HWB. Although HWB-enhancing activities generally seem to benefit well-being, not every HWB-enhancing activity people engage in does promote well-being successfully (Henderson et al., 2013; Hsee & Hastie, 2006; Sin & Lyubomirsky, 2009). To understand under which conditions HWB-enhancing activities can be

successful, Lyubomirsky and Layous (2013) suggested taking specific characteristics of HWB-enhancing activities into account (e.g., their frequency).

This study aimed to introduce and evaluate a theoretical model on the pursuit of HWB that integrates HWB definitions, HWB-related intentions, as well as different characteristics of HWB-enhancing activities as predictors of daily well-being. All components of the model were operationalized to investigate the benefits of a multifaceted pursuit of HWB (e.g., by asking participants to self-assign HWB-enhancing activities to all facets of HWB that apply). The model was tested using experience sampling data ($N = 474$) to investigate whether daily levels of well-being could be predicted by daily characteristics of HWB-enhancing activities. Participants were asked five times each day over a period of seven days to provide information on their latest activity (11,285 single ESM reports). Data were analyzed using OLS multiple regression models, multilevel models, and OLS mediation models. To investigate a broad range of different well-being facets, I additionally developed another parallel version of the CoDI Scales to assess daily well-being. The psychometric quality of this scale was investigated using multilevel confirmatory factor analysis and bivariate correlations.

1.4.5. General Discussion (Chapter 6)

In Chapter 6, the findings of this dissertation will be summarized and integrated. Further, the theoretical, methodological, and practical implications, as well as limitations and open questions will be discussed.

1.5. References

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2 | Happiness Goal Orientations and their Associations with Well-Being

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2. Happiness Goal Orientations and their Associations with Well-Being

Abstract

Previous research has provided contradicting findings on whether valuing and pursuing happiness is beneficial or detrimental to one's level of well-being. These contradicting findings might be resolved by considering these so-called Happiness Goal Orientations (HGO) as a multidimensional construct. The goals of this paper were (1) to present a new multidimensional scale to measure HGO and (2) to investigate whether the different dimensions of the scale are differentially related to well-being. Inspired by theories that distinguish between different dimensions of motivational systems and goal pursuit, we developed and validated the HGO Scale in four independent studies. The scale distinguishes two dimensions: Happiness-Related Strivings represent the propensity to move actively and persistently toward the desired level of happiness. Happiness-Related Concerns represent the propensity to worry about and to focus on threats to one's level of happiness. Happiness-Related Strivings are associated with approach-related constructs, positivity, successful strategies to regulate one's moods and emotions, endorsing a broad range of happiness definitions, and the intention to pursue different happiness definitions in everyday life. Happiness-Related Concerns are associated with avoidance-related constructs, anxiety, poor strategies to regulate one's moods and emotions, defining happiness solely as the absence of negativity, and having no intentions to pursue happiness in everyday life. Happiness-Related Strivings are positively associated with well-being, whereas Happiness-Related Concerns are negatively associated with well-being. These differential associations with well-being demonstrate the importance of considering HGO as a multidimensional construct and that HGO can be both beneficial and detrimental to one's level of well-being.

Keywords: Happiness; Subjective well-being; Psychological well-being; Scale development; Pursuit of happiness; Lay definitions of happiness

2.1. Introduction

Most people want to attain and maintain happiness (Diener et al., 1998; King & Napa, 1998). But how does this pervasive desire for happiness affect the actual level of well-being? Whether valuing and pursuing happiness is advantageous or detrimental for well-being is controversial (Catalino et al., 2014; Gruber et al., 2011; Luhmann et al., 2016). On the one hand, it is a widespread view among scholars (Martin, 2008; McGuirk et al., 2018) and lay people (Joshani & Weijers, 2013) that the Western “cultural obsession” (McGuirk, Kuppens, Kingston, & Bastian, 2018, p. 755) with happiness leads to paradoxical effects and might be self-defeating (Martin, 2008; Mauss et al., 2011; McGuirk et al., 2018). Indeed, a negative link between valuing and pursuing happiness and actual levels of well-being has been found in cross-sectional (Ford, Mauss, et al., 2015; Gentzler et al., 2019) and experimental studies (Mauss et al., 2011; McGuirk et al., 2018; Schooler et al., 2003).

On the other hand, some scholars suggest that “our obsession is well justified” (Steel, Taras, Uggerslev, & Bosco, 2018, p. 128) because efforts to become happy bring one closer to the desired goal. For example, being guided by potential positive emotional experiences is a positive correlate (Catalino et al., 2014; Peterson et al., 2005) and a longitudinal predictor (Datu & King, 2016) of well-being. Efforts to increase happiness through interventions and activities also demonstrate that it pays off to work actively to improve one’s level of well-being (Bolier et al., 2013; Sin & Lyubomirsky, 2009).

Are these opposing associations between valuing and pursuing happiness and actual levels of well-being incompatible? A closer examination of the literature reveals that negative associations were particularly found in studies where valuing and pursuing happiness was characterized by the fear of and desire to avoid negative emotions (Luhmann et al., 2016; Luong et al., 2016), for example due to low expectancies to regulate one’s mood (Fergus & Bardeen, 2016) or the perceived social pressure not to be unhappy (McGuirk et al., 2018). The desire for positive affect, however, was either not significantly or positively related to well-being (Catalino et al., 2014; Luhmann et al., 2016; Luong et al., 2016; Peterson et al., 2005). Consequently, valuing and pursuing happiness might be neither advantageous nor detrimental to experienced happiness *per se*.

In this article, we propose that these discrepant findings can be reconciled by considering valuing and pursuing happiness as a multidimensional construct, which we label as *Happiness Goal Orientations* (HGO). For a range of psychological constructs, a multidimensional consideration revealed that associations between these constructs and other variables such as well-being differed among different dimensions of these constructs (Briki, 2018; Churchyard & Buchanan, 2017; Elliot & Thrash, 2002; George & Park, 2017; Gross & John, 2003; Koole & Jostmann, 2004; Stoeber & Otto, 2006). Some psychological constructs were initially considered to be unidimensional, and a multidimensional perspective was introduced only later in the research process. For example, distinguishing the dimensions admiration and rivalry of grandiose narcissism revealed distinct processes (Back et al., 2013). Similarly, the distinction between perfectionistic concerns and perfectionistic strivings was introduced after perfectionism was considered as a merely dysfunctional unidimensional construct (Stoeber & Otto, 2006; Stricker et al., 2019). Recently, a multidimensional perspective of meaning was introduced that distinguished between comprehension, purpose, and mattering (George & Park, 2017). Applying a multidimensional perspective helped to resolve conceptual difficulties and contradicting findings in the literature, and revealed differential nomological networks, interpersonal consequences, and associations with other variables (Back et al., 2013; George & Park, 2017; Stoeber & Otto, 2006; Stricker et al., 2019).

In the present paper, we examined whether adopting a multidimensional perspective may also resolve contradicting findings on the relationship between valuing and pursuing happiness and actual levels of well-being. A study by Luhmann et al. (2016) supports this assumption: The unidimensional structure of the HGO-related Valuing Happiness Scale (Mauss et al., 2011) led to constrained conclusions regarding the associations with well-being, whereas a multidimensional consideration of this relation revealed differential associations between facets of this scale and well-being. As we elaborate below, existing measures of HGO-related constructs (e.g., Bastian et al., 2012; Catalino et al., 2014; Mauss et al., 2011) are inadequate to measure different dimensions of HGO. The first goal of this article was therefore to close this research gap by presenting a new multidimensional scale to measure HGO. In four independent studies, we developed the *Happiness Goal Orientations Scale*, which distinguishes the two dimensions *Happiness-Related Strivings* and *Happiness-Related Concerns*, and provide evidence for its construct validity. The second goal of this article was to investigate whether the two dimensions are differentially related

to well-being, which may explain previous discrepant findings on the relationship between valuing and pursuing happiness and well-being.

2.2. Measuring Happiness Goal Orientations

People differ in how they value and pursue happiness regarding the specific definitions of happiness they endorse (Joshanloo, 2019; Kämpfe & Mitte, 2009; McMahan & Estes, 2011; Peterson et al., 2005) as well as regarding motivations, emotions, cognitions, and behaviors toward happiness as a desired goal (Catalino et al., 2014; Fergus & Bardeen, 2016; Luhmann et al., 2016; Luong et al., 2016). In this paper, we focus on the latter and are particularly interested in individual differences in orientations toward happiness as a desired goal. We were inspired by theories that consider different dimensions of motivational systems and goal pursuit for scale development (Carver & White, 1994; Elliot & Thrash, 2002; Gray, 1990; Higgins, 1997; Kuhl, 2000).

For example, Gray's (1990) Reinforcement Sensitivity Theory proposed two systems that underlie behavior and affect by reacting to different types of stimuli and generating different goal-related outcomes. The behavioral activation system (BAS) reacts sensitively to signals of reward and non-punishment and leads to approach behavior as well as to an increase of attention toward the rewarding stimuli. The behavioral inhibition system (BIS) reacts sensitively to signals of innate fear stimuli and punishment and leads to the inhibition of behavior as well as to an increase of attention toward the threatening stimuli. Several scales were developed to measure differences in reinforcement sensitivity (Carver & White, 1994; Corr & Cooper, 2016; Hartig & Moosbrugger, 2003; Smederevac et al., 2014). These scales usually comprise several subscales of BAS and BIS that vary regarding the specific content. Most commonly, BAS scales measure the tendency to resist setbacks and to make a great effort to reach a desired goal (Carver & White, 1994; Corr & Cooper, 2016; Hartig & Moosbrugger, 2003). Some BAS subscales also refer to positive emotional responsiveness to the anticipation or actual occurrence of rewards or successes (Carver & White, 1994; Hartig & Moosbrugger, 2003), interest and a general desire for novel or fun experiences (Carver & White, 1994; Corr & Cooper, 2016), or a strategic approach to reach desired goals (Corr & Cooper, 2016). BIS scales most commonly focus on worries and anxiety by referring to cognitions and emotional reactions to the anticipation or actual occurrence of negative experiences like punishment or negative reactions of others (Carver & White, 1994; Corr & Cooper, 2016; Hartig & Moosbrugger, 2003). Some BIS scales also refer to emotional reactions

like frustration and disappointment as a consequence of the occurrence of failures (Hartig & Moosbrugger, 2003), or to the active avoidance and withdrawal as a consequence of the desire to avoid potential negative experiences (Corr & Cooper, 2016). Other examples of theories related to goal pursuit include the Action-Control Theory (Kuhl, 1984, 2000). This theory explains individual differences in attention control, motivation control, emotion control, and coping with failure in the context of goal pursuit and distinguishes between action orientation and state orientation. Action orientation refers to the tendency to act quickly, to approach goals actively, to invest resources in order to implement desired outcomes, and to maintain goal-serving emotions, cognitions, and motivations. State orientation refers to the tendency to ruminate and hesitate, a lack of energy to initiate or maintain intended behavior, and a false internalization of others' beliefs and expectations (Kuhl, 1984, 2000). Higgins' (1997) Regulatory Focus Theory distinguishes a promotion and a prevention focus. The former describes a focus on accomplishments and aspirations by envisioning and pursuing desirable outcomes, whereas the latter describes a focus on safety and responsibilities by worrying about and avoiding undesirable outcomes (Higgins, 1997; Lockwood et al., 2002).

In sum, these theories describe individual differences in the pursuit of goals in life. In this paper, we aimed to investigate whether a multidimensional approach can be applied to HGO, namely goal orientations with regard to attaining or maintaining a sufficient level of happiness in life. Further, in the above-described theories, goal-related motivations and cognitions are closely linked to specific emotional states and anticipated behavior. Since emotions and cognitions overlap in motivational systems, it is difficult to distinguish between these units of experience (Gray, 1990). In line with the above-described theories, we aimed to capture a wide range of goal-related experiences and thus to measure emotions, cognitions, and anticipated behavior toward happiness as a desired goal.

Although several measures of HGO and related constructs exist (e.g., Bastian et al., 2012; Catalino et al., 2014; Joshanloo, 2013; Mauss et al., 2011; McMahan & Estes, 2011; Peterson et al., 2005), some of them fail to take a potential multidimensional structure into account and only include items that focus on one specific aspect of the construct. For example, the Prioritizing Positivity scale only measures to what extent people focus on increasing and maintaining positive aspects in life by orienting their everyday decisions toward a potential happiness gain (Catalino et al., 2014). The Fear of Happiness scale only focuses on the belief that the experience of happiness might have negative consequences (Joshanloo, 2013). Some scales assess whether people believe

that happiness is fixed and depends on external factors or whether happiness is changeable and can be actively affected (Howell et al., 2016; Joshanloo, 2017, 2019). Although the Valuing Happiness scale (Mauss et al., 2011) appears to assess different aspects like the personal importance of being happy and worries about the possibility of being unhappy (Luhmann et al., 2016), the scale was constructed as a unidimensional measure and does not provide enough items to distinguish between different dimensions reliably. Further, the Valuing Happiness scale only assesses individual differences in the importance of happiness and not the extent to which people pursue happiness-related goals. This distinction is crucial, as general values and motivations do not automatically result in specific goals and actions required to realize the desired outcomes (Gollwitzer & Sheeran, 2006; Hsee & Hastie, 2006; Oettingen et al., 2001). Hence, goal orientations are a more proximal predictor of actual well-being than general values, which is why we focus on the former.

Furthermore, existing HGO-related multidimensional scales do not capture differences in goal orientations. Instead, these scales distinguish among different definitions of happiness (Krasko et al., 2022; McMahan & Estes, 2011; Peterson et al., 2005). For example, the Beliefs About Well-Being scale (McMahan & Estes, 2011) assesses to what extent people consider the dimensions experience of pleasure, avoidance of negative experience, self-development, and contribution to others as required aspects of the experience of high well-being. However, the scale does not assess the extent to which people pursue these different definitions of happiness in their lives. The HGO-related multidimensional scale of Bastian et al. (2012) distinguishes between personal and social expectations with a focus on experienced negative emotions only (Bastian et al., 2012). Because of these limitations of existing measures of HGO-related constructs, we developed a new multidimensional scale that measures individual differences in orientations toward happiness goals.

2.3. Investigating Different Types of Well-Being

Well-being is a multifaceted construct encompassing constructs such as subjective well-being (SWB) and psychological well-being (PWB; Disabato, Goodman, Kashdan, Short, & Jarden, 2016; Henderson & Knight, 2012; Huta & Ryan, 2010). SWB includes positive and negative affective experiences and subjective evaluations of one's life satisfaction (Diener, 1984). In contrast, PWB comprises different facets of positive psychological functioning such as positive relations with

others or self-acceptance (Ryff, 1989). SWB and PWB are related but distinct and vary in their relations with other constructs (Keyes et al., 2002; Linley et al., 2009).

To investigate whether the two types of well-being are differentially associated with HGO, we will examine both SWB and PWB as outcome variables. Previous research on the relation between HGO-related constructs and well-being mostly focused on SWB as the outcome variable. For this reason, our investigation of whether the same relations with HGO can be observed when examining PWB as an alternative type of well-being is rather exploratory. However, Mauss et al. (2011) examined both types of well-being and showed that SWB and PWB correlate with the Valuing Happiness Scale in a similar fashion. Based on this result and due to the interrelations of SWB and PWB (Keyes et al., 2002; Linley et al., 2009), we expected that SWB and PWB would be associated with HGO in the same direction.

2.4. The Present Paper

The first aim of this paper was to develop a short multidimensional measure of HGO (Study 1, Study 2a & 2b) and to provide evidence for its construct validity (Study 2a & Study 3). The second aim was to examine the associations between HGO and well-being, by considering SWB (Diener, 1984; Study 2a & 2b, Study 3) and PWB (Ryff, 1989; Study 2b & Study 3). To ensure that associations between HGO and well-being do not simply reflect demographical differences, we controlled for age and gender. Further, to ensure that these associations do not simply reflect more general personality traits, we conducted all analyses with and without controlling for extraversion and neuroticism.

2.5. Study 1

The main objective of Study 1 was to create a measure that allows a multidimensional assessment of HGO. The scale development was inspired by theories of motivational systems and goal pursuit.

2.5.1. Methods

2.5.1.1. Participants and Procedure

Data collection was conducted in Summer 2016 using the online survey tool Qualtrics. Participants were recruited through different online sources (e.g., mailing lists, Facebook groups)

that particularly address German students. All participants could participate in a lottery of two Amazon vouchers worth 25€. Informed consent was obtained from all individual participants included in the study. We first presented items for HGO in a randomized order, followed by demographic questions. We collected responses from 296 participants, which were reduced by 76 incomplete cases and three cases with inadequate responses to an item for the self-assessment of data quality (see below). The final sample size was $N = 217$, which is appropriate for the ratio of assessed variables to expected factors in this study (MacCallum et al., 1999). Age ranged from 19 to 57 ($M = 24.43$, $SD = 4.78$), 76.0% of the sample was female, 95.9% not married, 60.8% in a romantic relationship, 89.9% indicated to have a general higher education entrance qualification (Abitur), 85.7% indicated to have a current student status, 8.3% were employed.

2.5.1.2. Measures

For item development, we used existing scales of constructs related to motivational systems and goal pursuit (e.g., BIS/BAS; Carver & White, 1994) as well as scales that focus on attitudes and emotional reactions to happiness (e.g., Orientations to Happiness; Peterson et al., 2005). We selected suitable items and adopted the wording for our purpose. An initial pool of 77 items was reduced after discussion among the authors and by dropping redundant items, which resulted in 27 items for assessment. Participants were asked to indicate to what extent they agree with the statements on a scale from 1 (*does not apply*) to 5 (*applies completely*).

To control for data quality, we included one dichotomous item for self-assessment of data quality (i.e., directly asking whether the participants answered the survey questions appropriately). Additionally, we assessed basic demographics such as age and gender.

2.5.2. Results

All analyses were conducted in the R environment (R Development Core Team, 2008) using the packages *psych* (Revelle, 2017) and *QuantPsych* (Fletcher, 2012)⁵. In a first step, we excluded poorly performing items as indicated by established psychometric criteria, like moderate item difficulties (Lord, 1952; optimally between 2.5 – 3.5 on a 1 – 5 scale), high discriminatory power (Jackson, 1970; optimally $> .35$), skewness and kurtosis (optimally no significant deviation above

⁵ To reproduce our results, all data files and R-codes can be found online: <https://osf.io/dg83m>

[1.5] from 0), and visual inspection of response distributions (optimally normally distributed⁶). We kept the best performing items for the next step and omitted 13 items that performed worse on these criteria (i.e., all of these excluded items performed poorly on at least two criteria). For the remaining 14 items, we conducted an exploratory factor analysis to examine the dimensionality of the scale (for an overview of the psychometric properties of the items, see Table 2.1). We determined the number of factors using parallel analysis (Goretzko et al., 2021; Horn, 1965) as implemented in the R package psych (Revelle, 2017). In this package, parallel analysis is performed using both principal axis factor analysis and principal component analysis. For principal axis factor analysis, parallel analysis suggested three factors: The first five observed eigenvalues were 3.45, 1.48, 0.44, 0.16, 0.04 and the first five simulated eigenvalues were 0.68, 0.36, 0.28, 0.21, 0.16. For the principal component analysis, parallel analysis suggested two components: The first five observed eigenvalues were 4.13, 2.30, 1.14, 0.96, 0.84 and the first five simulated eigenvalues were 1.45, 1.33, 1.25, 1.18, 1.12. The application of other criteria (scree test and Kaiser-Criterion) did not clarify whether two or three factors are more appropriate. For this reason, we decided to consider both solutions for the next steps. We estimated one model with two factors and another model with three factors using principal axis analysis, Promax Rotation, and Maximum Likelihood (ML) estimation. For an overview of factor loadings, interfactor correlations, and explained variances for both factor solutions, see Table 2.2. To interpret the factors, we considered items with a minimum loading of .30, which is an appropriate cutoff criterion for this sample size (Field et al., 2012; Stevens, 2002). In both models, the factors could be interpreted meaningfully. In the two-factor solution, the first factor referred to anxiety and worries of being unhappy and a focus on threats to one's level of happiness (e.g., "I often refrain from doing something because I am scared that it might make me unhappy"). The second factor referred to goals, efforts, and activities to increase happiness or prevent unhappiness (e.g., "I try very hard to be happy"). The total explained variance was $R^2 = .37$ for this model. Cronbach's alpha was $\alpha = .81$ for the subscale with a focus on threats, which could be improved by the removal of Item 10 ($\alpha_{\text{diff}} = .01$). For the subscale with a focus on activity, Cronbach's alpha was $\alpha = .74$. In the three-factor solution, the first factor referred to anxiety and worries of being unhappy. The second factor referred to goals, efforts, and activities to increase happiness or prevent unhappiness. The third factor emphasized a focus on threats to one's level of happiness,

⁶ Figures of the item distributions can be found in the online materials: <https://osf.io/dg83m>

but – in contrast to the first factor – without the feelings of anxiety or worries (e.g., “I focus more on threats than on pleasant events”). The total explained variance was $R^2 = .43$. Cronbach’s alpha for the subscales ranged between $\alpha = .68$ (Factor 3) and $\alpha = .80$ (Factor 1). We removed Item 10 because of weak loadings and an increased Cronbach’s alpha for the two-factor solution after dropping this item, resulting in an item pool of 13 items for the next study.

Table 2.1. *Psychometric properties for the initial 14-item solution in Study 1.*

Item No.	Mean (item difficulties)	SD	α when Item is dropped (two-factor model)	Skewness	Kurtosis	Item whole correlation (discriminatory power)	Corrected item whole correlation
4	2.51	1.05	.80	0.33	-0.56	.61	.63
15	2.45	1.13	.79	0.46	-0.62	.70	.63
14	2.65	1.17	.79	0.24	-0.83	.67	.60
3	3.13	1.27	.80	-0.08	-1.12	.67	.57
18	2.85	1.32	.75	0.16	-1.32	.83	.82
13	3.16	1.31	.77	-0.03	-1.27	.79	.76
10	3.17	1.12	.82	-0.27	-0.75	.52	.39
7	3.47	1.00	.72	-0.34	-0.39	.61	.52
9	3.16	0.90	.73	-0.06	-0.42	.58	.48
26	3.01	1.05	.73	> -0.01	-0.76	.61	.50
27	3.17	1.00	.71	-0.14	-0.52	.65	.55
23	3.06	0.93	.71	-0.11	-0.28	.64	.57
19	2.68	0.93	.69	0.19	-0.02	.71	.66
5	2.90	0.99	.72	0.08	-0.45	.62	.52

2.5.3. Discussion

The main purpose of Study 1 was to develop and evaluate a multidimensional scale to measure HGO. The results suggested two potentially fitting factor solutions that were both appropriate with respect to psychometric quality and theoretical meaningfulness.

In both factor solutions, one factor emerged that was related to efforts and activities people are willing to undergo to be happy or to avoid being unhappy. This factor reflects intentions and persistence toward pursued happiness-related goals. In the two-factor solution, the second factor reflected anxiety, worries, and a focus on threats to one’s level of happiness. In the three-factor solution, items reflecting anxiety, worries, and threats split into two different factors: One of them referred to feelings of worries and anxiety, whereas the other one referred to the focus on threats without emphasizing negative feelings.

Some indicators suggested that the two-factor model should be preferred. First, enough items are available for a reliable assessment of each factor, which could be critical for the three-factor solution. Second, in the three-factor model, one of the factors might be redundant as the correlation of $r = .55$ between two factors reflecting either feelings of worries and anxiety or a focus on threats is relatively strong. Despite these arguments for the two-factor solution, we will base the final decision on the results of confirmatory factor analyses in the following studies.

Table 2.2. *Standardized factor loadings in exploratory factor analyses of Study 1 using Maximum Likelihood estimation, interfactor correlations, explained variances, and fit statistics.*

Item No.	Item wording	Two-Factor Model		Three-Factor Model		
		Factor 1	Factor 2	Factor 1	Factor 2	Factor 3
4	I am more oriented in avoiding unhappiness than in achieving happiness.	.52	-.01	.19	-.11	.52
15	I often refrain from doing something because I am scared that it might make me unhappy.	.67	-.10	.53	-.10	.20
14	I focus more on threats than on pleasant events.	.64	-.14	.35	-.22	.46
3	I am scared of being unhappy.	.51	.14	.56	.19	-.06
18	I worry a lot that I might not succeed in being happy.	.87	-.09	.94	-.02	-.08
13	I am often worried that I might be unhappy in the future.	.84	-.09	.80	-.04	.02
7	I actively try to become happy.	-.26	.65	-.06	.68	-.21
9	I often overcome challenges to become happy.	-.03	.47	-.01	.45	.05
26	Generally, I am focused on avoiding negative things in my life.	.34	.36	-.07	.24	.72
27	I pursue some goals to not become unhappy.	.22	.46	.14	.41	.19
23	I try very hard to be happy.	.00	.61	.22	.69	-.25
19	I go out of my way to avoid being unhappy.	.00	.65	-.16	.56	.36
5	I do everything I can to avoid being unhappy.	-.04	.54	-.07	.48	.14
10	If I feel unhappy, I get insecure and nervous.	.31	.16	.23	.14	.15
Correlation with factor 1		-	.37	-	.23	.55
Correlation with factor 2		-	-	-	-	.28
R^2		.22	.15	.18	.15	.11
χ^2 (df)		143.37 (64)		60.74 (52)		
BIC		-200.94		219.01		
TLI		.86		.98		
RMSEA		.08		.03		
[90% CI]		[.05; .09]		[.00; .05]		

Notes. df = degrees of freedom. CI = confidence interval.

2.6. Studies 2a and 2b

The main goal of Studies 2a and 2b was to conduct confirmatory factor analyses to investigate the best factor solution of the HGO Scale and to improve the scale. Since the results of two

independent samples were considered simultaneously for this purpose, Study 2a and 2b will both be described in this section.

Another goal was to investigate the nomological network and the construct validity of HGO (Study 2a). For this, we expected the HGO dimension representing intentions and persistence toward pursued happiness-related goals to correlate positively with approach-related constructs and positivity (e.g., Prioritizing Positivity, extraversion, BAS, promotion focus) and negatively with avoidance-related constructs and anxiety (e.g., neuroticism, BIS, prevention focus). For the HGO dimensions representing anxiety, worries, and a focus on threats to one's level of happiness, we expected associations in the opposite direction.

To provide further evidence of construct validity and the importance of a multidimensional consideration, we also investigated relations between HGO with mood regulation and emotion regulation strategies. Descriptions of HGO-related constructs have previously been connected to emotion regulation strategies (Luong et al., 2016). Further, the inability to successfully regulate one's mood or emotions affects the link between HGO-related constructs and well-being negatively (Fergus & Bardeen, 2016). Therefore, we expected the HGO dimension representing intentions and persistence toward pursued happiness-related goals to correlate positively with successful mood and emotion regulation strategies, and negatively with poor mood and emotion regulation strategies. For the HGO dimensions representing anxiety, worries, and a focus on threats to one's level of happiness, we expected negative correlations with successful mood and emotion regulation strategies, and positive correlations with poor mood and emotion regulation strategies. We also investigated perceived expectancies to feel happiness (Bastian et al., 2012), namely scales for self-evaluation, personal expectancies, and social expectancies. Social expectancies might induce pressure to not display unhappiness and the fear of not being happy enough (Bastian et al., 2012; McGuirk et al., 2018). Therefore, we expected a positive association between the HGO dimensions representing anxiety, worries, and a focus on threats to one's level of happiness, and perceived social expectancies to feel happy.

Further, we investigated the association between HGO with SWB (Study 2a & 2b) and PWB (Study 2b), controlling for age and gender. In accordance with previous results (Bastian et al., 2012; Catalino et al., 2014; Luhmann et al., 2016; Mauss et al., 2011), we expected the HGO dimension representing intentions and persistence toward pursued happiness-related goals to be positively related to both types of well-being. For the HGO dimensions representing anxiety,

worries, and a focus on threats to one's level of happiness, we expected associations in the opposite direction. Since constructs of interest in this study are correlated with extraversion and neuroticism (Agbo & Ngwu, 2017; Pollock et al., 2016; Schimmack, Radhakrishnan, et al., 2002; Schmutte & Ryff, 1997; Soto, 2015; Tamir, 2009; Tkach & Lyubomirsky, 2006), we conducted these analyses with and without controlling for extraversion and neuroticism to ensure that associations do not simply reflect more general personality traits. We expected that associations between HGO and well-being would decrease but remain significantly different from zero when controlling for extraversion and neuroticism.

2.6.1. *Methods*

2.6.1.1. *Participants and Procedure*

For both studies, we used the online survey software Qualtrics. For Study 2a, data was collected in Fall 2016. Participants were recruited through different German online sources (e.g., mailing lists, Facebook groups). We avoided sources that particularly address students and had already been used for Study 1. All participants could participate in a lottery of Amazon vouchers worth 400€ in total. Informed consent was obtained from all individual participants included in the study. First, different scales were presented in a randomized order. Items within the scales were also randomized. At the end of the survey, we presented some basic demographic questions. Although 912 participants started the survey, we removed 415 participants which mostly did not provide any data due to unfavorable responses at the beginning on questions regarding age verification, consent, and gender⁷. We excluded nine cases on basis of an item for the self-assessment of data quality, 23 cases due to missing values or failed responses to two instructed response items (see below), and three cases due to missing values on HGO items. After these exclusions, the final sample size was $N = 462$, which is appropriate for stable estimates of correlations (Schönbrodt & Perugini, 2013) and the conduction of confirmatory factor analyses (Barrett, 2007; Wolf et al., 2013). The age ranged from 16 to 72 ($M = 29.54$, $SD = 10.09$), 72.1% of the sample was female, 77.3% not married, 68.6% in a romantic relationship, 65.7% indicated to have a general higher education entrance qualification (Abitur), 38.4% indicated to have a current student status, 39.3% were employed. The mean net income was $M = 1265.27€$ ($SD = 1228.35$).

⁷ After data collection was already progressed, female participants were no longer eligible to participate to assure a reasonable number of male participants.

For Study 2b, data was collected in Summer 2017. Participants were addressed through different German online (e.g., Facebook groups) and offline sources (e.g., flyers on the campus). Student participants received course credit for their participation. First, some basic demographic questions were presented, followed by different scales in a randomized order. Items within the scales were also randomized. We collected responses from 294 participants and excluded 52 cases due to missing values on HGO items. In 46 of these excluded cases, participants withdrew early from the study and did not provide any responses for the HGO items. One participant missed two items and five participants missed one item. After this exclusion, the final sample size was $N = 242$. The age ranged from 18 to 75 ($M = 30.54$, $SD = 13.70$), 75.2% of the sample was female, 79.3% not married, 59.1% in a romantic relationship, 79.8% indicated to have a general higher education entrance qualification (Abitur), 26.9% were not employed (including students and unemployed), 42.6% were employed in full-time or part-time jobs.

2.6.1.2. Measures

In both samples, we assessed HGO using 13 selected items of the scale as described in Study 1. Further, we assessed SWB, extraversion, neuroticism, and basic demographics (e.g., age, gender) in both samples. We assessed additional scales in Study 2a for validation purposes, as well as PWB in Study 2b. For all measures, responses were averaged within scales to create scores. Descriptive statistics and Cronbach's alphas can be found in Table 2.3.

Life Satisfaction was measured with the Satisfaction With Life Scale (Diener et al., 1985), which assesses peoples' global judgments of life according to self-chosen criteria. We used the German version of (Glaesmer et al., 2011). Responses were collected with five items on a scale ranging from 1 (*disagree completely*) to 7 (*agree completely*). Previous studies demonstrated the convergent, discriminant, and criterion validity of this scale (Diener et al., 1985, 1999; Glaesmer et al., 2011).

Positive and negative affect was assessed in Study 2a with the SPANE (Diener et al., 2009), using the German version of Rahm, Heise, and Schuldt, (2017). Participants were asked to indicate how often they felt a certain affective state during the last two weeks. Responses were collected on a scale ranging from 1 (*very rarely or never*) to 5 (*very often or always*). Each facet was measured with three items. Previous studies demonstrated the convergent, criterion, and factorial validity of this scale (Diener et al., 2009; Rahm et al., 2017). In Study 2b, we used the PANAS (Watson et al., 1988) to measure affect by asking participants about the extent they generally feel certain emotions. We used the German translation by Krohne, Egloff, Kohlmann, and Tausch (1996).

Responses were collected on a scale ranging from 1 (*very slightly or not at all*) to 5 (*extremely*). Both facets were measured with 10 items each. Previous studies demonstrated the convergent, discriminant, criterion, and factorial validity of this scale (Krohne et al., 1996; Watson et al., 1988).

Extraversion and neuroticism were measured in Study 2a with the BFI-10 (Rammstedt, Kemper, Beierlein, and Kovaleva, 2012) with two items each. Evidence for its convergent, discriminant, and factorial validity was provided (Rammstedt, Kemper, Beierlein, and Kovaleva, 2012). In Study 2b, we used the BFI-2-XS (Soto & John, 2016) and the German version of Danner et al. (2016) to measure extraversion and neuroticism with three items each. Previous studies demonstrated the convergent, discriminant, criterion, and external validity of this scale (Danner et al., 2016; Soto & John, 2016). For both questionnaires, responses were assessed on a scale ranging from 1 (*disagree completely*) to 5 (*agree completely*).

Measures assessed only in Sample 2a. The Valuing Happiness Scale (Mauss et al., 2011) consists of seven items that assess to what extent people value happiness. We used the German version by Luhmann et al. (2016). Responses were collected on a scale from 1 (*disagree completely*) to 7 (*agree completely*). Like Luhmann et al. (2016), we considered Item 4 (“I would like to be happier than I generally am”) with caution, since it appears to measure experienced unhappiness rather than valuing happiness. The analysis of internal consistency confirmed that this item differs from the others, since dropping it increased the internal consistency from $\alpha = .74$ to $\alpha = .77$. We dropped the item for the investigation of different facets of the scale. Whenever we refer to the complete Valuing Happiness Scale, we used it in the original manner for better comparisons with studies that used the original Valuing Happiness Scale.

Prioritizing Positivity (Catalino et al., 2014) is a scale to measure the explicit pursuit of happiness with six items. The scale was translated into German using the back-translation method (Brislin, 1970). Responses were assessed on a scale ranging from 1 (*disagree completely*) to 9 (*agree completely*). Evidence for its criterion and factorial validity was provided (Catalino et al., 2014).

Perceived expectancies to feel happiness were measured with a scale by Bastian et al. (2012). Different adjectives for emotions can be applied within a placeholder in the items, where we inserted the word ‘unhappy’ (e.g., “When I feel unhappy, I feel like a bad person”). Three dimensions were distinguished: self-evaluation (two items), personal expectancies (five items), and social expectancies (six items). The scale was translated into German using the back-transla-

Table 2.3. *Descriptive statistics and Cronbach's alphas of Study 2a and 2b.*

Scale	M	SD	α
Study 2a			
Happiness Goal Orientations			
Happiness-Related Strivings	3.03	0.73	.73
Happiness-Related Concerns	2.82	0.97	.84
Valuing Happiness Scale			
complete	4.38	1.11	.74
Factor 1	5.03	1.34	.78
Factor 2	3.65	1.30	.50
Prioritizing positivity	5.58	1.58	.81
Perceived expectancies to feel happiness			
self-evaluation	4.28	2.34	.73
personal expectancies	5.33	1.49	.63
social expectancies	5.43	1.55	.73
BAS Drive	2.93	0.79	.78
BAS Fun Seeking	2.73	0.71	.48
BAS Reward Responsiveness	3.20	0.89	.82
BIS	2.92	0.80	.86
Prevention focus	3.87	1.29	.87
Promotion focus	4.70	1.09	.86
Mood repair	2.78	0.69	.89
Mood maintenance	2.95	0.68	.82
Emotion regulation			
reappraisal	4.17	1.25	.86
suppression	3.64	1.37	.80
Extraversion	3.10	1.15	.82
Neuroticism	3.01	1.02	.65
Life satisfaction	4.48	1.47	.90
Positive affect	3.64	0.87	.84
Negative affect	2.54	1.03	.83
Study 2b			
Happiness Goal Orientations			
Happiness-Related Strivings	3.07	0.72	.70
Happiness-Related Concerns	2.56	1.04	.87
Extraversion	3.11	0.75	.53
Neuroticism	2.75	0.91	.70
Life satisfaction	5.15	1.16	.85
Positive affect	3.24	0.67	.87
Negative affect	1.70	0.59	.87
Autonomy	4.24	0.77	.82
Environmental mastery	4.50	0.72	.79
Personal growth	4.61	0.64	.69
Positive relations with others	4.65	0.82	.83
Purpose in life	4.50	0.77	.79
Self-acceptance	4.36	0.84	.85

tion method (Brislin, 1970). Responses were assessed on a scale ranging from 1 (*disagree completely*) to 9 (*agree completely*). Evidence for its criterion and external validity was provided (Bastian et al., 2012).

BIS and BAS were assessed with a scale by Carver and White (1994), using the German version of Strobel et al. (2001). We used only 11 of the 24 items and applied Carver and White's (1994) consideration of four dimensions: BAS Drive (two items), BAS Fun Seeking (two items), BAS Reward Responsiveness (two items), and BIS (five items).

Responses were collected on a scale ranging from 1 (*strong agreement*) to 4 (*strong disagreement*). All items were inverted such that a higher value represents a stronger agreement. Previous studies demonstrated the convergent, discriminant, and criterion

validity of this scale (Carver & White, 1994; McMahan & Estes, 2011; Nikitin & Freund, 2010).

Promotion and prevention focus were measured with a scale by Lockwood et al. (2002) to assess individual motivations, strategies, and goals. The German version (Dopp, 2013) was adapted by adjusting the context-specific wording to general motivations in life. The prevention subscale includes eight items and the promotion subscale includes nine items. Responses were assessed on a scale ranging from 1 (*disagree completely*) to 7 (*agree completely*). Previous studies demonstrated the criterion validity of this scale (Dopp, 2013; Lockwood et al., 2002).

Mood regulation describes the ability to control one's mood states and was measured by the scale by Lischetzke and Eid (2003). Two different effective strategies are distinguished: mood repair (six items) and mood maintenance (five items). Responses were assessed on a scale ranging from 1 (*almost never*) to 4 (*almost always*). Evidence for its convergent validity was provided (Lischetzke & Eid, 2003).

Habitual use of emotion regulation strategies was measured with the questionnaire by Gross and John (2003), using the German version of Abler and Kessler (2009). Two strategies to regulate negative emotional experiences were distinguished: reappraisal (six items) and suppression (four items). Responses were assessed on a scale ranging from 1 (*disagree completely*) to 7 (*agree completely*). Previous studies demonstrated the convergent, discriminant, and criterion validity of this scale (Abler & Kessler, 2009; Gross & John, 2003).

To control for data quality, we included one dichotomous item for self-assessment of data quality (see Study 1) and two instructed-response items (e.g., "To assess data quality, please choose response option no. 2"; see (Meade & Craig, 2012).

Measures assessed only in Sample 2b. PWB was measured with a short version of Ryff's scale (1989), using the German version of Risch et al. (2005). The scale distinguishes six facets of positive psychological functioning: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance, which are each measured with nine items. Responses were assessed on a scale ranging from 1 (*strongly agree*) to 6 (*strongly disagree*). Evidence for its convergent validity was provided (Ryff, 1989).

2.6.2. Results

2.6.2.1. Factor Structure and Final Version of the Happiness Goal Orientations Scale

Confirmatory factor analyses were conducted in the R environment (R Development Core Team, 2008) using the package *lavaan* (Rosseel, 2012)⁸. The factor structure and the final version of HGO were determined by simultaneous considerations of the results of both samples. We used both Maximum Likelihood (ML) and Weighted Least Squares Mean and Variance Adjusted (WLSMV) estimation. ML is characterized by attractive statistical properties and the assumption of continuous indicators (Li, 2016), whereas WLSMV was designed for ordered-categorical data and makes fewer assumptions than ML (Lubke & Muthén, 2004; Muthén & Asparouhov, 2002). WLSMV is particularly recommended if the number of response categories is less than five (Beauducel & Herzberg, 2006; Dolan, 1994). Both methods have their benefits and limitations. For example, ML performs better regarding differences in approximate fit indices for model comparisons and the estimation of interfactor correlations, whereas WLSMV is more accurate in the estimation of factor loadings (Beauducel & Herzberg, 2006; Distefano, 2002; Li, 2016; Sass et al., 2014). For these reasons, we considered the results of both estimation methods but prioritized the results of ML for model comparisons (for an overview of CFA results using ML see Table 2.4; for the results using WLSMV see Table 2.5).

For the interpretation of model fit, we considered RMSEA and its 90% confidence interval, which should be $\leq .05$ for a good fit and $< .08$ for an acceptable fit (Browne & Cudeck, 1992; Steiger, 1990), SRMR, which should be $< .05$ for a good fit and $< .10$ for an acceptable fit (Hu & Bentler, 1995), WRMR, which should be < 1.00 for a good fit (DiStefano et al., 2018), and CFI, which should be $> .97$ for a good fit and $> .95$ for an acceptable fit (Bentler, 1990). Since the two- and the three-factor models were not nested, we used AIC and BIC (Akaike, 1998; Schwarz, 1978) for model comparisons, where a smaller value indicates a better fit. The results were mostly consistent across the two samples.

⁸ To reproduce our results, all data files and R-codes can be found online: <https://osf.io/dg83m>

Item No.	Study 2a:			Study 2a:			Study 2b:		
	Two-Factor Model			Three-Factor Model			Two-Factor Model		
	Factor 1	Factor 2		Factor 1	Factor 2	Factor 3	Factor 1	Factor 2	Factor 3
CFI		.92						.91	
TLI		.89						.88	
RMSEA		.09						.09	
[90% CI]		[.07; .10]						[.07; .11]	
SRMR		.07						.08	
Fit statistics after consideration of correlations within factors									
χ^2 (df)		97.31 (29)						63.53 (29)	
AIC		13 034.22						6 877.45	
BIC		13 141.74						6 968.16	
CFI		.95						.96	
TLI		.93						.93	
RMSEA		.07						.07	
[90% CI]		[.06; .09]						[.05; .09]	
SRMR		.07						.07	

Notes. df = degrees of freedom. CI = confidence interval.

Table 2.5. Standardized factor loadings in confirmatory factor analyses of Studies 2a and 2b using Weighted Least Squares Mean and Variance Adjusted estimation, interfactor correlations, explained variances, and fit statistics.

Item No.	Study 2a:			Study 2a:			Study 2b:					
	Two-Factor Model			Three-Factor Model			Two-Factor Model			Three-Factor Model		
	Factor 1	Factor 2		Factor 1	Factor 2	Factor 3	Factor 1	Factor 2	Factor 1	Factor 2	Factor 3	
4	.66				.74		.68				.76	
15	.66			.67			.80		.82			
14	.68				.76		.77				.87	
3	.73			.75			.79		.79			
18	.84			.85			.84		.84			
13	.85			.86			.87		.88			
7		.38			.38			.50		.53		
9		.47			.48			.49		.51		
26		.54				.46		.40			.35	
27		.62			.64			.49		.49		
23		.66			.68			.69		.72		
19		.70			.71			.52		.53		
5		.74			.73			.71		.67		
10												
Correlation with factor 1	-	.39		-	.39	.77	-	.22	-	.21	.79	
Correlation with factor 2	-	-		-	-	.40	-	-	-	-	.13	
Fit statistics of the original models												
χ^2 (df)	502.95 (64)			664.82 (62)			314.51 (64)			286.01 (62)		
CFI	.90			.86			.91			.92		
TLI	.88			.83			.88			.89		
RMSEA	.12			.15			.13			.12		
[90% CI]	[.12; .13]			[.14; .16]			[.11; .14]			[.11; .14]		
WRMR	1.88			2.11			1.57			1.46		
Fit statistics after exclusion of Items 4, 26, and 27												
χ^2 (df)	238.75 (34)						140.25 (34)					
CFI	.94									.95		

Item No.	Study 2a:			Study 2b:		
	Two-Factor Model	Three-Factor Model	Three-Factor Model	Two-Factor Model	Three-Factor Model	Three-Factor Model
TLI	Factor 1	Factor 2	Factor 3	Factor 1	Factor 2	Factor 3
RMSEA	.92			.94		
[90% CI]	.11			.11		
WRMR	[.10; .13]			[.10; .13]		
	1.54			1.22		
Fit statistics after consideration of correlations within factors						
χ^2 (df)	177.28 (29)			103.19 (29)		
CFI	.96			.97		
TLI	.93			.95		
RMSEA	.11			.10		
[90% CI]	[.09; .12]			[.08; .13]		
WRMR	1.30			1.05		
Notes. df = degrees of freedom. CI = confidence interval.						

In a first step, we tested whether the two-factor solution or the three-factor solution provided a better fit to the data. The parsimonious model contained two latent factors measured by six (anxiety, worries, and focus on threat) and seven (goals, efforts, and activity) indicators. The complex model contained three latent factors measured by four (anxiety & worries), six (goals, efforts, and activity), and three (focus on threat) indicators. In Sample 2a, AIC did not differ considerably between the models (two-factor model AIC = 17,003.41; three-factor model AIC = 17,002.13), whereas BIC indicated a better fit for the two-factor model (BIC = 17,115.07) than for the three-factor model (BIC = 17,122.06). In Sample 2b, both criteria indicated a better fit for the three-factor model (AIC = 8,990.82; BIC = 9,092.00) than the two-factor model (AIC = 9,033.38; BIC = 9,127.58). The fit statistics were not optimal for both solutions, with slightly better indices for the two-factor model in Sample 2a, and slightly better indices for the three-factor model in Sample 2b when using ML estimation. When using WSLMV estimation, the fit indices were better for the two-factor model in Sample 2a and equivalent in Sample 2b. Altogether, the results regarding the best factor solution were ambivalent.

Statistical models are mathematical approaches and no accurate representations of reality, hence it is necessary to take different criteria into account when choosing the most appropriate model (MacCallum, 2003; Schermelleh-Engel et al., 2003). We decided to prefer the two-factor solution since it is more parsimonious. Additionally, the third factor (focus on threat) of the three-factor model showed several weaknesses in both samples, like high correlations with the first factor, weak loadings of Item 26, and a lower internal consistency than the other factors. The sample size should also be considered for model comparisons. Simple models usually fit better in smaller samples, whereas in larger samples, irrelevant specifications of more complex models tend to become significant (Browne & Cudeck, 1992; MacCallum, 2003; Schermelleh-Engel et al., 2003). Since the larger Sample 2a suggested that the simple model should be preferred, we can assume with some confidence that this model approaches reality better than the complex model. We labeled the two factors as *Happiness-Related Strivings*, which represents the propensity to move actively and persistently toward the desired level of happiness, and *Happiness-Related Concerns*, which represents the propensity to worry about and to focus on threats to one's level of happiness.

In the next step, we excluded single items on basis of empirical criteria to reach a final version of HGO with five items for each of the two subscales⁹. For this, we considered both fit statistics after exclusion of single items and how the exclusion would affect the reliability of the scales. We decided to remove Items 4, 26, and 27. Item 4 indicated the weakest loadings for the subscale Happiness-Related Concerns in both samples (2a $\lambda = .57$; 2b $\lambda = .59$). Its removal affected the model fit positively (2a $\text{AIC}_{\text{diff}} = -1\,317.81$, $\text{BIC}_{\text{diff}} = -1\,326.08$; 2b $\text{AIC}_{\text{diff}} = -675.02$, $\text{BIC}_{\text{diff}} = -681.99$) and had only a minor negative (2a $\alpha_{\text{diff}} = -.01$) or no effect (2b) on the internal consistency. Next, we removed Item 26 from the subscale Happiness-Related Strivings because it had weak loadings in both samples (2a $\lambda = .50$; 2b $\lambda = .26$). Its removal affected the model fit positively (2a $\text{AIC}_{\text{diff}} = -1\,287.56$, $\text{BIC}_{\text{diff}} = -1\,295.83$; 2b $\text{AIC}_{\text{diff}} = -738.00$, $\text{BIC}_{\text{diff}} = -744.98$) and had only a minor negative or a positive effect on the internal consistency (2a $\alpha_{\text{diff}} = -.02$; 2b $\alpha_{\text{diff}} = .02$). Finally, we removed Item 27 from the subscale Happiness-Related Strivings because it had weak loadings in both samples (2a $\lambda = .53$; 2b $\lambda = .44$). Its removal affected the model fit positively (2a $\text{AIC}_{\text{diff}} = -1\,323.71$, $\text{BIC}_{\text{diff}} = -1\,331.98$; 2b $\text{AIC}_{\text{diff}} = -710.88$, $\text{BIC}_{\text{diff}} = -717.86$) and had only a minor negative effect on the internal consistency (2a $\alpha_{\text{diff}} = -.01$; 2b $\alpha_{\text{diff}} = -.02$)¹⁰. Overall, these characteristics were similar when using WLSMV estimation.

In a final step, we tested various modifications of the model by allowing indicators to correlate within the two factors. In the best possible solution, we allowed Item 13 and Item 14 to correlate with Item 15 for Happiness-Related Concerns. We also allowed Item 5 and Item 23 to correlate with Item 19, and Item 7 to correlate with Item 9 for Happiness-Related Strivings. The fit statistics of the final version were acceptable when using ML estimation (2a $\chi^2(29) = 97.31$; CFI = .95; RMSEA = .07; 90% CI [.06; .09]; SRMR = .07; 2b $\chi^2(29) = 63.53$; CFI = .96; RMSEA = .07; 90% CI [.05; .09]; SRMR = .07) and slightly worse when using WLSMV estimation (2a $\chi^2(29) = 177.28$; CFI = .96; RMSEA = .11; 90% CI [.09; .12]; WRMR = 1.30; 2b $\chi^2(29) = 103.19$; CFI = .97; RMSEA = .10; 90% CI [.08; .13]; WRMR = 1.05).

The final items are shown in the Appendix. Psychometric properties of the final version of the measure were $M = 2.82$, $SD = 0.97$, $\alpha = .84$ (Study 2a) and $M = 2.56$, $SD = 1.04$, $\alpha = .87$ (Study 2b) for Happiness-Related Concerns and $M = 3.03$, $SD = 0.73$, $\alpha = .73$ (Study 2a) and $M = 3.07$,

⁹ Figures of the item distributions can be found in the online materials: <https://osf.io/dg83m>

¹⁰ Due to rather weak loadings and the potential to increase model fit we also considered excluding Items 7 or 9. We decided to keep these items, since their exclusion would have had a greater negative impact on the internal consistency (between $\alpha_{\text{diff}} = -.02$ and $\alpha_{\text{diff}} = -.05$) than the removal of Item 27.

$SD = 0.72$, $\alpha = .70$ (Study 2b) for Happiness-Related Strivings. The correlation between the scales was $r = .20$ (2a) and $r = .09$ (2b). Happiness-Related Concerns correlated significantly with age (2a $r = -.20$; 2b $r = -.33$), but Happiness-Related Strivings did not (2a $r = -.08$; 2b $r = -.09$). In Study 2a, male participants reported significantly lower Happiness-Related Concerns than female participants ($F(1,457) = 5.89$, $p = .016$, $M_{diff} = -0.25$). No significant gender differences could be found for Happiness-Related Strivings ($F(1,457) = 3.84$, $p = .051$, $M_{diff} = -0.15$). In Study 2b, no significant gender differences could be found for both Happiness-Related Concerns ($F(1,238) = 1.13$, $p = .289$, $M_{diff} = -0.17$) and Happiness-Related Strivings ($F(1,238) = 0.25$, $p = .617$, $M_{diff} = -0.06$).

2.6.2.2. *Validity of the Happiness Goal Orientations Scale*

To investigate the construct validity of HGO, we examined correlations between the HGO subscales and related constructs. Generally, the correlation patterns were as expected and consistent with our expectations: Approach-related constructs and a focus on positivity correlated positively with Happiness-Related Strivings (e.g., prioritizing positivity $r = .41$, promotion focus $r = .37$, emotion regulation reappraisal $r = .25$), whereas avoidance-related constructs and a focus on anxiety correlated positively with Happiness-Related Concerns (e.g., prevention focus $r = .72$, neuroticism $r = .54$, BIS $r = .24$). Happiness-Related Concerns were associated with poor abilities to regulate one's moods and emotions (e.g., mood repair $r = -.58$) and perceived social expectancies regarding the own level of happiness ($r = .36$). Happiness-Related Strivings correlated not as strongly and consistently with abilities to regulate one's moods and emotions (e.g., mood maintenance $r = .12$) and with personal expectancies regarding the own level of happiness ($r = .28$) but not with perceived social expectancies regarding the own level of happiness ($r = .05$; see Table 2.6).

Following the suggestions by Luhmann et al. (2016), we considered associations with a multidimensional version of the Valuing Happiness Scale. For this, we compared three possible model solutions of the Valuing Happiness Scale, which revealed that a two-factor model is most appropriate. Factor 1 represented an emphasis on the importance of happiness in life, whereas Factor 2 represented happiness-related anxieties and worries. Only the second factor correlated significantly with Happiness-Related Concerns, $r = .31$, whereas both factors correlated significantly with Happiness-Related Strivings, $r = .33$ and $r = .30$.

Table 2.6. *Bivariate correlations of Study 2a.*

	Happiness-Related Strivings	Happiness-Related Concerns
Happiness-Related Strivings	-	.20***
Valuing Happiness Scale		
complete	.35***	.34***
Factor 1	.33***	.08
Factor 2	.30***	.31***
Prioritizing positivity	.41***	.06
Perceived expectancies to feel happiness		
self-evaluation	.08	.48***
personal expectancies	.28***	.10*
social expectancies	.05	.36***
BAS drive	.20***	-.13**
BAS reward responsiveness	.11*	-.13**
BAS fun seeking	.03	-.13**
BIS	.11*	.24***
Prevention focus	.11*	.72***
Promotion focus	.37***	.08
Mood repair	.08	-.58***
Mood maintenance	.12*	-.45***
Emotion regulation		
reappraisal	.25***	-.23***
suppression	>-.01	.22***
Extraversion	.15**	-.28***
Neuroticism	.02	.54***
Life satisfaction	.12**	-.43***
Positive affect	.11*	-.44***
Negative affect	>-.01	.48***
Age	-.08	-.20***
Gender	-.09	-.11

Notes. * $p < .05$. ** $p < .01$. *** $p < .001$. Female participants were coded with 0, male participants were coded with 1. The complete correlation matrix can be found in the online materials: <https://osf.io/e8ubf/>

of HGO, since the significant predictors of Happiness-Related Strivings were approach-related constructs and a focus on positivity, whereas the significant predictors of Happiness-Related Concerns were avoidance-related constructs, anxiety, and poor mood regulation abilities.

2.6.2.3. *Happiness Goal Orientations and Subjective Well-Being*

To resolve disagreements in the literature regarding the relations of HGO-related constructs and well-being, we computed hierarchical multiple regressions for each of the three SWB facets being predicted by the two HGO subscales in both samples, controlling for age and gender (Study 2a: Table 2.8; Study 2b: Table 2.10). The variance inflation factor indicated no problems with multicollinearity for all analyses described below. Variables in the regression analyses differed in measurement scale length and were all standardized (except age and gender) for better interpretability and better comparability between the effect sizes of different regression models and studies throughout this article (Hunter & Hamilton, 2002). The directions of the effects corresponded with the bivariate correlations (Study 2a: Table 2.6; Study 2b: Table 2.9). Happiness-Related Concerns were a negative predictor for life satisfaction and positive affect, and a positive predictor for negative affect across both samples. The effects for Happiness-Related Strivings were in the opposite direction, generally smaller, and in most cases not significant for negative affect. These results confirmed our predictions.

To provide evidence for the incremental validity of the HGO Scale, we added the two factors of the Valuing Happiness Scale in the model (Sample 2a only). The direction of the effects corresponded with the HGO Scale: Valuing Happiness Factor 1 was a positive predictor of life satisfaction and positive affect, whereas Factor 2 was a negative predictor of positive affect. Both Valuing Happiness factors were no significant predictors of negative affect. Controlling for Valuing Happiness only slightly decreased the predictive utility of HGO. Overall, the predictive utility was greater for the HGO in comparison to the Valuing Happiness factors.

Next, we added extraversion and neuroticism as control variables, which decreased the predictive utility of HGO: In Sample 2a, the regression coefficients of the HGO dimensions decreased but remained significant for all SWB facets, except for the association between Happiness-Related Strivings and negative affect. For the Valuing Happiness Scale, adding extraversion and neuroticism hardly affected Factor 1, whereas Factor 2 was no longer significant for no well-being outcome. In Sample 2b, Happiness-Related Strivings remained a significant predictor of positive

affect and Happiness-Related Concerns remained a significant predictor of life satisfaction, whereas the HGO dimensions were no longer significantly associated with facets of SWB.

2.6.2.4. Happiness Goal Orientations and Psychological Well-Being

Hierarchical multiple regressions for each of the six PWB facets as criteria and the two HGO subscales as predictors, controlling for age and gender, revealed that Happiness-Related Strivings were a positive predictor, whereas Happiness-Related Concerns were a negative predictor of PWB (Table 2.11). In contrast to the bivariate correlations of Happiness-Related Strivings (Table 2.9), both predictors were significantly associated with all PWB facets. These results confirmed our predictions.

Finally, we added extraversion and neuroticism as control variables, which decreased the associations between HGO and PWB: Happiness-Related Strivings remained a significant predictor for three facets. For Happiness-Related Concerns, the predictive power of the HGO dimensions remained significant but decreased considerably for most of the PWB facets. Only for personal growth, the regression coefficient was similar to the model without extraversion and neuroticism. The variance inflation factor indicated no problems with multicollinearity for all analyses described in this section. As for the multiple regressions predicting SWB, all variables except age and gender were standardized.

2.6.3. Discussion

The main purpose of Studies 2a and 2b was to identify the factorial structure of the HGO Scale and to determine the final version of the scale. Overall, the results favored the two-factor model and demonstrated its good psychometric properties. Further, we provided evidence for the construct validity of HGO: Happiness-Related Strivings were particularly associated with approach-related constructs and a focus on positivity, whereas Happiness-Related Concerns were particularly associated with avoidance-related constructs, anxiety, and poor mood regulation abilities. These studies also showed that the HGO dimensions were differentially related to well-being: Happiness-Related Strivings were positively associated with SWB and PWB, whereas Happiness-Related Concerns were negatively associated with SWB and PWB. This result highlights the importance of considering HGO as a multidimensional construct.

Table 2.8. Hierarchical multiple regression results of Study 2a for Happiness Goal Orientation dimensions predicting subjective well-being, controlling for age and gender, Valuing Happiness factors, extraversion, and neuroticism.

	Value	Life Satisfaction	Positive Affect	Negative Affect
Model 1 (df = 454)	R^2	.01	< .01	.04***
Age	β	< .01	> .01	-.01**
	95% CI	-.01, .01	-.01, .01	-.02, > .01
Gender: male	β	-.23*	-.04	-.24*
	95% CI	-.44, -.02	-.25, .17	-.44, -.03
Model 2 (df = 452)	ΔR^2	.24***	.24***	.21***
Age	β	-.01	-.01*	-.01
	95% CI	-.01, < .01	-.02, > -.01	-.01, < .01
Gender: male	β	-.27**	-.09	-.18
	95% CI	-.46, -.09	-.28, .09	-.36, .01
Happiness-Related Strivings	β	.21***	.19***	-.10*
	95% CI	.13, .29	.11, .27	-.19, -.02
Happiness-Related Concerns	β	-.50***	-.50***	.48***
	95% CI	-.58, -.42	-.59, -.42	.40, .56
Model 3 (df = 450)	ΔR^2	.02**	.03***	< .01
Age	β	-.01	-.01*	-.01
	95% CI	-.01, < .01	-.02, > -.01	-.01, < .01
Gender: male	β	-.22*	-.03	-.20*
	95% CI	-.40, -.04	-.26, .15	-.39, -.01
Happiness-Related Strivings	β	.17***	.15***	-.10*
	95% CI	.09, .26	.06, .23	-.19, -.01
Happiness-Related Concerns	β	-.48***	-.47***	.46***
	95% CI	-.56, -.39	-.56, -.39	.37, .55
Valuing Happiness Factor 1	β	.19***	.22***	-.06
	95% CI	.09, .29	.12, .32	-.16, .04
Valuing Happiness Factor 2	β	-.10	-.12*	.07
	95% CI	-.20, .00	-.22, -.01	-.04, .17
Model 4 (df = 448)	ΔR^2	.05***	.04***	.04***
Age	β	-.01	-.01*	-.01
	95% CI	-.01, < .01	-.02, > -.01	-.01, < .01
Gender: male	β	-.28**	-.08	-.10
	95% CI	-.46, -.10	-.27, .10	-.29, .09
Happiness-Related Strivings	β	.12**	.10*	-.07
	95% CI	.04, .21	.02, .19	-.15, .02
Happiness-Related Concerns	β	-.35***	-.37***	.34***
	95% CI	-.44, -.25	-.46, -.27	.24, .44
Valuing Happiness Factor 1	β	.17***	.20***	-.06
	95% CI	.07, .26	.11, .30	-.16, .05

	Value	Life Satisfaction	Positive Affect	Negative Affect
Valuing Happiness Factor 2	β	-.08	-.10	.05
	95% CI	-.18, .02	-.20, < .01	-.06, .15
Extraversion	β	.18***	.14**	-.04
	95% CI	.09, .26	.05, .23	-.13, .05
Neuroticism	β	-.14**	-.12*	.22***
	95% CI	-.24, -.04	-.22, -.02	.12, .32

Notes. * $p < .05$. ** $p < .01$. *** $p < .001$. df = degrees of freedom. CI = confidence interval. We entered age and gender in the first step (Model 1), Happiness Goal Orientations in the second step (Model 2), Valuing Happiness factors in the third step (Model 3), and extraversion and neuroticism in the fourth step (Model 4). Female participants indicate the reference group. All variables except age and gender are standardized.

Table 2.9. *Bivariate correlations of Study 2b.*

	Happiness-Related Strivings	Happiness-Related Concerns
Happiness-Related Strivings	-	.09
Extraversion	.16*	-.32***
Neuroticism	-.08	.64***
Life satisfaction	.15*	-.41***
Positive affect	.26***	-.31***
Negative affect	-.02	.39***
Autonomy	.07	-.50***
Environmental mastery	.10	-.51***
Personal growth	.22***	-.33***
Positive relations with others	.09	-.40***
Purpose in life	.19**	-.39***
Self-acceptance	.24***	-.59***
Age	-.09	-.33***
Gender	-.03	-.07

Notes. * $p < .05$. ** $p < .01$. *** $p < .001$. Female participants were coded with 0, male participants were coded with 1. The complete correlation matrix can be found in the online materials: <https://osf.io/e8ubf/>

Table 2.10. Hierarchical multiple regression results of Study 2b for Happiness Goal Orientation dimensions predicting subjective well-being, controlling for age and gender, extraversion, and neuroticism.

	Value	Life Satisfaction	Positive Affect	Negative Affect
Model 1 (df = 225)	R^2	< .01	.02	.01
Age	β	-.01	.01	-.01
	95% CI	-.01, .01	> -.01, .02	-.02, < .01
Gender: male	β	-.01	.01	.13
	95% CI	-.32, .30	-.30, .32	-.18, .43
Model 2 (df = 223)	ΔR^2	.27***	.18***	.14***
Age	β	-.02***	< .01	< .01
	95% CI	-.03, -.01	-.01, .01	-.01, .01
Gender: male	β	-.05	< .01	.16
	95% CI	-.31, .22	-.28, .28	-.13, .44
Happiness-Related Strivings	β	.17**	.30***	-.08
	95% CI	.05, .28	.18, .42	-.20, .05
Happiness-Related Concerns	β	-.53***	-.34***	.40***
	95% CI	-.65, -.41	-.47, -.22	.27, .52
Model 3 (df = 221)	ΔR^2	.11***	.12***	.10***
Age	β	-.01***	.01	< .01
	95% CI	-.02, -.01	> -.01, .02	-.01, .01
Gender: male	β	-.12	-.02	.26
	95% CI	-.37, .13	-.28, .24	-.02, .53
Happiness-Related Strivings	β	.07	.21***	.01
	95% CI	-.04, .18	.09, .32	-.11, .13
Happiness-Related Concerns	β	-.24**	-.09	.11
	95% CI	-.39, -.10	-.25, .06	-.05, .27
Extraversion	β	.21***	.31***	-.12
	95% CI	.09, .32	.19, .43	-.25, < .01
Neuroticism	β	-.32***	-.21**	.37***
	95% CI	-.47, -.18	-.36, -.06	.21, .53

Notes. * $p < .05$. ** $p < .01$. *** $p < .001$. df = degrees of freedom. CI = confidence interval. We entered age and gender in the first step (Model 1), Happiness Goal Orientations in the second step (Model 2), and extraversion and neuroticism in the third step (Model 3). Female participants indicate the reference group. All variables except age and gender are standardized.

Table 2.11. Hierarchical multiple regression results of Study 2b for Happiness Goal Orientations dimensions predicting psychological well-being, controlling for age and gender, extraversion, and neuroticism.

	Value	Autonomy	Environmental mastery	Personal growth	Positive relations	Purpose in life	Self-acceptance
Model 1 (df = 222)	R ²	.07**	.05**	.02	.02	< .01	.01
Age	β	.02***	.02**	-.01	.01	> .01	.01
Gender: male	95% CI	.01, .03	.01, .03	-.02, < .01	> -.01, .02	-.01, .01	> -.01, .02
	β	.21	.03	-.26	-.19	-.14	.08
	95% CI	-.09, .51	-.27, .34	-.57, .04	-.50, .12	-.45, .17	-.23, .39
Model 2 (df = 220)	ΔR ²	.21***	.27***	.21***	.19***	.23***	.45***
Age	β	.01	.01	-.01**	> .01	-.01*	-.01
Gender: male	95% CI	> -.01, .02	> -.01, .01	-.02, -.01	-.01, .01	-.02, > .01	-.01, > .01
	β	.17	-.01	-.29*	-.23	-.17	.03
Happiness-Related Strivings	95% CI	-.10, .44	-.27, .25	-.56, -.01	-.51, .05	-.44, .10	-.20, .26
	β	.15*	.19**	.26***	.14*	.22***	.31***
Happiness-Related Concerns	95% CI	.03, .26	.08, .30	.14, .37	.02, .26	.10, .33	.22, .41
	β	-.46***	-.52***	-.42***	-.45***	-.47***	-.65***
	95% CI	-.58, -.34	-.64, -.41	-.54, -.30	-.57, -.32	-.59, -.35	-.75, -.54
Model 3 (df = 218)	ΔR ²	.08***	.13***	.02	.06***	.14***	.16***
Age	β	.01*	.01	-.01**	> .01	-.01	> .01
Gender: male	95% CI	< .01, .02	> -.01, .02	-.02, > -.01	-.01, .01	-.01, < .01	-.01, < .01
	β	.08	-.09	-.27	-.28*	-.14	-.04
Happiness-Related Strivings	95% CI	-.18, .34	-.33, .15	-.54, .01	-.56, -.01	-.40, .12	-.24, .16
	β	.07	.08	.23***	.07	.13*	.20***
Happiness-Related Concerns	95% CI	-.04, .18	-.02, .18	.11, .35	-.05, .19	.02, .24	.11, .29
	β	-.21**	-.20**	-.36***	-.24**	-.28***	-.31***
Extraversion	95% CI	-.36, -.06	-.34, -.07	-.53, -.20	-.40, -.08	-.43, -.13	-.43, .19
	β	.12*	.23***	.15*	.15*	.39***	.28***
	95% CI	.01, .24	.12, .34	.02, .28	.02, .28	.27, .50	.19, .37

	Value	Autonomy	Environmental mastery	Personal growth	Positive relations	Purpose in life	Self-acceptance
Neuroticism	β	-.32***	-.36***	> -.01	-.24**	-.08	-.36***
	95% CI	-.47, -.18	-.50, -.23	-.16, .16	-.39, -.08	-.23, .06	-.47, -.24

Notes. * $p < .05$. ** $p < .01$. *** $p < .001$. df = degrees of freedom. CI = confidence interval. We entered age and gender in the first step (Model 1), Happiness Goal Orientations in the second step (Model 2), and extraversion and neuroticism in the third step (Model 3). Female participants indicate the reference group. All variables except age and gender are standardized.

2.7. Study 3

The goal of Study 3 was to replicate the results of Studies 2a and 2b regarding the model fit of the HGO scale and its associations with well-being. To provide further evidence of the construct validity of the HGO scale, we also investigated relations between the HGO dimensions with happiness definitions, orientations to a happy life, and intentions to pursue specific happiness definitions in everyday life.

In the past, happiness has been defined in many different ways (for overviews see Intelisano et al., 2019; Kesebir & Diener, 2008; Tov, 2018) and people differ regarding the specific definitions they endorse and consider as important and necessary ingredients of happiness (Krasko et al., 2022; McMahan & Estes, 2011; Peterson et al., 2005). Most prominently, happiness has been defined as the experience of joy or pleasure, the absence of negative emotions or experiences, continuous development of oneself, and as belonging or contribution to a social circle (Krasko et al., 2022; McMahan & Estes, 2011). Other happiness definitions include tranquility, a sense of purpose, and luck (Krasko et al., 2022). How people define happiness for themselves differs from the specific aspects of happiness people actually pursue in everyday life (Krasko et al., 2022). For this reason, it is important to assess happiness definitions separately from intentions to pursue specific happiness definitions. In this study, we investigated the relations between HGO and both individual differences in happiness definitions and intentions to pursue specific happiness definitions in everyday life.

We preregistered¹¹ the expectation that Happiness-Related Strivings would be positively associated with defining happiness as positive attitude and personal development, as well as with the intention to pursue these happiness definitions in everyday life. Further, we expected that Happiness-Related Concerns would be positively associated with defining happiness as the absence of negativity and negatively associated with defining happiness as personal development. We expected the same associations regarding intentions to pursue these happiness definitions in everyday life.

¹¹ As soon as the corresponding article is publicly available, the preregistration will also be publicly available following this link: <https://osf.io/apjgm/>. Please note that we refer to outdated labels for the scales in the preregistration (Significance of Happiness instead of Happiness Goal Orientations; Active Pursuit of Happiness instead of Happiness-Related Strivings; Unhappiness as Threat instead of Happiness-Related Concerns; openness for development instead of personal development).

The reported variables and results are part of a preregistered study with a different main focus and different goals (Krasko et al., 2022). Therefore, we report only the methods, variables, and results relevant for HGO in this article.

2.7.1. *Methods*

2.7.1.1. *Participants and Procedure*

For data collection, we used the online survey software Qualtrics. Data was collected in November 2017. Participants were recruited through different German online and offline sources (e.g., mailing lists, Facebook groups, flyers on the campus). Student participants received course credit for their participation. All participants could participate in a lottery of Amazon vouchers worth 600€ in total. Informed consent was obtained from all participants included in the study. First, different scales were presented in a randomized order. Items within the scales were also randomized. At the end of the survey, we presented some basic demographic questions. We collected responses from 334 participants and excluded four cases on basis of an item for the self-assessment of data quality and 22 cases due to missing values or failed responses to two instructed response items. After these exclusions, the final sample size was $N = 279$, which is appropriate for stable estimates of correlations (Schönbrodt & Perugini, 2013) and the conduction of confirmatory factor analyses (Barrett, 2007; Wolf et al., 2013). The age ranged from 18 to 80 ($M = 25.88$, $SD = 7.75$), 84.6% of the sample was female, 88.2% not married, 64.2% in a romantic relationship, 73.9% indicated to have a general higher education entrance qualification (Abitur), 55.6% indicated to have a current student status, 25.1% were employed.

2.7.1.2. *Measures*

We assessed the final version of HGO, life satisfaction, extraversion, and neuroticism with the BFI-2-XS, basic demographics, and items to control for data quality as described in Studies 2a and 2b. We assessed positive and negative affect with the SPANE as in Study 2a. In this Study, however, each facet was measured with six items, and participants were asked to indicate how often they felt a certain affective state during the last four weeks. We assessed PWB as in Study 2b. In this Study, however, each facet was measured with three items. Unless stated otherwise below, responses were collected using a scale ranging from 1 (*disagree strongly*) to 5 (*agree strongly*) and were averaged within scales to create scores. Descriptive statistics and Cronbach's alphas can be found in Table 2.12.

Table 2.12. *Descriptive statistics and Cronbach's alphas of Study 3.*

Scale	<i>M</i>	<i>SD</i>	α
Happiness Goal Orientations			
Happiness-Related Strivings	3.07	0.76	.78
Happiness-Related Concerns	3.08	1.10	.89
Lay Definitions of Happiness			
Positive attitude	4.82	0.92	.76
Tranquility	4.73	0.97	.74
Joy and desires	4.42	0.89	.71
Absence of negativity	4.01	1.26	.83
Personal development	4.43	0.99	.72
Purpose	4.18	1.08	.72
Belonging	4.67	1.09	.84
Luck	3.78	1.32	.87
Intentions to pursue Happiness			
Positive attitude	4.49	1.02	.81
Tranquility	4.56	0.91	.76
Joy and desires	4.43	0.84	.63
Absence of negativity	3.73	1.05	.64
Personal development	4.59	0.94	.71
Purpose	4.09	1.02	.67
Belonging	4.35	1.04	.78
Luck	3.32	1.23	.81
Beliefs About Well-Being			
Experience of pleasure	4.04	0.65	.74
Avoidance of negative experiences	2.47	1.10	.94
Self-Development	3.92	0.69	.74
Contribution to others	3.41	0.86	.84
Orientations to Happiness			
Pleasure	3.40	0.65	.67
Engagement	2.87	0.63	.61
Meaning	2.78	0.77	.76
Extraversion	2.91	0.83	.61
Neuroticism	3.22	0.96	.74
Life satisfaction	3.26	0.95	.86
Positive affect	3.46	0.75	.90
Negative affect	2.70	0.80	.85
Autonomy	3.63	0.84	.66
Environmental mastery	3.55	0.79	.57
Personal growth	4.16	0.71	.65
Positive relations with others	3.56	0.91	.57
Purpose in life	3.87	0.69	.33
Self-acceptance	3.51	0.98	.78

Happiness definitions and intentions to pursue happiness were assessed with the CoDI Scales (Krasko et al., 2022). This tool provides two parallel scales to measure different lay definitions of happiness as well as intentions to pursue these happiness definitions in everyday life, respectively. Both scales consist of eight factors (positive attitude, tranquility, joy and desires, absence of negativity, personal development, purpose, belonging, and luck), each measured with three items. The items were phrased as a completion of a specific item stem, which is “For me personally, happiness means...” (e.g., “...to be connected to others of the own community”) for happiness definitions and “In daily life, I try...” (e.g., “...to be connected to others of my community”) for intentions to pursue happiness. Responses were collected using asymmetric scale labels with one level for true rejection (1 = *does not apply*) and five levels indicating different nuances of agreement (from 2 = *applies hardly* to 6 = *applies completely*).

Evidence for the convergent, discriminant, factorial, and criterion validity of the scales was provided (Krasko et al., 2022).

The 16-item Beliefs About Well-Being Scale of McMahan and Estes (2011) was used to assess the extent to which people agree with four different lay definitions of happiness: The experience of pleasure, the avoidance of negative experiences, self-development, and contribution to others. The scale was translated into German using the back-translation method (Brislin, 1970). Previous studies demonstrated the convergent, discriminant, criterion, and factorial validity of this scale (Krasko et al., 2022; McMahan & Estes, 2011).

The Orientations to Happiness Scale of Peterson et al. (2005) assesses people's orientations to pleasure, engagement, and meaning in life with six items each. The German version was provided by Ruch et al. (2010). Previous studies demonstrated the convergent, criterion, and factorial validity of this scale (McMahan & Estes, 2011; Peterson et al., 2005; Ruch et al., 2010).

2.7.2. Results

2.7.2.1. Model Fit and Psychometric Properties of the Happiness Goal Orientations Scale

To investigate the model fit of the final HGO scale, we applied the same approaches and criteria as described in Studies 2a and 2b¹². First, we tested the two-factor model with five indicators each using CFA and both ML and WLSMV estimation. Results revealed unsatisfying to acceptable fit statistics for both estimation methods, with $\chi^2(34) = 146.04$; CFI = .91; RMSEA = .11; 90% CI [.09; .13]; SRMR = .07 for ML and $\chi^2(34) = 183.272$; CFI = .96; RMSEA = .13; 90% CI [.11; .14]; WRMR = 1.35 for WLSMV. Allowing indicators to correlate within the two factors as described in Studies 2a and 2b significantly improved the model fit (ML estimation: $\chi^2(5) = 83.14$, $p < .001$; WLSMV estimation using the correction by (Satorra, 2000) $\chi^2(5) = 98.88$, $p < .001$). The final model fit was overall good for both ML estimation ($\chi^2(29) = 62.89$; CFI = .97; RMSEA = .07; 90% CI [.04; .09]; SRMR = .06) and WLSMV estimation ($\chi^2(29) = 105.84$; CFI = .98; RMSEA = .10; 90% CI [.08; .12]; WRMR = 1.00).

Psychometric properties of the measure were $M = 3.08$, $SD = 1.10$, $\alpha = .89$ for Happiness-Related Concerns and $M = 3.07$, $SD = 0.76$, $\alpha = .78$ for Happiness-Related Strivings¹³. The correlation between the scales was $r = .18$. Happiness-Related Concerns correlated significantly with age ($r = -.24$) but Happiness-Related Strivings did not ($r = -.11$). Male participants reported significantly

¹² To reproduce our results, all data files and R-codes can be found online: <https://osf.io/dg83m>

¹³ Figures of the item distributions can be found in the online materials: <https://osf.io/dg83m>

lower Happiness-Related Concerns than female participants ($F(1,275) = 8.86, p = .003, M_{\text{diff}} = -0.55$). No gender differences could be found for Happiness-Related Strivings ($F(1,275) = 1.73, p = .190, M_{\text{diff}} = 0.17$).

2.7.2.2. *Happiness Goal Orientations, Happiness Definitions, and Happiness-related Intentions*

To provide further evidence of construct validity, we examined correlations between the HGO dimensions and happiness definitions as well as intentions to pursue happiness (Table 2.13). Against our expectations, Happiness-Related Strivings correlated not only positively with defining happiness as positive attitude ($r = .14$) and personal development ($r = .21$), but also with various other happiness definitions and orientations to a happy life (e.g., orientation to pleasure $r = .30$, orientation to engagement $r = .22$, defining happiness as having purpose in life $r = .20$). In line with our expectations, Happiness-Related Concerns correlated positively with defining happiness as the absence of negativity ($r = .26$) and negatively, but not significantly, with defining happiness as personal development ($r = -.11$). In contrast to our expectations, the correlation patterns were different for intentions to pursue happiness: Happiness-Related Strivings correlated positively with intentions to pursue most happiness definitions in everyday life (e.g., purpose $r = .40$, positive attitude $r = .20$, personal development $r = .24$, absence of negativity $r = .23$). Happiness-Related Concerns correlated negatively with many intentions to pursue happiness definitions in everyday life (e.g., positive attitude $r = -.45$, tranquility $r = -.27$, personal development $r = -.26$) and it correlated not at all with the intention to pursue the absence of negativity in everyday life ($r = .03$).

2.7.2.3. *Happiness Goal Orientations and Subjective Well-Being*

To replicate the results of Studies 2a and 2b regarding the associations with well-being, we conducted the same analyses as described in these studies. The variance inflation factor indicated no problems with multicollinearity for all analyses described in this section. As for the multiple regressions in Studies 2a and 2b, all variables except age and gender were standardized. For SWB, the directions of the effects of the hierarchical multiple regression analyses (Table 2.14) corresponded with the bivariate correlations (Table 2.13). Happiness-Related Concerns were a negative predictor for life satisfaction and positive affect, and a positive predictor for negative affect. The effects for Happiness-Related Strivings were in the opposite direction to those for Happiness-Related Concerns, generally smaller, and significant for the multiple regression

analysis but not significant for the correlations. Adding extraversion and neuroticism as control variables decreased the predictive utility of HGO, although all predictors remained significant except Happiness-Related Strivings predicting negative affect. These results are in line with the results of Studies 2a and 2b and confirmed our expectations.

2.7.2.4. Happiness Goal Orientations and Psychological Well-Being

Hierarchical multiple regressions for the PWB facets as criteria confirmed the result that Happiness-Related Strivings were a positive predictor, whereas Happiness-Related Concerns were a negative predictor of PWB (Table 2.15). Like in Study 2b, the predictors were significantly associated with most of the PWB facets, although the bivariate correlations of Happiness-Related Strivings were not significant. These results confirmed our predictions. Adding extraversion and neuroticism as control variables decreased the associations between HGO and PWB: Happiness-Related Strivings remained a significant predictor for three facets. For Happiness-Related Concerns, the predictive power of the HGO dimensions remained significant for four PWB facets but decreased considerably for most PWB facets. The variance inflation factor indicated no problems with multicollinearity for all analyses described in this section. As for the multiple regressions predicting SWB, all variables except age and gender were standardized.

2.7.3. Discussion

With this study, we confirmed the results of Studies 2a and 2b regarding the model fit of the HGO scale. Further, we investigated relations between the HGO dimensions with happiness definitions, orientations to a happy life, and intentions to pursue happiness definitions. Although our preregistered expectations for these correlation patterns were not completely met, these results provide evidence for the construct validity of HGO: Happiness-Related Strivings were associated with endorsing a broad range of happiness definitions and also with the intention to pursue these different happiness definitions, including positive things but also the absence of negativity. This highlights that the important feature of Happiness-Related Strivings is whether happiness is approached actively and fearlessly, even if aiming at the prevention of unhappiness in life. Happiness-Related Concerns, however, were associated with defining happiness solely as the absence of negativity and having no intentions to pursue happiness, not even the absence of negativity. Further, we confirmed the results of Studies 2a and 2b by showing that Happiness-Related Strivings were positively associated with SWB and PWB, whereas Happiness-Related

Concerns were negatively associated with SWB and PWB, which again highlights the importance of considering HGO as a multidimensional construct.

Table 2.13. *Bivariate correlations of Study 3.*

	Happiness-Related Strivings	Happiness-Related Concerns
Happiness-Related Strivings	-	.18**
Lay Definitions of Happiness		
Positive attitude	.14*	-.04
Tranquility	.17**	-.01
Joy and desires	.17**	.09
Absence of negativity	.10	.26***
Personal development	.21***	-.11
Purpose	.20***	.09
Belonging	.03	-.01
Luck	.07	.10
Intentions to pursue Happiness		
Positive attitude	.27***	-.45***
Tranquility	.23***	-.27***
Joy and desires	.23***	-.18**
Absence of negativity	.23***	.03
Personal development	.24***	-.26***
Purpose	.40***	-.09
Belonging	.11	-.14*
Luck	.26***	-.02
Beliefs About Well-Being		
Experience of pleasure	.08	.03
Avoidance of negative experiences	.11	.24***
Self-Development	.17**	-.03
Contribution to others	.12*	-.15*
Orientations to Happiness		
Pleasure	.30***	-.04
Engagement	.22***	-.30***
Meaning	.17**	-.08
Extraversion	.13*	-.37***
Neuroticism	.01	.73***
Life satisfaction	.12	-.48***
Positive affect	.12	-.51***
Negative affect	-.03	.64***
Autonomy	.09	-.40***
Environmental mastery	-.01	-.62***
Personal growth	.17**	-.32***
Positive relations with others	.08	-.28***
Purpose in life	>-.01	-.22***
Self-acceptance	.05	-.56***
Age	-.11	-.24***
Gender	.08	-.18***

Notes. * $p < .05$. ** $p < .01$. *** $p < .001$. Female participants were coded with 0, male participants were coded with 1. The complete correlation matrix can be found in the online materials: <https://osf.io/dg83m/>

Table 2.14. Hierarchical multiple regression results of Study 3 for Happiness Goal Orientation dimensions predicting subjective well-being, controlling for age and gender, extraversion, and neuroticism.

	Value	Life Satisfaction	Positive Affect	Negative Affect
Model 1 (df = 274)	R^2	< .01	.01	.04**
Age	β	-.01	> -.01	> -.01
	95% CI	-.02, < .01	-.02, .01	-.01, .01
Gender: male	β	.03	.23	-.51**
	95% CI	-.31, .37	-.10, .57	-.85, -.18
Model 2 (df = 272)	ΔR^2	.30***	.32***	.40***
Age	β	-.02**	-.01*	.01
	95% CI	-.03, -.01	-.03, > -.01	> -.01, .02
Gender: male	β	-.26	-.06	-.21
	95% CI	-.54, .03	-.34, .23	-.47, .04
Happiness-Related Strivings	β	.21***	.21***	-.14**
	95% CI	.11, .31	.11, .31	-.23, -.05
Happiness-Related Concerns	β	-.57***	-.58***	.67***
	95% CI	-.68, -.47	-.69, -.48	.58, .76
Model 3 (df = 270)	ΔR^2	.10***	.13***	.13***
Age	β	-.01	> -.01	> -.01
	95% CI	-.02, < .01	-.02, .01	-.01, .01
Gender: male	β	-.40**	-.22	-.04
	95% CI	-.67, -.13	-.48, .04	-.26, .19
Happiness-Related Strivings	β	.14**	.14**	-.07
	95% CI	.05, .24	.05, .23	-.15, .01
Happiness-Related Concerns	β	-.18*	-.14*	.23***
	95% CI	-.33, -.03	-.29, > -.01	.11, .36
Extraversion	β	.10	.11*	-.04
	95% CI	> -.01, .20	.01, .21	-.13, .04
Neuroticism	β	-.45***	-.52***	.55***
	95% CI	-.60, -.31	-.65, -.38	.43, .67

Notes. * $p < .05$. ** $p < .01$. *** $p < .001$. df = degrees of freedom. CI = confidence interval. We entered age and gender in the first step (Model 1), Happiness Goal Orientations in the second step (Model 2), and extraversion and neuroticism in the third step (Model 3). Female participants indicate the reference group. All variables except age and gender are standardized.

2.1. General Discussion

In this article, we presented four studies in which we developed and validated a multidimensional measure of HGO and applied this scale to reevaluate and integrate existing findings on the relations between HGO and well-being. We found a two-dimensional structure of HGO and

showed that depending on the dimension, HGO can be both advantageous and detrimental for one's well-being.

2.1.1. *The Multidimensional Structure of Happiness Goal Orientations*

Driven by theories that distinguish different dimensions of motivational systems and goal pursuit, we developed the Happiness Goal Orientations Scale, a novel measure of individual differences in approaches to attain or maintain a sufficient level of happiness in life. The final version of the scale had good psychometric properties and consisted of five items for each of the two dimensions *Happiness-Related Strivings* and *Happiness-Related Concerns*.

Happiness-Related Strivings represent the propensity to move actively toward the desired level of happiness. This is in line with theories and measures that consider an active and persistent pursuit of goals as an independent dimension, like the most commonly used BAS scales (Carver & White, 1994; Corr & Cooper, 2016; Hartig & Moosbrugger, 2003), action orientation (Kuhl, 1984, 2000), or promotion focus (Higgins, 1997; Lockwood et al., 2002). The important feature of Happiness-Related Strivings is whether happiness is approached actively and fearlessly, even if aiming at the prevention of unhappiness in life. This is also emphasized by the result that this dimension is associated with the intention to pursue different happiness definitions in everyday life, including positive things but also the absence of negativity. Happiness-Related Strivings were associated with approach-related constructs, positivity, successful strategies to regulate one's moods and emotions, and endorsing a broad range of happiness definitions.

Happiness-Related Concerns represent the propensity to worry about and to focus on threats to one's level of happiness. This is in line with theories and measures that consider anxiety, worries, and a tendency to ruminate regarding the desired goals, like most commonly used BIS scales (Carver & White, 1994; Corr & Cooper, 2016; Hartig & Moosbrugger, 2003), state orientation (Kuhl, 1984, 2000), or prevention focus (Higgins, 1997; Lockwood et al., 2002). Happiness-Related Concerns were associated with avoidance-related scales, anxiety, poor strategies to regulate one's moods and emotions, perceived social expectancies to feel happy, defining happiness solely as the absence of negativity, and having no intentions to pursue happiness in everyday life.

Table 2.15. Hierarchical multiple regression results of Study 3 for Happiness Goal Orientations dimensions predicting psychological well-being, controlling for age and gender, extraversion, and neuroticism.

	Value	Autonomy	Environmental mastery	Personal growth	Positive relations	Purpose in life	Self-acceptance
Model 1 (df = 274)							
Age	R ²	.06***	.01	.01	< .01	< .01	< .01
	β	.03**	< .01	-.01	> .01	< .01	< .01
Gender: male	95% CI	.01, .04	-.01, .02	-.02, .01	-.02, .01	-.02, .02	-.01, .02
	β	.32	.25	.24	-.18	.02	.14
	95% CI	-.01, .65	-.09, .59	-.10, .57	-.52, .16	-.32, .36	-.19, .48
Model 2 (df = 272)							
Age	ΔR ²	.14***	.40***	.16***	.11***	.05***	.35***
	β	.02*	-.01	-.01	-.01	-.01	-.01
Gender: male	95% CI	< .01, .03	-.02, < .01	-.03, < .01	-.02, .01	-.02, .01	-.03, < .01
	β	.12	-.04	.02	-.36*	-.08	-.14
Happiness-Related Strivings	95% CI	-.19, .43	-.31, .23	-.30, .33	-.68, -.03	-.42, .26	-.42, .14
	β	.17**	.11*	.24***	.14*	.04	.16**
Happiness-Related Concerns	95% CI	.06, .28	.01, .20	.12, .35	.03, .26	-.08, .16	.06, .26
	β	-.39***	-.66***	-.39***	-.34***	-.24***	-.62***
	95% CI	-.51, -.28	-.76, -.57	-.50, -.27	-.46, -.23	-.36, -.12	-.72, -.52
Model 3 (df = 270)							
Age	ΔR ²	.04***	.08***	.01	.07***	.00	.07***
	β	.02**	> .01	-.01	> .01	-.01	-.01
Gender: male	95% CI	.01, .04	-.02, .01	-.02, .01	-.02, .01	-.02, .01	-.02, .01
	β	.03	-.13	-.04	-.46**	-.07	-.26
Happiness-Related Strivings	95% CI	-.28, .34	-.39, .12	-.36, .28	-.77, -.14	-.41, .27	-.53, < .01
	β	.12*	.04	.21***	.08	.05	.10*
Happiness-Related Concerns	95% CI	.01, .23	-.06, .13	.10, .33	-.04, .19	-.08, .17	.01, .20
	β	-.15	-.34***	-.25**	-.02	-.28**	-.30***

	Value	Autonomy	Environmental mastery	Personal growth	Positive relations	Purpose in life	Self-acceptance
Extraversion	95% CI	-.32, .02	-.48, -.20	-.43, -.08	-.20, .15	-.47, -.09	-.45, -.15
	β	.09	.20***	.02	.18**	-.02	.08
Neuroticism	95% CI	-.02, .21	.10, .29	-.10, .14	.06, .30	-.15, .11	-.02, .18
	β	-.27***	-.31***	-.16	-.32***	.04	-.38***
	95% CI	-.43, -.11	-.44, -.18	-.33, < .01	-.49, -.16	-.14, .22	-.52, -.24

Notes. * $p < .05$. ** $p < .01$. *** $p < .001$. df = degrees of freedom. CI = confidence interval. We entered age and gender in the first step (Model 1), Happiness Goal Orientations in the second step (Model 2), and extraversion and neuroticism in the third step (Model 3). Female participants indicate the reference group. All variables except age and gender are standardized.

In the theories and measures listed above, the initiation and maintenance of goals, which might include adequate anticipation and handling of setbacks, is contrasted with a tendency to ruminate regarding possible goals, which might result in an overcautious suppression of change processes. In sum, individual differences in the pursuit of goals can be applied to HGO. The important feature of the multidimensional consideration of HGO is whether happiness is approached actively and fearlessly, in contrast to whether people tend to reflect and ruminate regarding the own level of happiness and to be anxious not to reach the desired level of happiness. Similarly, Joshanloo (2019) identified “effortful virtuosity vs. doubtful pursuit” as one of two underlying dimensions to describe differences between lay conceptions of happiness. One side of the dimension is characterized as the active pursuit of happiness, whereas the opposite side of the dimension is characterized as doubt about the achievability of happiness.

2.1.2. *Happiness Goal Orientations and Well-Being*

As expected, Happiness-Related Strivings were positively and Happiness-Related Concerns were negatively associated with both SWB and PWB. The associations between well-being and Happiness-Related Concerns were generally stronger and more consistent than the associations between well-being and Happiness-Related Strivings, indicating that to worry and to focus on threats to one’s level of happiness appears to play a more critical role for well-being than the intention to actively pursue happiness-related goals. Further, the results indicated that HGO is associated with SWB and PWB in a similar fashion, which is consistent with the results by Mauss et al. (2011).

These findings reconcile conflicting results in the literature, where some found a positive relation between HGO-related constructs and well-being (Catalino et al., 2014; Peterson et al., 2005), whereas others found the opposite (Martin, 2008; Mauss et al., 2011; McGuirk et al., 2018). Varying associations of well-being with both HGO and the Valuing Happiness factors highlight the importance of a multidimensional consideration of HGO and related constructs: The Valuing Happiness Scale as introduced in the first publication where it was used (Mauss et al., 2011) correlated negatively with well-being, which can only be observed for one factor when considering the scale in a multidimensional manner. Thus, without this multidimensional consideration, we would have come to the same conclusion as previous investigations which showed that the HGO-related construct Valuing Happiness is detrimental for well-being (Mauss et al., 2011, 2012). This is in line with varying associations of different dimensions considered in theories of motivational systems and goal pursuit with well-being (Briki, 2018; Churchyard & Buchanan, 2017; Elliot &

Thrash, 2002; Updegraff et al., 2004). We can conclude that whether HGO is advantageous or detrimental for well-being differs between the HGO dimensions.

Controlling for age and gender revealed both shared variances with HGO as well as suppression effects by uncovering significant effects of age and gender only after the HGO dimensions were added. However, the patterns of these observations were quite inconsistent between the different studies and outcomes and were often only observed at the lower thresholds of significance. HGO had predictive utility beyond the Valuing Happiness Scale, indicating that goal orientations are a more proximal predictor of actual well-being than general values. Also, many associations between HGO and well-being were robust after controlling for extraversion and neuroticism, although this result was somewhat inconsistent between the different Studies.

2.1.3. *Implications for the Pursuit of Happiness*

In this article, we showed that depending on the dimension HGO can be both advantageous and detrimental for one's well-being. Pursuing happiness-related goals with effort and persistence is associated with higher success in this striving. Therefore, we assume that the "dark side of happiness" as a consequence of an extreme valuing or pursuit of happiness (Gruber et al., 2011) can be explained by a focus on concerns regarding one's level of happiness. This focus might arise from low expectancies to regulate one's mood (Fergus & Bardeen, 2016) or a perceived social pressure not to be unhappy (McGuirk et al., 2018), and result in a continuous monitoring of one's progress toward happiness goals that in turn interferes with the experience of happiness (Ford & Mauss, 2014).

Further, the positive relation between Happiness-Related Strivings and well-being is considerably weaker and less consistent across studies than the negative relation between Happiness-Related Concerns and well-being. Therefore, it appears particularly crucial for the pursuit of happiness goals not to worry about but to accept undesired outcomes like negative affective experiences as an important part of life. This is in accordance with the work by Ford et al. (2018) who found that the acceptance of negative emotions predicted lower negative emotional responses. In certain circumstances, negative affect fulfills an important function and should not generally be avoided (Gruber et al., 2011). Facilitating the acceptance of negative emotions is an established approach in therapeutic work (Hayes, 2016; Hofmann & Asmundson, 2008), affects well-being positively (Ford et al., 2018; Luong et al., 2016), and facilitates less negative relations between positive and negative emotional experiences (Grossmann et al., 2014; Schimmack, Oishi, et al., 2002).

Contemporary western cultures tend to pursue the avoidance of negativity (Joshani, 2014; Pflug, 2009; Uchida & Ogiwara, 2012). Instead, a greater appreciation and acceptance of negative emotionality as an important part of life might be worth striving for.

2.1.4. *Limitations and Future Research*

One limitation of the present findings is the lack of cultural diversity of our samples since relations between HGO-related constructs and well-being differ among cultures (Ford, Dmitrieva, et al., 2015). These varying relations might result from cultural differences in norms for emotional experiences and definitions of happiness (Bastian et al., 2014; Curhan et al., 2014; Eid & Diener, 2001; Oishi et al., 2013). Consequently, we cannot expect the results to replicate in populations with different cultural backgrounds. Therefore, an important next step would be to develop and validate translated versions of the HGO Scale and to investigate whether the present findings differ among cultures.

Another limitation is the correlational and cross-sectional nature of the present findings that do not allow any conclusions about the causal direction of the associations between HGO and well-being. We assume that well-being is not only a result of differences in emotion, cognition, and motivation associated with different orientations toward happiness goals but also that actual levels of well-being determine available resources to approach and reach happiness-related goals (Catalano et al., 2014; Fredrickson, 2013; Haase et al., 2012). Therefore, potential reinforcing mechanisms between HGO and well-being should be investigated longitudinally and experimentally in the future. For example, experience sampling methodology would allow investigating whether the HGO dimensions are related to well-being on the following day and vice versa. However, to completely resolve questions of causality, experimental manipulations of the HGO dimensions should be used to investigate their differential associations with well-being.

2.2. Conclusion

In this article, we developed and validated the HGO Scale, which distinguishes the two dimensions Happiness-Related Strivings and Happiness-Related Concerns. Happiness-Related Strivings represent the propensity to move actively and persistently toward the desired level of happiness and are positively associated with well-being. Happiness-Related Concerns represent the propensity to worry about and to focus on threats to one's level of happiness and are negatively associated with well-being. These differential associations with well-being demonstrate

the importance of considering HGO as a multidimensional construct and that HGO can be both beneficial and detrimental to one's level of well-being.

2.3. Data Accessibility Statement

The study materials, data, and analysis scripts used for this article can be accessed at <https://osf.io/dg83m>. The preregistration (only available for Study 3) can be found at <https://osf.io/apj9m/>.

2.4. Author Contribution Statement

The contributions of each author according to the CRediT Classification:

Julia Krasko:	Conceptualization, Data Curation, Formal Analysis, Investigation, Methodology, Project Administration, Software, Visualization, Writing – Original Draft Preparation, Writing – Review and Editing
Vera Schweitzer:	Investigation, Methodology, Writing – Review and Editing
Maike Luhmann:	Conceptualization, Funding acquisition, Resources, Supervision, Writing – Review and Editing

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2.6. Appendix

The Happiness Goal Orientations Scale: German version

Instruktion: Bitte geben Sie an, wie sehr die folgenden Aussagen auf Sie zutreffen.

Antwortformat: 1 (trifft überhaupt nicht zu) - 5 (trifft voll und ganz zu)

1. Ich strenge mich besonders an, um glücklich zu sein.
2. Ich scheue keine Mühen um zu verhindern, unglücklich zu sein.
3. Ich tue alles dafür um zu verhindern, unglücklich zu sein.
4. Ich überwinde oft Hürden, um glücklich zu werden.
5. Ich versuche aktiv glücklich zu werden.
6. Ich mache mir oft Sorgen, dass ich in der Zukunft unglücklich sein könnte.
7. Ich habe Angst davor, unglücklich zu sein.
8. Ich achte mehr auf Bedrohungen als auf erfreuliche Ereignisse.
9. Ich mache mir viele Sorgen darüber, dass es mir nicht gelingen könnte, glücklich zu sein.
10. Ich sehe häufig davon ab, etwas zu tun, weil ich Angst habe, dass es mich unglücklich machen könnte.

Subskalen: Bemühtes Streben nach Glück (1-5), Besorgt über Unglück (6-10)

The Happiness Goal Orientations Scale: English version

Instruction: Please indicate, to what extent you agree with the following statements. Response

format: 1 (does not apply) - 5 (applies completely)

1. I try very hard to be happy.
2. I go out of my way to avoid being unhappy.
3. I do everything I can to avoid being unhappy.
4. I often overcome challenges to become happy.
5. I actively try to become happy.
6. I am often worried that I might be unhappy in the future.
7. I am scared of being unhappy.
8. I focus more on threats than on pleasant events.
9. I worry a lot that I might not succeed in being happy.
10. I often refrain from doing something because I am scared that it might make me unhappy.

Subscales: Happiness-Related Strivings (1-5), Happiness-Related Concerns (6-10)

3 | Integrating Philosophical and Psychological Definitions of Happiness and Well-Being

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3. Integrating Philosophical and Psychological Accounts of Happiness and Well-Being

Abstract

Philosophers have been interested in happiness and well-being since the Hellenic period. More recently, psychologists have begun to study how happy people are and what makes people's lives go well. Today, these fields begin to converge, as philosophers and psychologists are interested in integrating the two disciplines. A central challenge for any interdisciplinary research is that disciplines often differ in their terminology. In this paper, we offer a novel approach to integrating philosophical and psychological accounts of happiness and well-being by describing these accounts on two independent continuous dimensions: degree of stability (from transient to stable) and psychological process (from affective to cognitive). This dimensional taxonomy highlights similarities and differences among the accounts and allows researchers to assess where philosophical and psychological accounts overlap and where they diverge. We first describe the methodological approach we used to develop our two-dimensional taxonomy, and then demonstrate how this taxonomy can be applied to a large number of existing theoretical accounts of happiness and well-being. We conclude the paper with a discussion of the strengths and limitations of the dimensional approach and implications for future theoretical and empirical research.

Keywords: Happiness; Well-Being; Dimensions; Classification; Philosophical and Psychological accounts

3.1. Introduction

Philosophers have been interested in happiness and well-being since the Hellenic period. More recently, psychologists have begun to study how happy people are and what makes people's lives go well. Today, these fields begin to converge, as philosophers (Alexandrova, 2017; Bishop, 2015; Haybron, 2008; Kristjánsson, 2013; Tiberius, 2006, 2013a) and psychologists (Fowers, 2005, 2016; Kesebir & Diener, 2008; Ryan & Martela, 2016; Vittersø, 2016) are interested in integrating the two disciplines. However, interdisciplinary collaborations remain an exception and are often difficult to implement in practice. A central challenge for any interdisciplinary research is that disciplines often differ in their terminology. This is certainly true for the field of happiness and well-being. For example, the terms 'happiness' and 'well-being' refer to highly distinct philosophical traditions but are used interchangeably by some researchers of both disciplines who might be unaware of their distinction.

Furthermore, interdisciplinary research is impeded when researchers of one discipline are unaware of important theoretical or empirical developments occurring in the other discipline. Although some interdisciplinary journals exist (e.g., the *Journal of Happiness Studies*), most happiness and well-being researchers publish in outlets that are specific to their own field and are rarely read by researchers from other fields. This is problematic because certain theoretical notions might develop independently within different fields. Combined with a lack of terminological consistency, it is then often difficult for researchers to identify similarities and differences among theoretical accounts from different disciplines. Again, this is certainly true for the field of happiness and well-being where theoretical models, constructs, and measurements in the empirical science and theories in the philosophical traditions have been developed independently.

To enable truly productive interdisciplinary research, a necessary first step is therefore to characterize and integrate approaches to happiness and well-being discussed in different disciplines. The present paper contributes to this process. We propose a novel comprehensive and integrative way of describing accounts of happiness and well-being.

Note that the attempt to classify theoretical accounts of happiness and well-being is not novel per se. Indeed, the philosophical and psychological literature is full of classifications of definitions and theories of happiness and well-being (Haybron, 2008; Huta & Waterman, 2013; Parfit, 1984; Woodard, 2013) and several reviews exist that summarize these definitions and theories (Haybron, 2007; Kesebir & Diener, 2008; Tiberius, 2006; Tov, 2018; Vittersø, 2016). However,

most of these classifications are shaped by different schools of thinking that exist within one of these disciplines (e.g., the distinction between normative theories of well-being and descriptive theories of happiness in philosophy or the distinction between hedonic and eudaimonic accounts in psychology). Such classifications work well to organize accounts within one discipline, and for the present paper, we built on these classifications. However, classifications developed in one discipline are not necessarily suitable to organize theoretical accounts discussed in other disciplines, and thereby may hinder rather than advance a true integration of accounts from different disciplines.

In addition, previous classifications have adopted categorical frameworks to describe similarities and differences among different theoretical accounts of happiness and well-being. In categorical frameworks, units are assigned to distinct categories (also referred to as types or classes). For example, the best-known philosophical taxonomy of theories of well-being distinguishes three groups of accounts: hedonistic theories, desire theories, and list theories (Parfit, 1984). Categorical frameworks have intuitive appeal because they present a clear organization, but they are often difficult to implement in practice. One challenge associated with categorical frameworks that is particularly relevant for accounts of happiness and well-being is that most taxonomies require that the categories are mutually exclusive and exhaustive. Categories are mutually exclusive if units can be assigned to only one single category, and they are exhaustive if every unit can be assigned to at least one category. If assignments to multiple categories were allowed or if some units could not be classified at all, the categorical taxonomy would become messy and defy its purpose of providing a clear and easy-to-understand framework.

In practice, assigning units to mutually exclusive and exhaustive categories is often difficult to achieve. For example, philosophers have recently developed accounts of happiness and well-being that are not included in Parfit's taxonomy mentioned above, such as Sumner's authentic happiness (Sumner, 1996) and Haybron's emotional well-being (Haybron, 2008). As a result, other taxonomies have been developed (Fletcher, 2013; Haybron, 2008; Heathwood, 2010; Tiberius, 2013b; Woodard, 2013). Moreover, psychological research contributes with accounts that are often, but not always, based on philosophical theories of happiness and well-being. Psychological accounts are sometimes classified into hedonic versus eudaimonic approaches (Huta & Waterman, 2013; Tov, 2018), but they are rarely included in the philosophical taxonomies (Haybron, 2007).

In sum, integrating both psychological and philosophical accounts of happiness and well-being into existing categorical taxonomies is highly challenging, if not impossible. In the present paper, we therefore do not create a new categorical taxonomy, but instead describe similarities and differences among philosophical and psychological accounts on two independent continuous characteristics. Such dimensional taxonomies have several advantages over categorical taxonomies. First, by using continuous dimensions instead of discrete classes, it is possible to describe units in terms of the degree to which a certain characteristic applies to them rather than making a forced binary choice about whether a characteristic applies or not. Second, using multiple independent dimensions implies that multiple characteristics can be considered simultaneously to distinguish units. Together, these features of dimensional taxonomies permit describing similarities and differences among units in a parsimonious yet nuanced way.

Because of these advantages, dimensional taxonomies are predominant in psychological science. For example, similarities and differences among persons are typically described in terms of continuous personality traits such as the Big Five (John, Naumann, & Soto, 2008) instead of in terms of typological approaches (e.g., Jung, 1923). Similarly, dimensional approaches to describe similarities and differences among situations (Rauthmann et al., 2014) and events (Luhmann et al., 2021) have recently been introduced. In the present paper, we argue and demonstrate that dimensional taxonomies are also useful to describe similarities and differences among theoretical accounts of happiness and well-being.

In the remainder of this paper, we first describe the methodological approach we used to develop our two-dimensional taxonomy, and then demonstrate how this taxonomy can be applied to a large number of existing theoretical accounts of happiness and well-being. We conclude the paper with a discussion of the strengths and limitations of the dimensional approach and implications for future theoretical and empirical research.

3.2. Methodological Approach

A dimensional framework is only useful if it fulfills the following criteria. First, the number of dimensions should be sufficiently high to describe both similarities and differences among accounts in a meaningful way. Second, however, the number of dimensions should only be as high as necessary, meaning that a parsimonious taxonomy is preferred over a complex taxonomy. This means that dimensions are only added if they provide unique additional information. Third, the dimensions must be applicable to most or even all units that are to be described. Fourth, the

dimensions should be defined in such a manner that they fulfill the psychometric criterion of objectivity, meaning that independent scholars should come to similar conclusions on where a specific theoretical account is located on the dimensions. Finally, the dimensions should be continuous in order to reflect not just extreme opposites, but also more nuanced differences among units.

With these criteria in mind, we developed the dimensional taxonomy described below in a multi-step procedure. First, we compiled a comprehensive list of theoretical accounts of happiness and well-being discussed in the philosophical and psychological literature (see Table 3.1). In an interdisciplinary team consisting of philosophers and psychologists, we then described similarities and differences among these theoretical accounts in an increasingly abstract fashion. This process resulted in six broad characteristics, which served as the initial base for our dimensional taxonomy.

The initial six characteristics were temporal dimension (short vs. long), degree of stability (state vs. trait), psychological process (affective vs. cognitive), constituent element (internal vs. external), perspective (subjective vs. objective), and theoretical approach (descriptive vs. normative). The temporal dimension referred to whether an account focused on the present moment of the individuals' lives (short) or on a longer period in their lives (long). The degree of stability referred to whether happiness was defined as a general trait of the person (e.g., genetic or character traits) or as a temporary state of the person (e.g., mental states or temporary judgments). The psychological process referred to whether happiness was defined as a cognitive process (judgments, reflections, or beliefs) or as an affective process (feelings, emotions). The constituent element clarified whether happiness was defined only in terms of individuals' experiences (internal) or in terms of the things individuals have or do in their lives (external). The perspective referred to whether the components of well-being were described as independent from individuals' attitudes toward them (objective) or whether they depended on individuals' psychological states (subjective). Finally, the theoretical approach distinguished between accounts that refer to happiness and well-being as a value concept (normative) and accounts that focus only on describing individuals' happiness (descriptive).

In the next step, two of the authors independently rated all accounts on these six dimensions on a scale ranging from 1 to 5. For example, with respect to the degree of stability, accounts were rated as 1 and 2 if the account strongly (1) or moderately (2) emphasized instability, as 3 if the account emphasized instability and stability about equally, and as 4 and 5 if the account moderately (4) or

strongly (5) emphasized stability. The interrater agreement ranged between $ICC = .41$ and $ICC = .77$ ($M = .68$). Divergent ratings were discussed among the two raters until a consensus was reached (Table 3.1). Even though all of the initial characteristics are useful to identify certain common features among happiness and well-being accounts and some of them are commonly used to classify accounts (e.g., internal vs. external (Sumner, 1996) or descriptive vs. normative (Haybron, 2007)), this process provided empirical evidence that our initial taxonomy did not yet fulfill our criteria outlined above in a satisfactory way. First, not all characteristics could be applied to all accounts in a straightforward manner. For example, many accounts included both features of some of the characteristics (e.g., internal/external, subjective/objective), rendering ratings of these accounts somewhat arbitrary. Second, some of the characteristics overemphasized extreme ratings (1 or 5), indicating that these were binary rather than continuous dimensions. Note that the fact that a characteristic is binary does not make it generally irrelevant. It might be an important information if theories could be described and distinguished by assigning each account to one of two possible groups. For example, characterizing accounts as subjective or objective is commonly and successfully used in the literature, showing that this binary characteristic is a helpful and crucial feature (Hall & Tiberius, 2016; MacLeod, 2015). However, since this paper focused on demonstrating the benefits of continuous characteristics, we decided to not include the binary characteristics in the present paper. Third, we detected high overlap between some characteristics (e.g., temporal dimension and degree of stability). Fourth, the ratings of some characteristics were not sufficiently independent of the raters, as indicated by a low interrater agreement for some dimensions (e.g., constituent element; $ICC = .41$). Finally, and most importantly, a six-dimensional taxonomy is extremely complex. We therefore dropped characteristics that were redundant, binary or not applicable to many accounts from our taxonomy. Through this process, we reduced the taxonomy to two dimensions, described in detail in the following section: degree of stability and psychological process. However, note that dimensions not included in this taxonomy are not considered as completely irrelevant. On the contrary, we believe that our taxonomy could be improved, and some dimensions could be added. The present taxonomy should be seen as a first attempt to describe similarities and differences among theories of well-being and happiness using continuous rather than binary dimensions.

3.1. Description of the Two-Dimensional Taxonomy

The *degree of stability* (Veenhoven, 1994) refers to whether happiness is defined as a more stable, trait-like concept (e.g., genetic or character traits, activities, goals, views of life, etc.) or as a less

stable, temporary, state-like concept (e.g., affective states, attitudinal pleasures, or temporary judgments). For instance, eudaimonic accounts define well-being as a certain character development, virtuous activity, view of life, or goal pursuits, and for this reason they are described as more stable accounts (Annas, 1993; Fowers, 2012; Kraut, 2007; Vittersø, 2016). In contrast, accounts which define happiness and well-being as pleasant mental states or momentary positive states are better described as less stable accounts (Bentham, 1789; Kahneman, 1999).

The *psychological process* (Andrews & McKennell, 1980; Andrews & Withey, 1976) refers to whether happiness is defined as an affective process (feelings, emotions, etc.) or as a cognitive process (judgments, reflections, beliefs, views of life, etc.). For example, hedonist accounts are described as more affective accounts in our taxonomy because happiness is understood as a pure feeling (pleasure) (Bentham, 1789; Kahneman, 1999). In contrast, some life satisfaction accounts are classified as more cognitive because they define happiness as a cognitive state or a belief that represents how well one's actual life matches one's ideal life plan (Kekes, 1982).

3.1. Application of the Two-Dimensional Taxonomy

To demonstrate that the two dimensions can be applied to describe similarities and differences among accounts of happiness and well-being, two independent raters rated all accounts on these two characteristics using a scale from 1 to 5. For degree of stability, lower scores were given to more state-like accounts and higher scores were given to more trait-like accounts. For psychological process, lower scores were given to more affective accounts and higher scores were given to more cognitive accounts. Because some accounts describe happiness and well-being as multidimensional concepts, we rated the various facets of these accounts separately. For example, in the case of psychological accounts that define well-being as both hedonic and eudaimonic, we rated hedonic and eudaimonic facets separately (Huta & Waterman, 2013). Doing so not only acknowledged the multidimensional nature of these accounts, it also allowed us to examine whether the separate facets could be distinguished in our taxonomy (see below).

Table 3.1. *Overview of philosophical and psychological accounts of happiness and well-being.*

No.	Philosophical and Psychological Accounts			Dimensions		
	Concept	Facets	References	Description	Degree of stability (1 = transient; 5 = stable)	Psychological process (1 = affective; 5 = cognitive)
1	Affect intensity		(Gilbert et al., 2008; Larsen & Diener, 1987)	Experiencing different types of happiness as a result of dispositions for affect intensity.		
1a		Activated positive affect		Experiencing high arousal positive affect like enthusiasm and exhilaration.	3	1
1b		Relaxed positive affect		Experiencing low arousal positive affect like calmness, tranquility, and contentment.	3	2
2	Affective pleasant state		(Russell, 1980; Russell & Carroll, 1999)	Having an affective state located at the positive end of the bipolar pleasure-displeasure dimension and in the middle of the arousal-sleep dimension.	1	1
3	Affective well-being		(Brülde, 2007)	Experiencing a certain positive mood state that is not about anything in particular - a rosy view of life in general.	4	3
4	Beliefs about well-being		(McMahan & Estes, 2011a, 2011b)	Lay definitions of happiness.		
4a		Experience of pleasure		Pleasant experiences are desired.	2	1
4b		Avoidance of negative experience		Painful experiences are not desired.	2	1
4c		Contribution to others		Emphasizing one's important role in society and in their own community.	4	3

No.	Philosophical and Psychological Accounts			Dimensions		
	Concept	Facets	References	Description	Degree of stability (1 = transient; 5 = stable)	Psychological process (1 = affective; 5 = cognitive)
4d		Self-Development		Achieving one's true potential by continuous learning and development.	4	5
5	Capabilities approach		(Nussbaum, 2000)	Developing central human capabilities (e.g., practical reasoning or affiliation) for having a life that is good for us.	4	3
6	Contentment		(Hitokoto & Uchida, 2014; Joshanloo, 2014; Uchida & Ogihara, 2012)	Having a sense of fulfilment and abundance, and being at peace with oneself, others, and the whole cosmos. Experiencing peacefulness and calmness independent of external circumstances.	4	4
7	Cross-Cultural well-being		(Delle Fave et al., 2016, 2011)	Referring to contextual-social sphere and psychological sphere of lay people's definitions of happiness across cultures. Inner harmony as key concept.		
7a		Hedonia		Experiencing positive emotions and life satisfaction.	2	3
7b		Eudaimonia		Long-term process of growth and self-actualization related to meaning, experience of flow and inner harmony.	3	4

No.	Philosophical and Psychological Accounts			Dimensions		
	Concept	Facets	References	Description	Degree of stability (1 = transient; 5 = stable)	Psychological process (1 = affective; 5 = cognitive)
8	Developmentalism		(Kraut, 2007)	Developing and exercising certain human capacities, such as rationality. Having an appropriate level of cognitive and emotional development at the stage of individua’s development.	5	4
9	Dialectical model of happiness		(Ioshanloo, 2013; Schimmack, Oishi, & Diener, 2002; Uchida & Ogihara, 2012; Uchida & Oishi, 2016)	Viewing suffering, negative emotions, and unhappiness as an important part of life contributing to spiritual development. Preserving balance of joy and sorrow.	5	5
10	Emotional state theory of happiness		(Haybron, 2008)	Having a favorable emotional condition towards life (endorsement, engagement, and attunement) and positive mood propensities.	4	2
11	Emotional well-being		(Haybron, 2008)	Involving self-fulfillment of one’s emotional nature.	4	3
12	Enjoying the excellence		(Adams, 1999)	Being morally excellent and having other individual quality, but also having a variety of non-moral excellence as well (e.g., beauty).	3	3
13	Enjoying the good		(Kagan, 2009)	Possessing certain objective goods and taking pleasure in them - people enjoy having them.	3	2

No.	Philosophical and Psychological Accounts			Dimensions		
	Concept	Facets	References	Description	Degree of stability (1 = transient; 5 = stable)	Psychological process (1 = affective; 5 = cognitive)
14	Eudaimonia	(Aristotelian view)	(Aristotle, 1999)	Fulfilling the human nature - developing and exercising the various intellectual and moral virtues.	4	5
15	Eudaimonic goal pursuit model		(Fowers, 2012, 2015; Fowers, Molica, et al., 2010)	Pursuing certain life goals. Aristotelian model of eudaimonic well-being. Hedonic well-being as a secondary element.		
15a		Instrumental mode of goal pursuit: hedonic enjoyment		How much the individual experienced a sense of enjoyment by doing an activity.	2	1
15b		Instrumental mode of goal pursuit: efficacy		How efficacious/successful individuals perceive their goals.	3	3
15c		Instrumental mode of goal pursuit: fun		How much fun the goal is.	2	2
15d		Constitutive mode of goal pursuit: integrity		How integral the goal is to the individual's life - to what extent a goal is consistent with the values that guide one's life.	4	5
15e		Constitutive mode of goal pursuit: personal expression		How much the individual identifies with his or her activities.	3	4
16	Eudaimonic identity theory		(Waterman, 1990, 1993; Waterman, Schwartz, & Conti, 2008)	Fulfilling individual nature: assessing individuals' actions rather than experiences.		

No.	Philosophical and Psychological Accounts			Dimensions		
	Concept	Facets	References	Description	Degree of stability (1 = transient; 5 = stable)	Psychological process (1 = affective; 5 = cognitive)
16a		Hedonic enjoyment		Experiencing pleasant affect along with satisfaction of need (physical, intellectual, social). Could also be a byproduct of attaining success regarding self-realization.	3	2
16b		Personal expressiveness / Eudaimonia		Self-realization (acting in ways consistent with personal potentials) leading to feelings of personal expressiveness - acting in consistency with one's intrinsic nature.	3	4
17	Eudaimonism		(Annas, 2011; Foot, 2003; Hursthouse, 1999; LeBar, 2013)	Living a life of virtuous activities or excellence (rationality).	4	5
18	Flow or optimal experience		(Csikszentmihalyi, 1975, 1990)	Experiencing a harmonious ordered state of mind and wanting to pursue something for its own sake while taking part in certain activities involving engaging and challenging tasks.	2	4
19	Functional well-being		(Vittersø et al., 2010)	Having hedonic and eudaimonic well-being but distinguishing between a dispositional element and an emotional element for both.		
19a		Hedonic well-being: dispositional element		Orientation on evaluation of outcomes, like life satisfaction - judgments of things on basis of their goodness or badness.	4	4

No.	Philosophical and Psychological Accounts			Dimensions		
	Concept	Facets	References	Description	Degree of stability (1 = transient; 5 = stable)	Psychological process (1 = affective; 5 = cognitive)
19b		Hedonic well-being: emotional element		Evaluations in terms of goodness and badness; like affect. Related activities experienced as pleasant.	2	2
19c		Eudaimonic well-being: dispositional element		Orientation on seeking out challenge and complexity, striving after demanding goals, openness to experience, self-actualization, and curiosity.	4	5
19d		Eudaimonic well-being: emotional element		States that are perceived as favorable, even if the balance of goodness-badness is slightly disrupted. Related activities experienced as engaging, interesting, associated with flow.	2	3
20	Good life		(King & Napa, 1998)	Experiencing happiness and having meaning in life - the good life seen as a desirable life.		
20a		Happiness		Experiencing enjoyment and absence of trouble - probably as a by-product of meaning.	2	2
20b		Meaning		Having a sense of purpose in life.	3	4
21	Growth motivation		(Bauer et al., 2008, 2015; Bauer & McAdams, 2004)	Following different paths of self-development and growth motivation.		

No.	Philosophical and Psychological Accounts			Dimensions		
	Concept	Facets	References	Description	Degree of stability (1 = transient; 5 = stable)	Psychological process (1 = affective; 5 = cognitive)
21a		Reflective growth motivation		Having maturity and wisdom. Complexly and integratively thinking about oneself and others.	4	5
21b		Experiential growth motivation		Experiencing well-being and meaningfulness. How good one feels about the self in a world of others as a result of fulfilled values.	3	2
22	Hedonism (attitudinal)		(Feldman, 2010; Sidgwick, 1874)	Being pleased towards certain things and state of affairs we have in our lives, which we like, enjoy, and desire.	3	3
23	Hedonism (qualitative)		(Crisp, 2006; Mill, 1867)	Having positive balance of pleasant over unpleasant experiences - some intellectual pleasures are more valuable than certain bodily pleasures.	2	3
24	Hedonism (quantitative)		(Bentham, 1789; Mendola, 2006; Sprigge, 1991; Tännsjö, 2007)	Having a positive balance of pleasure over pain. Any kind of sensory pleasure matters.	1	1
25	Interdependent happiness		(Hitokoto & Uchida, 2014; Joshanloo, 2014; Uchida & Ogihara, 2012)	Viewing ourselves as small ordinary part of the collective and the cosmos. Happiness in terms of connectedness and harmony with one's surrounding.	4	4
26	Objective happiness		(Kahneman, 1999)	Having an average of subjective momentary good/bad evaluations over a period of time.	1	1

No.	Philosophical and Psychological Accounts			Dimensions		
	Concept	Facets	References	Description	Degree of stability (1 = transient; 5 = stable)	Psychological process (1 = affective; 5 = cognitive)
27	Orientations to a good life		(Huta, 2015; Huta & Ryan, 2010; Huta & Waterman, 2013)	Having orientations for activities (attitudes, values, motives, goals) along with the desired outcomes.		
27a		Hedonic orientations		Experiencing pleasure, enjoyment, reduced negative affect, life satisfaction, comfort, and carefreeness.	3	3
27b		Eudaimonic orientations		Developing the best in oneself in congruence with one's values and true self - authenticity, meaning, excellence, personal growth, and optimal experience - indirect influence on positive affect.	4	4
28	Perfectionism		(Hurka, 2015)	Possessing things perfecting human nature, such as rationality.	4	5
29	PERMA & Authentic happiness		(Peterson, Park, & Seligman, 2005; Seligman, 2002, 2011)	Having positive human functioning defined as flourishing which contains different facets.		
29a		Positive emotions / Pleasure		Maximizing pleasure and minimizing pain.	2	1
29b		Engagement		Experiencing happiness through the engagement in satisfying activities.	3	3
29c		Accomplishment		Applying skills and efforts to progress towards goals.	3	5

Philosophical and Psychological Accounts				Dimensions		
No.	Concept	Facets	References	Description	Degree of stability (1 = transient; 5 = stable)	Psychological process (1 = affective; 5 = cognitive)
29d		Relationships		Social integration, care and support, satisfaction with social life and connections.	4	3
29e		Meaning		Achieving worthwhile pursuits while serving what is larger and more worthwhile than the self's pleasures.	4	5
30	PERMA + Balance		(Sirgy & Wu, 2009)	Experiencing balance in life and satisfaction in several life domains. PERMA (Seligman, 2011) enriched by the importance of balance.	3	3
31	Pluralist (enumerative) theory		(Fletcher, 2013) Other list theories: (Finnis, 1980; Murphy, 2001)	Listing certain objective prudential goods - things good for the agent, even if the agent does not desire them.		
31a		Achievement of goals			3	4
31b		Friendship			3	3
31c		Happiness and pleasure			2	2
31d		Self-respect			3	3
31e		Exercising virtue			4	5
32	Psychological well-being		(Ryff, 1989, 2014; Ryff & Singer, 2008)	Experiencing self-actualization, optimal functioning, mental health, maturity.		
32a	Self-acceptance			Having positive attitudes toward oneself and one's past life.	3	3

No.	Philosophical and Psychological Accounts			Dimensions		
	Concept	Facets	References	Description	Degree of stability (1 = transient; 5 = stable)	Psychological process (1 = affective; 5 = cognitive)
32b		Purpose in life		Beliefs that give one the feeling that there is purpose and meaning in life - a clear comprehension of life's purpose, a sense of directedness, and intentionality.	3	4
32c		Personal growth		Developing one's potential for growing as a person, taking new challenges at different stages of life, and being open to new experiences.	3	5
32d		Positive relations with others		Having the ability to love, create interpersonal relations, see others as an important part of the personal identification, and feel empathy and affection for humans.	4	3
32e		Environmental mastery		Having a sense of control over the external world and being able to take advantages of environmental opportunities.	4	3
32f		Autonomy		Having an internal locus of evaluation and being committed to personal standards and free from collective norms, fears, and beliefs. Having self-determination, independence, and internal regulation of behavior.	4	5

No.	Philosophical and Psychological Accounts			Dimensions		
	Concept	Facets	References	Description	Degree of stability (1 = transient; 5 = stable)	Psychological process (1 = affective; 5 = cognitive)
33	Quality of life & Health related well-being		(WHOQOL Group, 1995)	Focusing on physical health and functional ability but also including subjective perception of position in life in context of a specific culture and value systems and in relation to individuals' goals, expectation, standards and concerns.		
33a		Physical health		Pain, discomfort, energy, and fatigue.	3	3
33b		Psychological state			3	3
33c		Social relationships			4	3
33d		Relationship to environment			4	3
33e		Level of independence			4	4
33f		Personal beliefs		How personal beliefs affect the quality of life - both positive and negative influences.	4	4
34	Satisfaction of desires for the good		(Darwall, 1999; Raz, 1986)	Being successful in pursuing worthwhile goals such as projects, plans, relationships, ambitions, commitments, long-term desires, and objectives.	4	4
35	Satisfaction of informed-desire theory		(Griffin, 1986; Railton, 1986; Rawls, 1971; Rosati, 1995; Sobel, 1994)	Living the best life as seen the one people would desire if they were fully informed - the life people find compelling and attractive.	4	5

No.	Philosophical and Psychological Accounts			Dimensions		
	Concept	Facets	References	Description	Degree of stability (1 = transient; 5 = stable)	Psychological process (1 = affective; 5 = cognitive)
36	Satisfaction of perceived desire		(Davis, 1981)	Believing that enough of one's important desires are satisfied.	2	4
37	Satisfaction of preferences theory		(Barry, 1965; Brandt, 1979; Hare, 1981; Harsanyi, 1977; Singer, 1979; Von Wright, 1963)	Satisfying individual preferences.	3	4
38	Satisfaction of present-desire theory		(Murphy, 1999)	Fulfilling current desires and getting what one wants.	1	3
39	Satisfaction with life (affective) theory		(Telfer, 1980)	Having a positive affective state based on one's view of life overall - whether one feels pleased with how one is living.	3	3
40	Satisfaction with life (cognitive) theories		(Almeder, 2000; Kekes, 1982; McFall, 1989; Meynell, 1969; Scruton, 1975; Suikkanen, 2011; Tatariewicz, 1966; Thomas, 1968; Tiberius & Plakias, 2009)	Being in a cognitive state of a belief that represents how well your actual life matches up to your ideal life-plan.	4	5
41	Satisfaction with life as a whole		(Benditt, 1974; Montague, 1966; Nozick, 1990; Von Wright, 1963)	Having a favorable attitude toward one's life as a whole - involving some form of affect.	4	3

No.	Philosophical and Psychological Accounts			Dimensions		
	Concept	Facets	References	Description	Degree of stability (1 = transient; 5 = stable)	Psychological process (1 = affective; 5 = cognitive)
42	Self-Actualization theory		(Maslow, 1964, 1965, 1968)	Self-actualization as the highest human need, accompanied by certain positive states.		
42a		Self-actualization		Fulfilling highest human needs through the fulfilment of inner potentials and ultimate values of goodness, truth, beauty, and perfection.	4	4
42b		Peak experiences		Brief, intense, and involuntary state of illumination, vividness and completeness, while having no self-consciousness.	2	2
42c		Plateau experiences		Less intense state of enjoyment, wondering, appreciating, and contemplative experience - cognitive element achieved by hard work through maturing, living, and learning.	3	4
43	Self-Determination theory		(Ryan & Deci, 2000; Ryan & Martela, 2016)	Fulfilling inherent tendencies and psychological needs as necessary conditions for growth, integrity, well-being, and psychological health. Well-being as a by-product of a rather eudaimonic lifestyle, which does not differ in quality from the happiness one might experience from other positive events (e.g., rather hedonic events).		
43a		Autonomy and integrity			4	5

No.	Philosophical and Psychological Accounts			Dimensions		
	Concept	Facets	References	Description	Degree of stability (1 = transient; 5 = stable)	Psychological process (1 = affective; 5 = cognitive)
43b		Competence and effectiveness			4	4
43c		Connectedness			4	3
44	Social well-being		(Keyes, 1998)	Evaluating one's social status and functioning.		
44a		Social integration		Quality of one's relationship to society and community: feelings of belongingness.	3	3
44b		Social contribution		One's social value: belief of being an important member of society, having something to give to the world, and feelings of contribution to the commonweal.	3	4
44c		Social acceptance		Positive view of human nature: trust, expectations to be treated kindly, and feeling comfortable with others.	4	3
44d		Social coherence		Perception of the quality, organization, and operation of the social world. Includes concern for the knowledge about the world.	4	4
44e		Social actualization		Positive evaluations of the potential and trajectory of the society. Hope regarding future societies and control over one's own destiny.	4	5

No.	Philosophical and Psychological Accounts			Dimensions		
	Concept	Facets	References	Description	Degree of stability (1 = transient; 5 = stable)	Psychological process (1 = affective; 5 = cognitive)
45	Subjective authentic happiness		(Sumner, 1996)	Being authentically happy: being informed about the conditions of one's life and free from manipulation or oppression - global judgments about one's life as a whole.		
45a		Positive affect		Finding one's life rewarding as a consequence of being satisfied.	3	3
45b		Life satisfaction		Being satisfied with life as a whole - all things considered one's life measures up to one's standards.	5	5
46	Subjective well-being (SWB)		(Diener, 1984)	Having a positive balance of pleasant over unpleasant experiences and a positive global evaluation of one's life.		
46a		Positive affect (AWB)		Experiencing pleasure.	2	1
46b		Negative affect (AWB)		Lacking unpleasant experiences.	2	1
46c		Life satisfaction (CWB)		Global judgment about one's life according to one's individual chosen criteria.	4	5
47	Surplus of energy		(Gailliot, 2012)	Having a surplus of energy - this includes biological energy, but also secondary sources that provide or conserve energy (e.g., social support or monetary wealth).	2	3

The bivariate distribution of the scores is visualized in Figure 3.1 (see Table 3.1 for details). Figure 3.1 can be thought of as a map that presents the position of each theoretical account in a two-dimensional space where the two dimensions are degree of stability (x axis) and psychological process (y axis). Using this map, one can visually detect similarities and differences among the theoretical accounts, with accounts that are closer to each other on the map being closer to each other on the two dimensions. Before describing these ratings in detail, we would like to caution that these ratings were done by the authors of this paper, not by the proponents of the theoretical accounts. It is very likely that despite an intensive reading of the relevant literature, the original proponents might have rated their accounts differently from us. In addition, other scholars might disagree with some of our ratings, for justifiable reasons. This map should therefore not be taken as an absolute truth, and the position of each account is not fixed but open to debate. Instead, this map serves as a demonstration of how dimensional taxonomies can illustrate similarities and differences among theoretical accounts of happiness and well-being in graphic displays.

3.1.1. *Distinguishing Accounts in Terms of Degree of Stability*

We begin this review with accounts that define happiness and well-being as a more transient (state-like) concept and gradually move toward accounts that define happiness as a more stable (trait-like) concept. Note that in the text, we focus on accounts that are particularly exemplary for a particular location on the stability dimension. A complete list of all accounts is provided in Table 3.1. Furthermore, we need to treat all accounts very superficially, focusing only on those aspects of these accounts that are relevant to describe them on the stability dimensions. Readers who seek more in-depth descriptions of these accounts are referred to the original publications and to existing overviews of the psychological and philosophical literature on happiness and well-being (Haybron, 2008; Huta & Waterman, 2013; McMahon, 2018; Tov, 2018).

At the transient pole of the stability dimension are accounts that define happiness and well-being as the sum of highly transient, momentary, pleasant states. These accounts emphasize the instability of happiness and well-being. For example, according to some philosophers of the hedonist tradition, happiness can be described as a sensory pleasure and as the balance of pleasant and unpleasant states (Bentham, 1789; Mendola, 2006; Sprigge, 1991; Tännsjö, 2007). Similarly, according to some psychologists, happiness can be described as momentary pleasant states and as the average of momentary good and bad affective states over a period of time (Kahneman, 1999), or as a pure state located at the positive extreme of the bipolar pleasure-displeasure dimension (Russell, 1980).

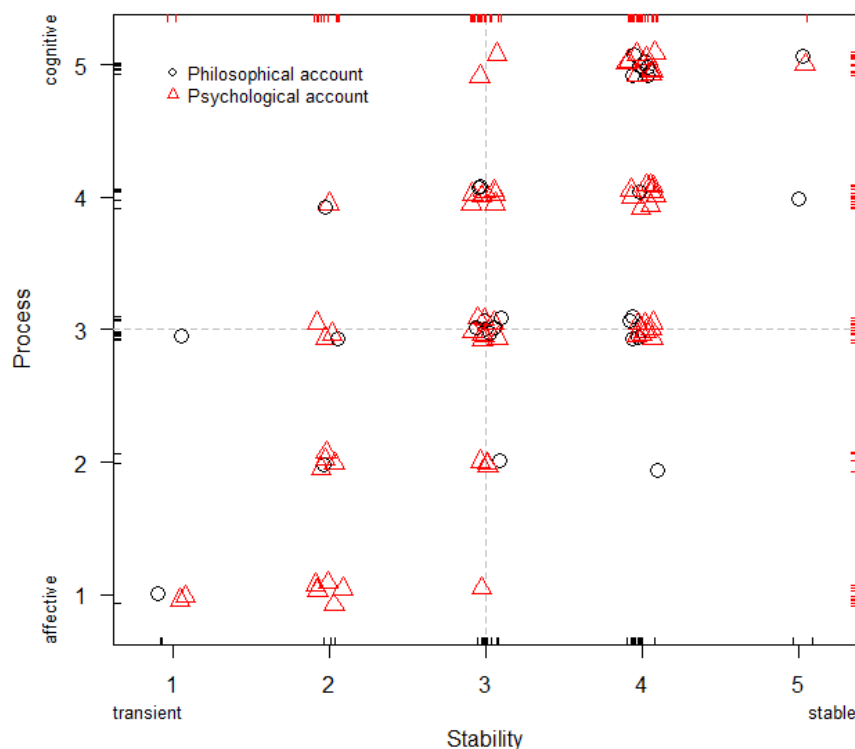


Figure 3.1. Position of all theoretical accounts included in the review on the two-dimensional map. Red triangles denote psychological accounts, black circles denote philosophical accounts. The so-called rug (short lines at the inner edges of the axes) displays the frequency of accounts that were given the respective rating for stability and psychological process, respectively. The frequencies for philosophical accounts are displayed on the bottom and left axis; the frequencies for psychological accounts are displayed on the top and right axis. Random jitter was applied to all data points to enhance the graphical display.

Other accounts define happiness and well-being as a more lasting and profound experience, and thus emphasize stability slightly more than the previous accounts. For instance, some of the philosophers inspired by the hedonists traditions describe happiness and well-being as deep and pleasant sensations produced by certain valuable intellectual experiences (e.g., reading Shakespeare or listening to your favorite songs) and refer to a well-lived life as a life full of these kinds of pleasant experiences (Crisp, 2006; Mill, 1867). Similarly, in psychology, certain accounts define happiness as a surplus of energy (Gailliot, 2012) or as so-called peak experiences which consist of states of enjoyment (Maslow, 1964). While these accounts still focus on momentary and transient states, they imply that people experience recurrent patterns of these states. These accounts are therefore rated as moderately but not completely transient.

A number of accounts emphasize stable and transient aspects about equally. Philosophical accounts that fell into this group included those that describe happiness and well-being as experiences of enjoyment of certain goods (Adams, 1999; Kagan, 1992), as attitudinal pleasures (Feldman, 2010; Sidgwick, 1874), as the satisfaction of preferences (Brandt, 1979; Hare, 1981; Harsanyi, 1977), or as feelings of satisfaction (Telfer, 1980). What these accounts have in common is that they define happiness and well-being both as (transient) mental states (e.g., enjoyments and emotions) and in terms of (stable) evaluations, attitudes, and dispositions. Similarly, some psychologists emphasize the stability and instability of happiness about equally, defining it as a stable disposition for experiencing transient positive affective states characterized by either high activation (e.g., enthusiasm and exhilaration) or low activation (e.g., calmness, tranquility, and contentment) (Gilbert et al., 2008; Larsen & Diener, 1987).

Accounts that describe happiness and well-being as more stable concepts frequently refer to well-being as living a good life by developing certain character traits and engaging in certain well-being activities. Thus, they define happiness and well-being as a more trait-like concept rather than as a transient feeling or emotion. In philosophy, these accounts are often based on Aristotle's concept of *eudaimonia*, according to which we flourish as human beings by exercising our capacities or excellences (Aristotle, 1999). Some philosophers argue that living well requires flourishing as a human being and being virtuous (Annas, 1993; Hursthouse, 1999; LeBar, 2013; Russel, 2012), perfecting human nature (Hurka, 2015), developing certain capabilities (Nussbaum, 2000), or developing and exercising certain characteristic human capacities at the appropriate level of individual development (Kraut, 1979). Eudaimonic accounts have also been proposed in psychology. For example, Self-Determination Theory describes well-being as fulfillment of inherent growth and psychological needs such as autonomy, integrity, competence, effectiveness, and connectedness (Ryan & Martela, 2016). Fower's Aristotelian model focuses on goal pursuit and activities that are constitutive of well-being (purposeful and meaningful in themselves) (Fowers, 2012). Other psychologists define happiness and well-being in terms of psychological growth, sense of purpose, meaning, and autonomy, along with positive attitudes toward oneself and the ability to love and to create interpersonal relations (e.g., psychological well-being), which is particularly influenced by life experiences (Ryff & Keyes, 1995; Ryff & Singer, 2008), or as evaluations of one's social status and functioning (e.g., social well-being), which is proposed to be achieved through education and age (Keyes, 1998). Finally, psychologists have described well-being in terms of self-developments, maturity, and excellence of personal character (e.g., growth motivation model) (Bauer & McAdams, 2004), or as fulfillment of one's individual nature —

acting in a way that is consistent with personal potentials and development of one's best potentials (Waterman, 1993). These philosophical and psychological accounts do not only share their emphasis of eudaimonic aspects, they are also highly similar in terms of defining happiness and well-being as a moderately stable concept.

However, accounts that emphasize stable over transient aspects are not limited to the eudaimonic accounts discussed in the previous paragraph. For example, certain desire satisfaction accounts endorse a rather stable concept, defining a well-lived life as the life one would desire if one were fully informed (Griffin, 1986; Railton, 2008; Rawls, 1971; Sobel, 1994). Finally, we also counted philosophical life-satisfaction accounts as part of this group because they focus on individuals' judgments of their lives as a whole rather than on transient experiences (Suikkanen, 2011; Tatarkiewicz, 1966; Tiberius, 2006).

Finally, we located Asian and Eastern accounts at the extreme stable pole of the stability dimension. These accounts usually define happiness as a very stable concept referring to a sense of fulfilment, spirituality, abundance, and tranquillity pervading individuals' whole lives. They also emphasize happiness as individuals' views of themselves as part of the collective community and include negative emotions as a constituent part of individuals' happiness. These accounts describe happiness as a worldview which is determined early in life or achieved through spiritual practice and thus independent of people's current subjective state (Hitokoto & Uchida, 2014; Joshanloo, 2013; Uchida & Oishi, 2016).

3.1.2. *Distinguishing Accounts in Terms of Psychological Process*

Theoretical accounts can also be described in terms of their psychological process. In this section, we start with accounts that define the concept as involving only or mainly affective processes and proceed gradually towards accounts in which the concept of happiness and well-being is described as involving mainly or only cognitive processes.

Purely affective accounts include some philosophical hedonic accounts which describe happiness as an affective pleasant state or as the balance of pleasant and unpleasant states (Bentham, 1789; Mendola, 2006; Sprigge, 1991; Tännsjö, 2007). This notion can also be found in some psychological accounts that refer to happiness as the average sum of good and bad momentary affective states (Kahneman, 1999; Russell, 1980).

Overall, however, such purely affective accounts are rare. In psychology, many multidimensional accounts involve at least one facet that can be rated as more affective than cognitive (see Figure 3.1

and Table 3.1), although being also influenced by cognitive elements. For example, the emotional elements in Vittersø's concept of functional well-being (Vittersø, 2016) or the affective components in Diener's concept of subjective well-being (Diener, 1984) are facets within multidimensional accounts that can be rated as moderately affective. We discuss these multidimensional accounts in more detail below. An interesting and relatively new account in philosophy that defines happiness as more affective than cognitive is Haybron's emotional state theory, where happiness is defined as having a positive emotional stance towards life and positive mood propensities (Haybron, 2008).

Accounts that describe their concepts as involving equally affective and cognitive processes include those who define happiness and well-being as attitudinal pleasures (Feldman, 2010; Sidgwick, 1874), as positive moods (Brülde, 2007), and as the self-fulfilment of one's emotional nature (Haybron, 2008). These accounts describe happiness and well-being as affective states that involve cognitive processes such as having certain attitudes or making evaluations (e.g., pleasant attitudes, dispositions, and emotions). Some other philosophers also describe happiness and well-being as a lasting and profound pleasant state which sometimes involves intellectual cognitive activities rather than only bodily or sensory pleasant feelings (Crisp, 2006; Mill, 1867). For them, a life full of pleasure involving cognitive ability (e.g., the life of a musician) must be preferred over a life full of purely affective sensations (e.g., a life of indulging in sensory pleasant experiences). In psychology, Gailliot (2012) describes happiness as a surplus of energy which is affected by both, moods and cognitive demands. Again, multidimensional psychological accounts often involve at least one facet that can be rated as equally affective and cognitive, as we discuss in detail below.

Philosophical accounts that emphasize cognitive processes often come from two traditions. First, most philosophical accounts in the Aristotelian tradition (Annas, 1993; Hurka, 2015; Hursthouse, 1999; Kraut, 2007; LeBar, 2013; Nussbaum, 2000; Russel, 2012) can be rated as highly cognitive accounts. To a different degree, all of these accounts understand happiness and well-being as involving cognitive processes such as developing and exercising certain characteristic human capacities. Affective processes are still part of well-being in some accounts but are seen more as a by-product of certain rational activities (e.g., virtuous activities) rather than as a process that directly defines happiness and well-being. Second, philosophical accounts that define happiness and well-being in terms of satisfaction tend to focus on the cognitive aspect by describing happiness and well-being as individuals' judgments of their lives as a whole (Suikkanen, 2011;

Tatarkiewicz, 1966; Tiberius, 2006), as satisfaction of preferences (Brandt, 1979; Hare, 1981; Harsanyi, 1977) as satisfaction of informed desire (Griffin, 1986; Railton, 1986; Rosati, 1995), or as beliefs of satisfaction (Davis, 1981).

Corresponding accounts in psychology include eudaimonic well-being models. Similar to their philosophical counterparts, these accounts emphasize cognitive processes but still include affective processes as having a secondary role in humans' well-being. An account entirely inspired by Aristotle's virtue ethics is Fowers' model (Fowers, 2016). This model focuses on eudaimonic activities, that is, activities that are associated with a sense of purpose and meaningfulness. However, it also acknowledges that these well-being activities can produce a sense of fun and enjoyment in individuals (Fowers, 2012). Another example for a psychological account that emphasizes cognitive processes over affective processes is Self-Determination Theory (Ryan & Martela, 2016). This account describes cognitive processes such as autonomy, integrity, competence, effectiveness, and connectedness, as necessary conditions for well-being, psychological growth, and health. Well-being is mainly seen as a by-product of a rather eudaimonic lifestyle (Ryan & Martela, 2016). Well-being is also described as a more cognitive concept in Bauer's growth motivation model (Bauer & McAdams, 2004), which focuses on self-development, maturity, and excellence of personal character, and in Waterman's eudaimonic identity theory (Waterman, 1993), which defines well-being as fulfillment of human nature and assessment of individuals' actions, which could be accompanied by certain positive feelings. Finally, Asian and Eastern accounts also tend to define happiness as a more cognitive than affective concept, as they focus on individuals' world views and individuals' view of themselves as part of the collective community (Hitokoto & Uchida, 2014; Joshanloo, 2013; Uchida & Oishi, 2016).

3.2. Implications

Once the two-dimensional taxonomy is applied to a set of theoretical accounts, it can be used to answer specific research questions about similarities and differences among accounts in a systematic way. As illustrative examples, we now discuss how the two-dimensional taxonomy can be used (a) to describe and understand multidimensional accounts, (b) to identify focal points and gaps in the theoretical accounts, and (c) to integrate philosophical and psychological accounts.

3.2.1. *Identifying Focal Points and Gaps in Theoretical Accounts*

Describing theoretical accounts on independent continuous dimensions permits identifying focal points and gaps in the theoretical literature in a straightforward way. A closer inspection of Figure 3.1 reveals several interesting points.

First, not all areas in the two-dimensional maps are equally occupied. Rather, most theoretical accounts are concentrated in the bottom-left quadrant (transient, affective) and in the top-right quadrant (stable, cognitive). This pattern leads to two important conclusions. First, there is no universally accepted definition of happiness and well-being. Second, although the two dimensions are conceived as independent, there is a significant association ($r = .67$) such that accounts that received higher scores on the stability dimension also tended to receive higher scores on the process dimensions. Put differently, accounts that emphasized cognitive processes were rated as viewing happiness and well-being as a rather stable concept (top-right quadrant in Figure 3.1), whereas accounts that emphasized affective processes were rated as viewing happiness and well-being as a rather transient concept (bottom-left quadrant in Figure 3.1).

It is important to point out that this is the empirical result of a systematic literature review, indicating a certain level of agreement among scholars that cognitive processes tend to be stable and that affective processes tend to be transient. However, this is not a natural law. In fact, several psychological authors have argued (Eid, 2008) and shown empirically that presumably cognitive concepts such as life satisfaction can vary substantially within short periods of time such as days or weeks (Eid & Diener, 2004; Jayawickreme et al., 2017), and that presumably affective concepts such as positive and negative affect have a stable core that changes little within people (Anusic et al., 2012; Eid & Diener, 2004). Our analysis shows that a theoretical elaboration and integration of these concepts may be of interest for both philosophers and psychologists.

Second, the plot also reveals that very few accounts were rated as extremely unstable or extremely stable, with most accounts being rated as somewhere in the middle between the two extremes. This is also true for psychological process, although to a lesser degree. Here, the number of accounts being rated as purely affective or purely cognitive was somewhat higher. Interestingly, this even applies to the multidimensional accounts, which could more easily allow some of their facets to tap into the extremes, without conceding that happiness and well-being is overall extremely stable or transient, affective or cognitive. Overall, most accounts are moderate, and this is true for both philosophical and psychological accounts. This observation highlights one of the

advantages of dimensional taxonomies over categorical taxonomies: Only dimensional taxonomies can represent such nuances.

In sum, describing and visualizing theoretical accounts on the two-dimensional taxonomy highlights focal points and gaps in previous theoretical accounts and may point scholars to opportunities for future theory development. In particular, the empty spots in the map should not be seen as no-go areas, but rather as uncharted terrain that merit exploration.

3.2.2. *Understanding Multidimensional Accounts*

As noted above, a number of theoretical accounts in both philosophy and psychology consist of multiple facets. These accounts are traditionally referred to as multidimensional accounts. Rating the facets of these accounts separately allowed us to examine whether the different facets tap into different concepts of happiness and well-being as defined by our two-dimensional taxonomy. Due to space constraints, we do not discuss all multidimensional accounts here (but see Table 3.1 for ratings for all facets of the multidimensional accounts). Instead, we focus on a few selected multidimensional accounts that are particularly illustrative and/or widely recognized in the literature.

As a first example, there are accounts in both psychology and philosophy that define well-being as a dual concept, consisting of a less stable, affective facet and a more stable, cognitive facet. For example, Diener's concept of subjective well-being (SWB) has an affective component (positive and negative affect) and a cognitive component (personal judgments about satisfaction with life as a whole as well as satisfaction with specific life domains) (Diener, 1984). A corresponding philosophical account is Sumner's authentic happiness theory which describes happiness as constituted of positive affect (affective facet) and informed and autonomous individuals' judgments of satisfaction with their lives (more cognitive) (Sumner, 1996). For both accounts, the cognitive facets (white symbols) and affective facets (black symbols) occupy different areas in the two-dimensional map, indicating that they do tap into rather distinct phenomena (Figure 3.2).

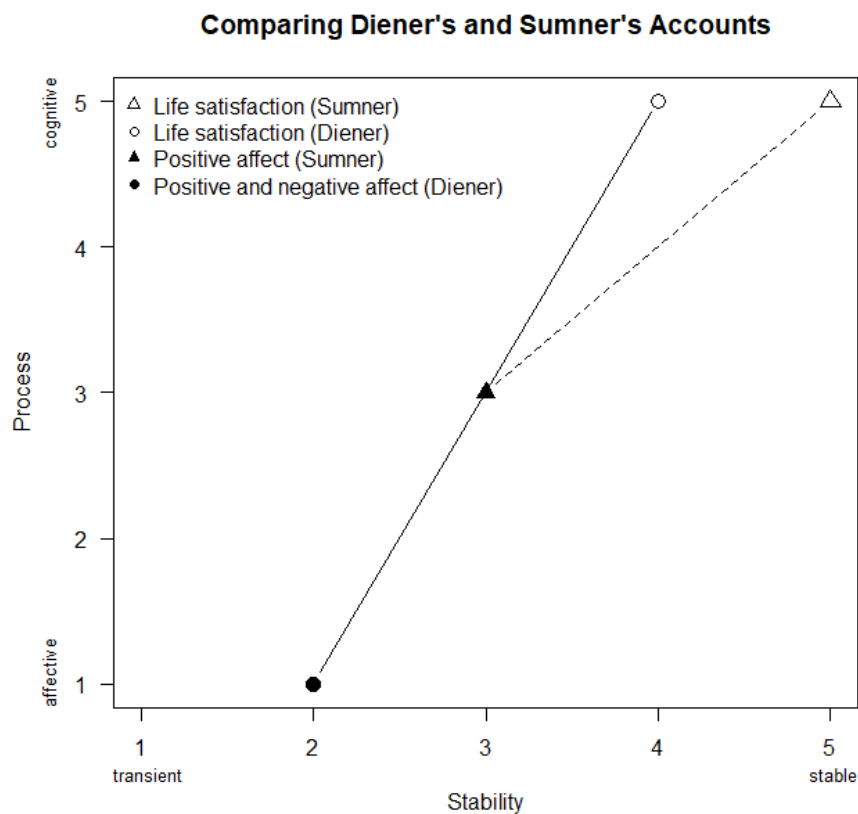


Figure 3.2. Position of the facets of Diener's and Sumner's multidimensional accounts on the two-dimensional map.

As a second example, we discuss accounts that distinguish well-being into two equally important facets: hedonic well-being and eudaimonic well-being (Delle Fave et al., 2011; Huta & Waterman, 2013; King & Napa, 1998; McMahan & Estes, 2011). Hedonic well-being is frequently associated with positive affective states and life satisfaction and is therefore described as less stable and more affective. Eudaimonic well-being is associated with meaning, purpose, self-development, flow, etc. and is therefore often described as more stable and more cognitive. An interesting exception to this general description is Vittersø's functional well-being (Vittersø, 2016). This account describes well-being as including a dispositional (more stable and cognitive) element and an emotional (less stable and more affective) element for *both* hedonia and eudaimonia. This account shows that not all accounts equate hedonic well-being with transient, affective processes and eudaimonic well-being with stable, cognitive processes.

Finally, we consider pluralist accounts discussed in philosophy that differentiate among multiple components of well-being (Finnis, 1980; Fletcher, 2013; Parfit, 1984). These accounts usually

claim that certain goods included in a list benefit people and can tell us how well people's lives are going. A graphical display of the different components of enumerative pluralist theory (Fletcher, 2013) in our two-dimensional taxonomy illustrates that these accounts are truly multidimensional in the sense that the components occupy different areas of the two-dimensional model (Figure 3.3).

In sum, these examples show that describing multidimensional accounts on independent dimensions rather than trying to classify them into different categories allows for a more nuanced characterization of these accounts. Similarities and differences both within accounts (i.e., among facets of a specific account) and between accounts can be illustrated graphically and thereby allow conclusions about whether the different facets cover a narrow or a wide area in terms of degree of stability and psychological process, and how they compare to other multidimensional accounts, including those from other disciplines.

3.2.3. *Integrating Philosophical and Psychological Accounts*

Describing theoretical accounts on two dimensions facilitates integration of accounts both within and across disciplines. With respect to integrating philosophical and psychological accounts, we can use the two-dimensional taxonomy to detect similarities and differences between the two disciplines overall (macro perspective) as well as between specific theoretical accounts (micro perspective).

With respect to the macro perspective, one can use the two-dimensional map to examine whether the distribution of the theoretical accounts across this map differs between the two disciplines. For example, it might have been possible that psychological accounts tended to be more affective than philosophical accounts (or vice versa), which would have resulted in a starker concentration of psychological accounts in the two left-hand side quadrants of the map, whereas philosophical accounts might have scattered more frequently in the two right-hand side quadrants of the map. However, such a pattern was not apparent for accounts of happiness and well-being displayed in Figure 3.1. A multivariate analysis of variance with discipline as the independent variable and degree of stability and psychological process as dependent variables confirmed that the distributions did not differ significantly across the two disciplines, Pillai = 0.01, $F(2, 89) = 0.43$, $p = .655$. This finding is encouraging for attempts to integrate the two fields because it suggests that theoretical accounts in both disciplines describe similar phenomena.

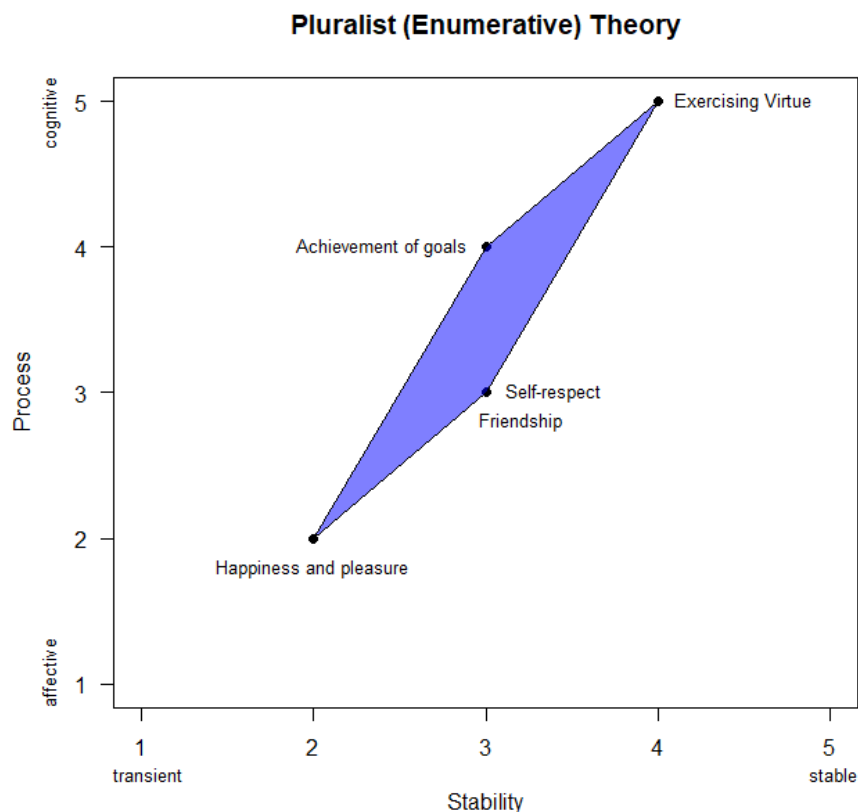


Figure 3.3. Position of the components of Fletcher's enumerative pluralist theory on the two-dimensional map.

As an example for the micro perspective, we focus on two accounts that we already mentioned above as being similar to each other: the psychological account of subjective well-being (Diener, 1984) and the philosophical account of authentic happiness (Sumner, 1996). Sumner's account differs from Diener's account mainly in terms of the additional authenticity and autonomy constraint. In the case of Sumner's account, it is assumed that, hypothetically, individuals' judgments must be informed and free from manipulation and oppressive social conditioning. These differences lead to somewhat different ratings of the facets on our two dimensions (Figure 3.2). For both accounts, their facets occupy different areas in the two-dimensional map, but the two affective facets and the two cognitive facets were rated as being similar but not identical to each other, as illustrated by their respective proximity to each other in the figure. This observation implies that while these accounts are not identical, it may nevertheless be possible to integrate them. Arguably, both psychologists and philosophers subscribing to these accounts could benefit from such an integration. In general, psychological accounts tend to be less well elaborated and less well grounded in philosophical schools of thinking than philosophical accounts, and linking

them to corresponding philosophical accounts might enhance their theoretical foundation. Philosophical accounts, in contrast, tend to be less concerned with measurement than psychological accounts, and linking them to corresponding psychological accounts would open a pathway towards empirical examination of their assumptions. Describing accounts from both disciplines on a dimensional taxonomy such as the one proposed in this paper helps identify accounts that are similar enough to each other to make attempts to integrate them promising. However, any truly interdisciplinary collaboration is only possible if philosophers and psychologists work together bringing in their own specific competences and expertise. Collaboration should, therefore, be based on philosophers working with psychologists as measurement experts and psychologists working with philosophers as conceptual analysis specialists.

3.3. Discussion

Although happiness and well-being are studied by scholars from many different disciplines, interdisciplinary collaborations among these disciplines are relatively rare and often complicated by differences in terminology and theoretical traditions. Theoretical accounts are often developed within one discipline without much cross-reference to other disciplines. Such a focus on one specific discipline may lead to the development of theories that are highly distinct from theories from other disciplines, but it may also lead to the independent development of theories that are highly similar to each other. To foster interdisciplinary collaborations, a necessary first step is therefore to identify and describe similarities and differences among theoretical accounts in a simple and straightforward way.

In the present paper, we proposed that this goal can be attained by moving away from categorical taxonomies towards dimensional taxonomies of theoretical accounts. A systematic review of philosophical and psychological accounts of happiness and well-being showed that there is an enormous number of distinct definitions. To describe similarities and differences among these different accounts in a systematic way, we developed a two-dimensional framework that allowed characterizing accounts in terms of degree of stability (from transient to stable) and in terms of type of psychological process (from affective to cognitive). An application of this framework to theoretical accounts demonstrated several advantages of using a dimensional taxonomy such as the one proposed here. First, if the dimensions of the taxonomy are general enough, they can be applied to almost all theoretical accounts in a field, as it was the case for the philosophical and psychological accounts of happiness and well-being in the present paper. This feature of

dimensional accounts resolves the problem of exhaustiveness and exclusiveness inherent in most categorical taxonomies. Put simply, because most accounts can easily be integrated into an existing dimensional taxonomy, developing and refining novel taxonomies to be able to integrate novel theories becomes obsolete. Second, dimensional taxonomies can be displayed graphically. Graphical displays make focal points and gaps visible and facilitate integrating different theoretical accounts because their similarities and differences are reflected in their relative distance to each other in this graphical display. Applying this advantage to philosophical and psychological accounts of happiness and well-being allowed us to describe and evaluate multidimensional accounts and to identify theoretical twins, that is, accounts from different disciplines that tap into the same phenomena (e.g., Sumner's authentic happiness and Diener's subjective well-being).

However, the two-dimensional taxonomy proposed here has some limitations. First, we based our ratings of the theoretical accounts on detailed written descriptions of the concepts. While these ratings were straightforward for some accounts, they were more challenging for others. We therefore acknowledge that others might disagree with our ratings as well as with our selection of these particular two dimensions. Thus, our taxonomy is open to changes and improvements. Moreover, we considered as many different accounts as feasible, including lay people's definitions (Delle Fave et al., 2016; Furnham & Cheng, 2000; McMahan & Estes, 2011b) and Eastern and Asian conceptualizations (Hitokoto & Uchida, 2014). However, we should make clear that our research is mostly based on accounts and studies from Western countries and does not include accounts developed in other disciplines (e.g., sociology, economics, theology) and cultures (e.g., Eastern or African accounts, Asian and Arabic philosophy). One task for future research is therefore to examine whether the framework proposed here can be applied to these accounts as well.

A related open question is how happiness and well-being should be defined. We deliberately do not endorse a specific definition here. However, our framework may inspire a new way of defining them as it encourages researchers to identify some basic features of their definitions in order to come up with a common shared definition across disciplines. Having a clear definition is also mandatory to be able to measure a construct. Empirical research to date focuses on those concepts of happiness and well-being for which well-validated measures have been developed. These measures usually focus on one particular definition of happiness and well-being and has led to an immense number of empirical studies in the past decades. However, such a focus may

also hinder a complete understanding of what makes people happy and what contributes to a well-lived life. We therefore would like to encourage philosophers and psychologists to work together toward a common theoretical account of happiness and well-being. Our systematic review of existing accounts suggests that well-being and happiness can be defined in very different ways, depending on which aspects of individuals' lives are in focus. However, this diversity in definitions does not mean that we should give up in trying to find a shared definition, but rather that a good way to find a common definition for well-being is to understand it as a pluralist and multidimensional concept that is better described by analyzing different connected aspects of individuals' lives. Using the two-dimensional taxonomy as a roadmap, we propose that such a multidimensional concept should attempt to occupy all areas in this taxonomy.

3.4. Conclusion

In this paper, we offer a new framework to describe and classify definitions of happiness and well-being that may foster interdisciplinary exchange between empirical researchers and philosophers and advance attempts to find a shared definition of the concept of well-being. This would be an essential step for a beneficial collaboration between the two disciplines, which we believe to be fundamental for future advancements on happiness and well-being research.

3.5. Author Contribution Statement

The contributions of each author according to the CRediT Classification:

Sabrina Intelisano:	Conceptualization, Data Curation, Investigation, Project Administration, Validation, Visualization, Writing – Original Draft Preparation, Writing – Review and Editing
Julia Krasko:	Conceptualization, Data Curation, Formal Analysis, Investigation, Methodology, Project Administration, Software, Validation, Visualization, Writing – Review and Editing
Maike Luhmann:	Conceptualization, Formal Analysis, Funding acquisition, Methodology, Resources, Software, Supervision, Visualization, Writing – Review and Editing

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4 | Introducing the CoDI Scales

Krasko, J., Intelisano, S., & Luhmann, M. (2022). When happiness is both joy and purpose: The complexity of the pursuit of happiness and well-being is related to actual well-being. *Journal of Happiness Studies*, 23(7), 3233-3261. <https://doi.org/10.1007/s10902-022-00541-2>.

4. When Happiness is Both Joy and Purpose: The Complexity of the Pursuit of Happiness and Well-Being is Related to Actual Well-Being

Abstract

People differ in how they define and pursue happiness and well-being (HWB). Previous studies suggested that the best way to achieve a high level of well-being might be to pursue different facets of HWB simultaneously. We expand on this idea and introduce the concept of complexity of HWB definitions to describe how many HWB definitions people endorse simultaneously, and the complexity of HWB-related intentions to describe how many unique facets of HWB people intend to pursue in everyday life. To operationalize these novel concepts, we developed two parallel measures that integrate psychological and philosophical definitions of HWB. In two independent studies (total $N = 542$), exploratory and confirmatory factor analyses revealed eight reliable and valid factors for both parallel scales: absence of negativity, positive attitude, tranquility, personal development, luck, joy and desires, purpose, and belonging. Complexity of HWB-related intentions was positively associated with all facets of well-being, whereas complexity of HWB definitions was only positively associated with some facets of well-being. HWB-related intentions and their complexity emerged as more important for the experience of well-being than HWB definitions and their complexity. These studies highlight the importance of a multifaceted conceptualization of HWB when investigating how the pursuit of HWB is related to actual levels of well-being.

Keywords: Definitions of happiness; Lay definitions; Happiness-related intentions; Wellbeing; Happiness; Test construction

4.1. Introduction

What is happiness and what is the best way to be happy? An overwhelming number of opinions and answers exist to this very old question. Happiness and well-being (HWB) have been described in many different ways in the academic literature (Intelisano et al., 2020; Tov, 2018) and by lay people (Delle Fave et al., 2011; Pflug, 2009). We use the term HWB definitions to refer to different ways HWB is conceptualized—in the academic literature or by lay people—and we use the term lay definitions to specifically refer to lay people’s HWB definitions. In the philosophical and psychological literature, the distinction between the terms happiness and well-being is not always clear and the terms are either often used synonymously or with differing meanings (Haybron, 2001, 2007; Intelisano et al., 2020). For example, in philosophy, theories of well-being refer to normative value concepts like prominent eudaimonic theories whereas theories of happiness are rather descriptive and refer to valued subjective psychological states (Haybron, 2007; Intelisano et al., 2020; Waterman, 2008). In psychology, however, concepts like psychological functioning and eudaimonic well-being are treated as subjective conditions albeit being related to normative eudaimonic theories in philosophy (Intelisano et al., 2020; Ryff, 1989b; Waterman, 2008). This reflects an inconsistent use of the term well-being in the literature. Further, although lay people seem to generally agree that happiness and well-being are two distinct concepts (Jongbloed & Andres, 2015), they frequently attribute a broad range of concepts to the term happiness, including concepts that some scholars in psychology or philosophy would attribute to theories of well-being (see Delle Fave et al., 2016; Jongbloed & Andres, 2015; McMahan & Estes, 2011b; Oishi et al., 2013). Although we were particularly interested in lay people’s definitions of happiness, we therefore also take concepts into account that some scholars would attribute to theories of well-being. For this reason, we frequently refer to both happiness and well-being definitions in our manuscript.

There is no one single way to actively pursue happiness. Rather, it seems to matter how people define HWB for themselves and which specific facet of HWB they strive for (McMahan & Estes, 2011a; Steger et al., 2008). For example, in one study, defining happiness in eudaimonic terms was higher and more robustly associated with well-being than defining happiness in hedonic terms (McMahan & Estes, 2011a). Other studies suggest that the best way to achieve a high level of well-being might be to not focus on one particular facet of HWB (e.g., either eudaimonic or hedonic HWB), but rather to pursue different facets of HWB simultaneously (Henderson & Knight, 2012; Huta & Ryan, 2010; Sirgy & Wu, 2009). In the present paper, we expand on this

idea and introduce the concept of complexity of HWB definitions to describe how many HWB definitions people endorse simultaneously. The complexity of HWB definitions varies on a continuum from simple (i.e., endorsing only one or few HWB definitions) to complex (i.e., endorsing multiple HWB definitions simultaneously).

To understand how lay people actively pursue happiness, it is not sufficient to only look at which HWB definitions they endorse. Instead, we additionally need to examine to what extent people intend to pursue different facets of HWB in everyday life. Just like people might endorse few or many HWB definitions (definitions-complexity), they might also intend to pursue few or many different facets of HWB in everyday life. We label this concept as the complexity of HWB-related intentions (intentions-complexity). Intentions-complexity varies on a continuum from focused (i.e., pursuing one or few facets of HWB) to diffuse (i.e., pursuing several facets of HWB simultaneously).

The primary goal of this paper was to examine the relationships of HWB definitions-complexity and HWB-related intentions-complexity with actual levels of well-being. To examine these relationships, measures are needed that assess multiple different HWB lay definitions and HWB-related intentions. As we elaborate below, existing measures assessing these or related constructs (Huta & Ryan, 2010; McMahan & Estes, 2011b; Peterson et al., 2005) are not sufficient for our purposes. A secondary goal was therefore to develop novel measures of HWB lay definitions and HWB-related intentions that allow us to empirically investigate the complexity of HWB definitions and HWB-related intentions.

4.2. The Complexity of Happiness Definitions

Is the complexity of HWB definitions related to actual levels of well-being? Similar questions have been discussed and investigated before (Grimm et al., 2015; Huta & Ryan, 2010; Sirgy & Wu, 2009). For example, Sirgy and Wu (2009) proposed that people who have a balance between a pleasant life, an engaged life, and a meaningful life experience higher levels of well-being than people who have an imbalance. In line with this proposal, studies showed that pursuing different facets of HWB simultaneously is associated with higher levels of well-being than focusing on only one facet (Grimm et al., 2015; Huta & Ryan, 2010). Accordingly, a balanced satisfaction of basic psychological needs contributes to well-being over and above the aggregated need fulfillment (Milyavskaya et al., 2009; Sheldon & Niemiec, 2006). These basic psychological needs have been

described in the Self-Determination Theory and are related to eudaimonic HWB definitions (Ryan et al., 2008).

In line with this literature, we expect people with complex HWB definitions to experience higher levels of well-being than people with simple HWB definitions. Possible explanations for this link can be summarized as follows: (1) People with complex HWB definitions might be better at spreading their resources across different life domains, whereas people with simple HWB definitions might invest their resources only in few life domains. The latter can lead to shortcomings in other life domains, as well as negative outcomes like stress or role conflict (Sheldon & Niemiec, 2006; Sirgy & Wu, 2009). (2) The successful pursuit of different facets of HWB contributes to the overall level of well-being by affecting different emotional experiences and serving different human needs (Keyes et al., 2002; Sirgy & Wu, 2009). (3) When specific facets of HWB cannot be reached at certain times, other facets of HWB might compensate or buffer an overall negative effect on well-being (Keyes et al., 2002; Sirgy & Wu, 2009). (4) Positive spillover effects from one facet of HWB to another might contribute to a higher overall level of well-being (Sumer & Knight, 2001). For example, hedonic pleasure can result from eudaimonic action (Kashdan et al., 2008).

4.3. From Definitions to Intentions

According to the previous section, people with complex HWB definitions need to live in consistency with their definitions to experience higher levels of well-being. However, people do not always live and act in consistency with their beliefs. For example, someone might agree that positive relationships are an important facet of happiness but have no intentions to improve this facet actively. One possible reason for this discrepancy could be individual beliefs about the (lack of) controllability of happiness (Passmore et al., 2018; Titova & Sheldon, 2019). We propose that how people describe HWB is related but not identical to their *intentions* to pursue specific facets of HWB in everyday life. Further, we expect people with diffuse HWB-related intentions (i.e., pursuing several facets of HWB simultaneously) to experience higher levels of well-being than people with focused HWB-related intentions (i.e., pursuing one or few facets of HWB).

4.4. Measuring Happiness Definitions and Intentions to Pursue Happiness

To examine the relationships of HWB definitions-complexity and HWB-related intentions-complexity with actual levels of well-being, a measure is needed that assesses multiple different

HWB lay definitions and HWB-related intentions. Existing measures of these constructs or related constructs (Huta & Ryan, 2010; McMahan & Estes, 2011b; Peterson et al., 2005) cover only a few prominent HWB definitions. For example, the Beliefs About Well-Being Scale (McMahan & Estes, 2011b) measures only four dimensions: experience of pleasure, avoidance of negative experience, self-development, and contribution to others. Consequently, existing measures do not allow us to assess the complexity of HWB definitions and of HWB-related intentions appropriately. Furthermore, existing measures either do not distinguish between HWB-related definitions and intentions (Peterson et al., 2005) or focus on only one of these aspects (Huta & Ryan, 2010; McMahan & Estes, 2011b).

We therefore developed two parallel measures of HWB lay definitions and HWB-related intentions that cover a broader range of different HWB definitions in order to measure HWB definitions-complexity and HWB intentions-complexity. To construct these scales, we needed to decide which of the many existing HWB definitions should be considered when creating an item pool. For this purpose, we reviewed studies on lay definitions of HWB. Some of these studies used unidimensional (Joshani, 2019) or multidimensional (McMahan & Estes, 2011b; Peterson et al., 2005) scales. Many of these scales measure aspects of both hedonic and eudaimonic HWB definitions, which are present in lay people's HWB definitions across cultures (Delle Fave et al., 2011, 2016; Lu & Gilmour, 2004; Pflug, 2009). Hedonic definitions describe HWB as the experience of pleasure and other positive emotions, positive cognitive evaluations of one's life, and the absence of negative emotions or experiences. Eudaimonic definitions describe HWB as the fulfillment of one's inner potential, self-development, virtue, meaning, and autonomy (Henderson & Knight, 2012; Huta & Waterman, 2014). Other prominent HWB definitions refer to different aspects of social relationships such as interpersonal connectedness or feelings of acceptance (Keyes, 1998; Uchida & Ogihara, 2012).

Qualitative studies revealed additional HWB definitions that lay people view as important. These studies investigated free-response associations with happiness (Delle Fave et al., 2016; Lu & Gilmour, 2004; Pflug, 2009) or language use related to HWB (Lomas, 2016; Oishi et al., 2013). For example, some people consider HWB as favorable external circumstances that cannot be controlled by an individual, like good luck or fortune (Oishi et al., 2013; Pflug, 2009). Pflug's (2009) investigation of Germans and South Africans revealed that some people describe happiness with statements like "finding a few euros without having expected it" (p. 558), which appears to refer to luck. Such statements might be caused by the fact that in Germany the term

“Glück” refers to both happiness and luck. However, Oishi et al. (2013) showed that luck and fortune were present in dictionary definitions of happiness in many nations. Historically, luck was a dominant aspect in HWB definitions (Oishi et al., 2013) and many words that refer to happiness states are etymologically derived from luck (Lomas, 2016; McMahon, 2004). In sum, people seem to agree that “Happiness [...] is what happens to us” (McMahon, 2004, p. 8) and that this is at least to some extent dependent on random and uncontrollable external factors. Although scales exist to measure the belief in luck (Darke & Freedman, 1997), luck has been ignored in scales of HWB definitions. One exception is Joshanloo (2017), who investigated the lay belief that happiness depends on factors outside of humans’ control, which seems to be related to the concept of luck.

Other less frequently considered HWB definitions cover positive affective states that are characterized by low levels of arousal, like calmness or tranquility (Berenbaum et al., 2019; Delle Fave et al., 2016; Uchida & Ogihara, 2012). For example, Delle Fave et al. (2016) described inner harmony as an umbrella term for such low-arousal affective states. Other examples include research on tranquility, which describes a state of pleasant inactivity and peace with one’s current status (Berenbaum et al., 2019; Ellsworth & Smith, 1988). People from East-Asian cultures are supposed to pursue low-arousal positive affective states. In contrast, people from Western cultures are supposed to pursue high-arousal positive affective states like joy or excitement (Uchida & Ogihara, 2012). However, qualitative studies revealed that inner harmony was also one of the most cited HWB definition among Western cultures (Delle Fave et al., 2016). Although low-arousal positive affective states appear to be important for lay people, no measure of HWB definitions had previously included such states.

Of course, many other not yet mentioned HWB definitions have previously been described. Examples include optimism and an overall positive attitude towards life (Delle Fave et al., 2016; Haybron, 2005, 2007) or physical safety and material well-being (Furnham & Cheng, 2000; Lomas, 2016). We aimed to develop measures that allow us to distinguish several different HWB definitions while it should also have a pragmatic length. Hence, we did not aspire to consider all possible HWB definitions that have ever been described but instead restricted the scale to prominent HWB definitions in the philosophical and psychological HWB literature and for which past studies have shown that they are also relevant for lay people.

4.5. The Present Paper

The main goal of the present paper was to investigate the relationships of the complexity of HWB definitions and of HWB-related intentions with actual levels of well-being. In two independent studies, we developed the CoDI Scales, two novel scales measuring HWB definitions and definitions-complexity (Studies 1 and 2) as well as HWB-related intentions and intentions-complexity (Study 2). Further, we investigated the reliability and validity of the scales (Study 2). The CoDI Scales were then used to examine our main research question (Study 2).

4.6. Study 1

In Study 1, we developed a novel measure of lay definitions of HWB that covers a broader range of definitions than previous scales and allows us to operationalize the complexity of people's HWB definitions.

4.6.1. Method

4.6.1.1. Participants

The study was preregistered before the data collection started¹⁴. Data collection was approved by the ethics committee of the Department of Psychology, Ruhr University Bochum. Data collection was conducted in May 2017 among a German student sample using the online survey tool Qualtrics. Participants received course credit and could participate in a lottery of Amazon vouchers worth 800€ in total. We aimed to collect data from 200 – 300 participants since it has been shown that for stable estimates of correlations the sample size should approach 250 (Schönbrodt & Perugini, 2013). We collected responses from 278 participants. We excluded seven participants due to an item for the self-assessment of data quality, six participants due to failed responses on two instructed-response items, and two participants with missing values on at least one item of the new measure. After exclusion, the final sample size was $N = 263$. The age of the participants ranged from 18 to 68 ($M = 24.49$, $SD = 5.19$), 60.3% were female, 95.0% not married, and 59.5% in a relationship.

¹⁴ The preregistration, deviations from the preregistration (<https://osf.io/bq4hr> & <https://osf.io/pwxcs/>), and all data files and R-codes (<https://osf.io/5qy27/>) are available at OSF.

4.6.1.2. Measures and Procedure

Following common recommendations for test construction (e.g., Downing, 2006), we initially developed a comprehensive pool of 270 items for HWB definitions. For item development, we systematically considered HWB definitions that were listed in an integrative review of philosophical and psychological definitions of HWB (Intelisano et al., 2020). This review included prominent HWB definitions in the philosophical and psychological literature as well as studies of lay definitions of HWB (e.g., McMahan & Estes, 2011b). Because of the importance of uncontrollable favorable external circumstances (i.e., luck) in lay definitions of HWB (Delle Fave et al., 2016; Oishi et al., 2013; Pflug, 2009), we additionally included items to capture this construct. For the specific item wordings, we were inspired by established measures related to these HWB definitions (e.g., Hitokoto & Uchida, 2015; Peterson et al., 2005; Ryff, 1989a) and a review of dictionary definitions of happiness (Oishi, Graham, Kesebir, & Galinha, 2013). Because of substantial overlaps among the included HWB definitions, the initial item pool had a large number of redundant items. We reduced the item pool to 110 items after peer feedback. The peers were instructed to focus on item redundancies and item quality according to common recommendations for item wordings. The items were phrased as a completion of a specific item stem (“For me personally, happiness means...”) (Table 4.1). Further, the items were phrased in a general manner such that they assess whether people generally endorse specific HWB definitions regardless of whether they actively pursue specific facets of HWB.

Table 4.1. Overview of characteristics of the parallel scales.

	Item stem	Example Item	Wording
HWB definitions	For me personally, happiness meanscalmness and tranquility.	general
HWB-related intentions	In daily life, I tryto be calm and tranquil.	subjective

Note. HWB = happiness and well-being

Item responses were averaged within subscales to create scores. The complexity of HWB definitions was calculated by averaging the subscales representing different HWB definitions¹⁵. A strong agreement with many items for HWB definitions would lead to high scores for the subscales, which in turn would result in a high complexity score. In contrast, a strong agreement

¹⁵ Prior to the analyses, we contrasted different ways of calculating complexity, which we share in the online materials (<https://osf.io/gfytn/>; file “Ideas for computing complexity.xlsx”).

with only one or few subscales and a low agreement with the other subscales would result in a low complexity score.

Response tendencies like acquiescence are a common issue in research that depends on self-reports (Danner et al., 2015; Soto et al., 2008; Wetzel et al., 2013). The above-described approach to compute complexity would not only result in a high complexity score when participants endorse many HWB definitions but also when they tend to agree on items irrespective of the specific content. To ensure that the results of this study and particularly the scores for complexity are not confounded with response tendencies, we included eight items that were phrased as opposite statements of items for HWB definitions. For example, for the item “...not to experience negative emotions” the corresponding item “...to also experience negative emotions once in a while” was included. We calculated an acquiescence score using responses to these pairs of items representing opposing statements (Danner et al., 2015; Ferrando et al., 2004; Soto et al., 2008). For the acquiescence score, we considered only item pairs with sufficient Pearson’s correlations ($r < -.30$). The score was calculated by averaging these items such that the resulting score represents the typical content-independent response, which should be the mid-point of the scale (3.5) for participants without any response tendencies. We subtracted the value 3.5 from each score so that the resulting score represents deviations from the mid-point of the scale. Item responses were adjusted for response tendencies by subtracting this acquiescence score from each item response. Previous studies showed that efforts to control for response tendencies improved the results (Soto et al., 2008).

Items for HWB definitions and response tendencies were presented in blocks of 20 randomly ordered items. Participants were asked to indicate to what extent they agree with the statements using a Likert scale. We used two different labeling conditions for the response options: For 48.3% of participants, we used an asymmetric scale label with only one level for true rejection (1 = *does not apply*) and five levels indicating different nuances of agreement (from 2 = *applies hardly* to 6 = *applies completely*). For 51.7% of participants, we used scale labels ranging from 0 (*does not apply*) to 5 (*applies completely*) with labels for only the two boundary points. We used these two different conditions to investigate the impact of scale labeling on response tendencies. The acquiescence score did not differ significantly between the two labeling conditions, $F(1, 261) = 0.003$, $p = .959$, Cohen’s $d = -.006$.

To control for data quality (see Meade & Craig, 2012), we additionally included two instructed-response items (e.g., “To assess data quality, please choose response option no. 2”), one

dichotomous item for self-assessment of data quality (i.e., directly asking the participants whether they answered the survey questions appropriately), and one open question for comments of any kind. Further, we assessed basic demographics such as age and gender.

4.6.2. *Results and Discussion*

All analyses were conducted in R (R Core Team, 2020), using the package *psych* (Revelle, 2017). To quantify associations, we used Pearson's product-moment correlation coefficients. We refer to item responses unadjusted for acquiescence unless stated otherwise. First, we reduced the item pool by omitting poorly performing items. As criteria for item reduction, we considered item difficulties (Lord, 1952; poorly when outside a scale range of 2.5 – 4.5 on the 1-6 Likert scale), discriminatory power (Jackson & Spielberger, 1970; poorly when $< .35$), and visual inspections of item-specific response distributions (poorly when visibly skewed). We rated the performances of all items on these criteria. We omitted 29 items with at least three negative ratings on these criteria in total by taking both into account the unadjusted and adjusted item responses. Items with fewer negative ratings remained in the item pool for the next step.

81 items were included in an exploratory factor analysis. The number of factors was determined using parallel analysis (Goretzko et al., 2021; Horn, 1965), which suggested 8 factors with similar patterns for both the unadjusted and adjusted items. We extracted 8 factors using principal axis analysis and Promax rotation. For factor interpretation, we considered items with minimum loadings of .30 on a single factor, which is an appropriate cutoff criterion for this sample size (Field et al., 2012; Stevens, 2002).

Most of the factors were clearly interpretable (online materials Table A¹⁶). Factor 1 described HWB as the absence of negative affect (absence of negativity, e.g., "... to rarely feel bad."). The view that negative affective states and experiences are an obstacle to happiness is also present in hedonic HWB definitions (Henderson & Knight, 2012; Huta & Waterman, 2014).

Factor 2 referred to a generally positive attitude towards life (positive attitude, e.g., "... to cheerfully go through life.") as well as to low-arousal positive affective states (tranquility, e.g., "... a sense of inner peace."). This factor combines two HWB definitions described in the literature. Our goal was, therefore, to assess them separately in the final version of the measure. Positive attitude describes HWB as a propensity for positive mood, which has previously been described in

¹⁶ The online materials are available at OSF: <https://osf.io/gfytn/>

the literature (Delle Fave et al., 2016; Haybron, 2007). Tranquility refers to pleasant inactivity and peace with one's current status (Berenbaum et al., 2019; Ellsworth & Smith, 1988) and low-arousal positive affective states described in the literature (Delle Fave et al., 2016; Uchida & Ogihara, 2012).

Factor 3 referred to interest and continuous development in life (personal development; e.g., "... to develop beyond oneself."). Describing HWB as a successful process of self-development and the fulfillment of one's inner potential is a core facet of most eudaimonic theories (Huta & Waterman, 2014; Intelisano et al., 2020; Ryff & Singer, 2008).

Factor 4 referred to luck and fortune (luck; e.g., "... to be favored by luck or fortune."). Describing HWB as favorable circumstances outside the own control is an ancient view that is still prevalent in many cultures (McMahon, 2004; Oishi et al., 2013; Pflug, 2009).

Factor 5 referred to the experience of pleasure, satisfaction, and the fulfillment of desires (joy and desires; e.g., "... the extent to which current preferences are satisfied."). Describing HWB as the experience of pleasure and satisfaction is related to hedonic HWB definitions (Diener, 1984; Huta & Waterman, 2014) and to philosophical theories that describe HWB as the fulfillment of one's desires (Intelisano et al., 2020).

Factor 6 referred to having a sense of purpose in life (purpose; e.g., "... that the own life has a lasting meaning."). HWB as the presence of a greater goal in one's life that directs one's general decisions has previously also been described by many eudaimonic HWB definitions (Huta & Waterman, 2014; Intelisano et al., 2020; Ryff & Singer, 2008).

Factor 7 referred to closeness and connection to others (belonging; e.g., "... to feel related."). Relational aspects like interpersonal connectedness and social integration have frequently been emphasized in HWB definitions by lay people and scholars (Delle Fave et al., 2011; Keyes, 1998; Uchida & Ogihara, 2012).

Factor 8 was the only factor that could not be clearly interpreted because it included only a few items with weak loadings and double loadings. For this reason, we dropped this factor. Generally, it appears to reflect HWB as intense and transcendent feelings (e.g., "... a short, very intense feeling that the world is entirely good").

To sum up, some factors reflected HWB definitions that have previously been described in the literature and have been covered by other scales assessing HWB definitions (e.g., the absence of negativity, purpose; McMahan & Estes, 2011b; Peterson et al., 2005). In addition, the exploratory

factor analysis revealed factors that have previously not been included in other scales of HWB definitions (e.g., tranquility and luck).

In the next step, we selected between 4 and 6 items per factor to compute scale scores and for further investigations in Study 2. For this item selection, we considered factor loadings, whether relations of factors and items differed between unadjusted and adjusted versions of the items, and how the exclusion would affect the internal consistency of the subscales. In total, 40 items remained. Cronbach's alpha ranged between $\alpha = .68$ and $\alpha = .84$. The correlation between the factors ranged between $r = .12$ ($p = .043$) and $r = .65$ ($p < .001$) (Table 4.2).

The complexity of HWB definitions was approximately normally distributed. Acquiescence was approximately normally distributed and adjusting for response tendencies normalized the distributions of item responses¹⁷. Correlations between acquiescence and HWB definitions as well as complexity ranged between medium and large effect sizes (according to Cohen, 1988). This indicates that people who tend to agree on opposite statements also tend to agree on items for HWB definitions and demonstrates the importance of taking response tendencies into account.

4.7. Study 2

The main objective of this paper was to examine the relationships of the complexity of HWB definitions and of HWB-related intentions with actual levels of well-being. To attain this objective, we pursued multiple goals with Study 2: First, we investigated the psychometric properties of the novel measure of HWB definitions and examined whether we could replicate the factor structure found in Study 1 using an independent sample. The results of Study 1 indicated that positive attitude and tranquility might be represented by one single factor. We investigated whether these two definitions could be measured separately.

Second, we developed and evaluated a parallel measure of intentions to pursue specific facets of HWB that should also allow us to assess the complexity of HWB-related intentions. We investigated the psychometric properties of this parallel measure and examined whether we could replicate the factor structure of HWB definitions for HWB-related intentions. We revised the item pool by selecting items for the final version of the scales.

¹⁷ The unadjusted and adjusted item distributions can be found in the online materials at OSF: <https://osf.io/gfytn/>

Table 4.2. *Descriptive statistics and correlations of Study 1.*

Variable	Unadjusted			Adjusted			1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
	M	SD	α	M	SD	α										
1. Positive Attitude	4.52	0.93	.79	4.26	0.88	.77	.69	.65	.47	.47	.37	.31	.41	.38	.78	.45
2. Tranquility	4.64	0.94	.78	4.37	0.90	.76	.61	.70	.27	.35	.41	.42	.28	.20	.68	.44
3. Joy and Desires	4.65	0.68	.68	4.38	0.79	.76	.48	.30	.53	.31	.21	.27	.33	.26	.56	.36
4. Absence of Negativity	3.89	1.06	.82	3.62	0.93	.77	.35	.21	.24	.75	.18	.29	.34	.49	.69	.51
5. Personal Development	4.12	0.84	.70	3.86	0.85	.72	.34	.39	.31	.05	.64	.48	.38	.18	.57	.41
6. Purpose	4.18	1.02	.75	3.92	1.02	.74	.28	.40	.33	.20	.48	.75	.38	.18	.64	.35
7. Belonging	4.51	0.92	.72	4.24	0.97	.74	.40	.28	.43	.27	.31	.41	.71	.24	.62	.33
8. Luck	3.75	1.23	.84	3.49	1.25	.84	.38	.20	.33	.47	.16	.20	.29	.83	.61	.26
9. Definitions-Complexity	4.28	0.62	.79	4.02	0.60	.79	.74	.65	.65	.56	.58	.64	.66	.64	.31	.60
10. Acquiescence	0.27	0.72	-	-	-	-	-.34	-.34	-.59	-.19	-.43	-.35	-.43	-.32	-.58	-

Note. Values above the diagonal indicate correlations between variables unadjusted for acquiescence, values below the diagonal indicate correlations between variables adjusted for acquiescence; bold values represent correlations between unadjusted and adjusted variables.

Third, we investigated the nomological net of the novel measures by examining correlations between HWB lay definitions and HWB-related intentions with existing scales, personality, and actual levels of well-being. The direction of expected correlations between the novel measures and other scales were preregistered¹⁸ and should have an effect size of $r > .3$ to provide evidence for meaningful associations (medium effect size according to Cohen, 1988). We did not expect that the overall pattern of associations would differ between HWB definitions and HWB-related intentions.

Finally, we investigated associations between HWB definitions-complexity, HWB intentions-complexity, and actual levels of well-being. We expected that definitions-complexity would be positively associated with intentions-complexity. Further, we examined whether having more complex HWB definitions and more diffuse HWB-related intentions is associated with higher levels of well-being, as suggested by previous work on similar questions (Grimm et al., 2015; Huta & Ryan, 2010; Sirgy & Wu, 2009). For this, we examined associations with subjective well-being (Diener, 1984) and psychological well-being (Ryff, 1989).

4.7.1. *Method*

4.7.1.1. *Participants*

Data collection started in November 2017 among a German sample (55.6% students) using the online survey tool Qualtrics. Data collection was approved by the ethics committee of the Department of Psychology, Ruhr University Bochum. Participants received course credit and could participate in a lottery of Amazon vouchers worth 600€ in total. We aimed to collect data from 200 – 300 participants since it has been shown that for stable estimates of correlations the sample size should approach 250 (Schönbrodt & Perugini, 2013). We collected responses from 334 participants and excluded four cases due to their responses to an item for self-assessment of data quality, 22 cases due to failed responses on two instructed-response items, and four cases with missing values on at least one item of the novel measures. After exclusion, the final sample size was $N = 279$. Participants' age ranged from 18 to 80 ($M = 25.88$, $SD = 7.75$), 84.6% were female, 88.2% not married, and 64.2 % in a relationship.

¹⁸ The preregistration, deviations from the preregistration (<https://osf.io/jcb75> & <https://osf.io/pwxcs/>), and all data files and R-codes (<https://osf.io/5qy27/>) are available at OSF.

4.7.1.2. Measures and Procedure

First, we assessed the novel measures and several related scales for validation purposes in a randomized order for each participant. Items within the scales were also randomized for each participant. At the end of the survey, we assessed basic demographics. Unless otherwise stated below, responses were collected using a scale ranging from 1 (*disagree strongly*) to 5 (*agree strongly*) and were averaged within scales to create scores. Descriptive statistics and Cronbach's alphas are displayed in Table 4.3 for the novel measures and Table 4.4 for the other scales.

HWB definitions and their complexity. HWB definitions were assessed with 40 selected items as described in Study 1. Since different conditions of scale labeling revealed no differences in Study 1, we used only the asymmetric scale labels with one level for true rejection (1 = *does not apply*) and five levels indicating different nuances of agreement (from 2 = *applies hardly* to 6 = *applies completely*). Definitions-complexity was computed by averaging the subscale scores representing different HWB definitions as described in Study 1.

HWB-related intentions and their complexity. For the parallel measure to assess HWB-related intentions, we created corresponding items for each item of HWB definitions. The items were phrased as a completion of a specific item stem ("*In daily life, I try ...*") (Table 4.1). Further, the items were phrased in a subjective manner to ensure that they assess whether people intend to pursue specific facets of HWB in everyday life, regardless of whether they generally endorse specific definitions. Responses were collected using the same scale labels as for HWB definitions. Intentions-complexity was calculated in accordance with definitions-complexity by averaging the subscale scores representing different HWB-related intentions.

Acquiescence. Similar to Study 1, we included 12 pairs of items with opposite statements to adjust for response tendencies, which were selected in a separate pretest. The items were presented together with items for HWB-related intentions in a randomized order and applied to the same item stem. Seven item pairs had sufficiently strong Pearson's correlations ($r < -.30$) to be included in the calculation of an acquiescence score. Procedures for calculating acquiescence and adjusting items for HWB definitions and HWB-related intentions were the same as in Study 1.

Beliefs about Well-Being. The Beliefs about Well-Being scale by McMahan and Estes (2011) assesses to what extent people endorse four different definitions of happiness, with four items each: experience of pleasure, avoidance of negative experiences, self-development, and contribution to others. We translated this scale into German using the back-translation method (Brislin, 1970).

Table 4-3. Descriptive statistics and correlations between the CoDI subscales of Study 2.

Variable	Unadjusted			Adjusted			1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	
	M	SD	α	M	SD	α																				
HWB Definitions																										
1. Positive Attitude	4.82	0.92	.76	4.96	0.93	.76	.91	.56	.50	.37	.36	.40	.44	.10	.73	.34	.24	.21	.17	.22	.22	.22	.28	.06	.33	.19
2. Tranquility	4.73	0.97	.74	4.86	0.95	.73	.55	.92	.26	.22	.43	.40	.38	-.08	.61	.26	.39	.11	.18	.27	.29	.26	.02	.33	.24	
3. Joy and Desires	4.42	0.89	.71	4.55	0.85	.68	.48	.22	.90	.52	.22	.25	.31	.42	.71	.16	.08	.45	.24	.10	.16	.23	.30	.33	.31	
4. Absence of Negativity	4.01	1.26	.83	4.15	1.24	.83	.36	.19	.51	.95	-.02	.13	.17	.39	.60	-.10	-.06	.08	.39	-.14	-.01	.05	.21	.09	.19	
5. Personal Development	4.43	0.99	.72	4.57	0.97	.71	.35	.40	.16	-.06	.92	.50	.42	-.06	.55	.31	.31	.10	.05	.56	.41	.33	.10	.41	.27	
6. Purpose	4.18	1.08	.72	4.32	1.05	.71	.39	.38	.20	.10	.47	.93	.38	.06	.62	.11	.14	.14	.07	.37	.56	.29	.19	.36	.25	
7. Belonging	4.67	1.09	.84	4.80	1.05	.83	.42	.35	.25	.14	.38	.35	.93	.08	.64	.22	.19	.22	.14	.20	.17	.72	.09	.37	.27	
8. Luck	3.78	1.32	.87	3.91	1.32	.87	.11	-.09	.41	.39	-.08	.04	.05	.96	.45	-.01	-.08	.20	.16	-.14	-.02	.11	.58	.18	.14	
9. Definitions-Complexity	4.38	0.64	.75	4.51	0.61	.72	.74	.60	.68	.59	.51	.60	.60	.45	.81	.24	.22	.30	.29	.27	.35	.46	.34	.48	.38	
HWB-Related Intentions																										
10. Positive Attitude	4.49	1.02	.81	4.62	0.98	.79	.32	.21	.09	-.16	.26	.05	.16	-.04	.16	.92	.69	.50	.38	.52	.39	.39	.26	.78	.30	
11. Tranquility	4.56	0.91	.76	4.70	0.88	.74	.22	.36	.01	-.11	.26	.09	.13	-.11	.15	.66	.91	.33	.37	.47	.37	.30	.14	.69	.29	
12. Joy and Desires	4.43	0.84	.63	4.57	0.82	.61	.20	.07	.41	.05	.05	.09	.17	.19	.25	.47	.29	.89	.37	.39	.34	.40	.42	.70	.29	
13. Absence of Negativity	3.73	1.05	.64	3.86	1.03	.62	.16	.14	.19	.37	-.01	.02	.08	.14	.24	.34	.34	.33	.93	.17	.17	.26	.28	.58	.25	
14. Personal Development	4.59	0.94	.71	4.72	0.91	.69	.21	.24	.03	-.18	.54	.33	.15	-.16	.21	.48	.44	.35	.13	.91	.60	.36	.11	.67	.28	
15. Purpose	4.09	1.02	.67	4.22	0.94	.62	.16	.22	.05	-.09	.34	.52	.08	-.07	.23	.32	.30	.26	.09	.55	.92	.30	.30	.66	.37	
16. Belonging	4.35	1.04	.78	4.48	1.00	.76	.25	.21	.15	.01	.27	.24	.69	.08	.39	.33	.24	.35	.20	.31	.21	.93	.18	.61	.31	
17. Luck	3.32	1.23	.81	3.45	1.15	.78	-.02	-.08	.21	.14	-.01	.11	-.02	.55	.22	.16	.03	.33	.20	.01	.19	.07	.95	.55	.37	
18. Intentions-Complexity	4.20	0.65	.80	4.33	0.58	.75	.30	.27	.23	.02	.34	.29	.29	.14	.39	.76	.66	.68	.55	.65	.59	.55	.44	.81	.48	
19. Acquiescence	-0.13	0.39	-	-	-	-	-.23	-.16	-.13	-.12	-.13	-.12	-.09	-.15	-.24	-.09	-.14	-.18	-.12	-.14	-.01	-.07	.06	-.14	-	

Note. Values above the diagonal indicate correlations between variables unadjusted for acquiescence, values below the diagonal indicate correlations between variables adjusted for acquiescence; bold values represent correlations between unadjusted and adjusted variables; grey shaded values represent correlations between corresponding variables for HWB definitions and HWB-related intentions.

Table 4.4. Descriptive statistics and bivariate correlations of the CoDI Scales with related constructs and well-being.

Variable	M	SD	α	HWB Definitions								HWB-Related Intentions									
				PA	TQ	JD	AN	PD	PU	BL	LC	D-COM	PA	TQ	JD	AN	PD	PU	BL	LC	I-COM
Beliefs about Well-Being																					
pleasure	4.04	0.65	.74	.40	.18	.54	.26	.12	.12	.30	.25	.44	.27	.08	.40	.17	.06	.12	.26	.25	.31
avoidance of negative	2.47	1.10	.94	.14	.13	.32	.56	-.11	.10	.04	.32	.33	-.07	-.04	.06	.29	-.19	.03	.06	.27	.09
self-development	3.92	0.69	.74	.23	.28	.14	-.03	.43	.42	.15	-.03	.31	.21	.24	.16	-.01	.39	.36	.12	.15	.31
contribution to others	3.41	0.86	.84	.24	.28	.06	-.03	.36	.28	.39	-.03	.30	.34	.24	.09	.08	.32	.39	.39	.11	.38
Orientations to Happiness																					
pleasure	3.40	0.65	.67	.26	.13	.49	.17	.17	.08	.18	.25	.35	.36	.23	.49	.23	.14	.17	.21	.36	.42
engagement	2.87	0.63	.61	-.01	.07	.05	-.12	.23	.12	-.07	-.02	.04	.32	.26	.18	.06	.39	.31	.02	.17	.32
meaning	2.78	0.77	.76	.05	.17	-.05	-.13	.34	.39	.14	-.01	.17	.26	.20	.01	.01	.35	.46	.14	.15	.30
Subjective Well-Being																					
life satisfaction	3.26	0.95	.86	.12	.12	.06	-.13	.20	.12	.18	-.12	.09	.55	.41	.32	.16	.37	.33	.37	.14	.50
positive affect	3.46	0.75	.90	.14	.10	.10	-.16	.28	.15	.13	-.01	.13	.55	.42	.38	.16	.42	.30	.30	.24	.52
negative affect	2.70	0.80	.85	-.05	.05	-.04	.14	-.10	.04	-.01	.03	.02	-.49	-.31	-.30	-.09	-.25	-.16	-.19	-.10	-.35
affect balance	0.76	1.43	-	.11	.02	.07	-.17	.21	.05	.08	-.02	.06	.57	.40	.37	.14	.36	.25	.26	.18	.47
Dispositional Positive Emotions																					
joy	3.04	0.79	.83	.15	.14	.11	-.15	.29	.09	.15	-.01	.14	.61	.44	.32	.14	.43	.31	.26	.24	.52
pride	3.53	0.78	.79	.15	.12	.19	-.08	.29	.18	.13	.01	.19	.55	.43	.35	.15	.44	.44	.30	.21	.54
compassion	3.97	0.73	.79	.22	.25	-.01	-.07	.30	.13	.36	-.06	.21	.24	.18	.06	-.02	.30	.22	.34	-.02	.24
awe	3.16	0.68	.63	.14	.20	-.01	-.19	.42	.19	.18	-.03	.17	.38	.35	.13	.02	.46	.30	.24	.16	.39

Variable	M	SD	α	HWB Definitions							HWB-Related Intentions										
				PA	TQ	JD	AN	PD	PU	BL	LC	D-COM	PA	TQ	JD	AN	PD	PU	BL	LC	I-COM
Psychological Well-Being																					
autonomy	3.63	0.84	.66	.03	.04	.04	-.03	.07	-.04	-.13	-.12	-.04	.30	.22	.24	.05	.25	.18	-.03	.08	.24
mastery	3.55	0.79	.57	.08	.05	.01	-.22	.21	.06	.03	-.10	.01	.44	.26	.18	-.04	.33	.25	.13	.06	.30
growth	4.16	0.71	.65	.28	.20	.03	-.15	.42	.15	.20	-.10	.19	.46	.36	.20	.05	.54	.31	.30	-.01	.41
positive relations	3.56	0.91	.57	.22	.12	.08	-.08	.16	.16	.31	-.04	.18	.32	.20	.15	-.05	.26	.23	.43	.03	.29
purpose	3.87	0.69	.33	.12	.07	-.01	-.06	-.02	.10	.07	-.02	.05	.20	.19	.20	-.01	.16	.23	.10	.05	.21
self-acceptance	3.51	0.98	.78	.17	.11	.10	-.13	.21	.07	.17	-.08	.10	.53	.37	.28	.11	.34	.31	.33	.11	.45
Loneliness																					
emotional	2.68	1.06	.74	-.03	.07	.01	.12	-.12	.01	-.03	.09	.03	-.29	-.19	-.18	.04	-.25	-.20	-.16	.04	-.21
social	2.39	1.09	.86	-.19	-.04	-.17	.01	-.16	-.15	-.29	-.01	-.19	-.20	-.11	-.18	.01	-.21	-.18	-.40	-.03	-.25
Big Five																					
extraversion	2.91	0.83	.61	.06	-.05	.08	-.12	.25	.14	.09	.04	.09	.31	.09	.22	-.02	.35	.28	.21	.19	.31
agreeableness	3.62	0.80	.55	.23	.18	.02	-.12	.19	.14	.38	-.04	.18	.33	.33	.11	.13	.19	.12	.43	.02	.32
conscientiousness	3.35	0.80	.51	.08	.16	.02	.05	.05	.10	.04	-.06	.09	.17	.20	.02	.04	.16	.22	.12	-.01	.17
neuroticism	3.22	0.96	.74	-.06	.01	.01	.17	-.17	.04	-.03	.08	.02	-.54	-.39	-.25	-.09	-.32	-.13	-.22	-.07	-.37
openness	3.71	0.80	.57	.01	.09	-.01	-.15	.24	.09	.02	-.18	.01	.18	.16	.10	-.03	.38	.13	.07	-.07	.16
Quality of Life																					
Quality of Life	3.57	0.73	.83	.09	.05	.05	-.17	.19	.09	.11	-.12	.04	.50	.37	.28	.09	.33	.27	.28	.05	.41
Interdependent Happiness	3.25	0.77	.86	.16	.09	.14	-.10	.21	.13	.19	-.05	.14	.58	.37	.38	.17	.35	.33	.36	.18	.51
Note. HWB = happiness and well-being; PA = positive attitude; TQ = tranquility; JD = joy and desires; AN = absence of negativity; PD = personal development; PU = purpose; BL = belonging; LC = luck; D-COM = definitions-complexity; I-COM = intentions-complexity; light grey = preregistered positive associations; dark grey = preregistered negative associations.																					

Note. HWB = happiness and well-being; PA = positive attitude; TQ = tranquility; JD = joy and desires; AN = absence of negativity; PD = personal development; PU = purpose; BL = belonging; LC = luck; D-COM = definitions-complexity; I-COM = intentions-complexity; light grey = preregistered positive associations; dark grey = preregistered negative associations.

Orientations to Happiness. The Orientations to Happiness scale by Peterson et al. (2005; German version by Ruch et al., 2010) assesses people's orientations to pleasure, engagement, and meaning in life with six items each.

Dispositional Positive Emotions. The Dispositional Positive Emotions scales by Shiota, Keltner, and John (2006; German version by Güsewell & Ruch, 2012) measures seven different dispositions of positive emotions. To keep the survey short, we selected four subscales that were most relevant for validation purposes and that differed the most from other scales assessed: joy (6 items), pride (5 items), compassion (5 items), and awe (6 items).

Subjective Well-Being. Subjective well-being covers positive and negative affective experiences and evaluations of one's life satisfaction (Diener, 1984). Positive and negative affect were assessed with the Scale of Positive and Negative Experience (Diener et al., 2009; German version by Rahm et al., 2017). Participants were asked to indicate how often they felt a certain affective state during the last four weeks. Positive and negative affect were measured with six items each. Further, we computed affect balance by subtracting negative affect from positive affect. To assess people's evaluations of one's life satisfaction, we used the 5-item Satisfaction with Life Scale (Diener et al., 1985; German version by Glaesmer et al., 2011).

Psychological Well-Being. We used the 18-item version of Ryff's scales (1989; German version by Risch et al., 2005) to assess six facets of positive psychological functioning with three items each: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance.

Quality of Life. The EUROHIS-Quality-Of Life-Indices (Power, 2003; German version by Brähler et al., 2007) was used to assess the quality of life with 8 items. Responses were collected using the following five scale labels: very poor/very dissatisfied/quite rarely or never; poor/dissatisfied/rarely; either-or; good/satisfied/often; very good/very satisfied/very often or always.

Loneliness. We used the De Jong Gierveld Loneliness scale (Gierveld De Jong & Van Tilburg, 2006; German version by Tesch-Römer et al., 2013) to assess emotional and social loneliness with three items each.

Interdependent Happiness. The 9-item Interdependent Happiness scale by Hitokoto and Uchida (2015) assesses an East-Asian HWB definition according to which happiness is based on interpersonal harmony, ordinariness, and quiescence. We translated this scale into German using the back-translation method (Brislin, 1970).

Big Five. We used the Big Five Inventory-2 extra-short form (Soto & John, 2016; German version by Danner et al., 2016) to assess extraversion, agreeableness, conscientiousness, neuroticism, and openness with three items each.

Data quality was controlled as described in Study 1. Further, we assessed basic demographics such as age and gender.

4.7.2. Results

Analyses were conducted in R (R Core Team, 2020), using the packages *psych* (Revelle, 2017) and *lavaan* (Rosseel, 2012). All analyses were conducted using item responses that were both unadjusted and adjusted for acquiescence. As in Study 1, acquiescence was approximately normally distributed and adjusting for response tendencies normalized the distributions of item responses¹⁹. We refer to item responses unadjusted for acquiescence unless stated otherwise.

4.7.2.1. Factor Structure

The goals of the analyses described in this section were to evaluate the factor structure found in Study 1, to select the final items for the scale by investigating which factor structure performed well for both parallel scales, and to achieve an acceptable model fit. First, we investigated the factor structure of HWB-related intentions using exploratory factor analysis (online materials Table B)²⁰. Parallel analysis (Goretzko et al., 2021; Horn, 1965) suggested seven factors that were extracted using principal axis analysis and oblique rotation method. For items representing luck, belonging, and absence of negativity, the factor structure corresponded to the factor structure of HWB definitions in Study 1. Joy and desires also corresponded to the factor structure found in Study 1, although some additional items loaded on this factor. These items were dropped for the final version of the scales. Most items representing positive attitude and tranquility loaded on the same factor as in Study 1. Another factor emerged that was represented by two items for tranquility with considerable double loadings on the combined positive attitude/ tranquility factor. In contrast to HWB definitions in Study 1, items for personal development and purpose loaded on the same factor.

¹⁹ The unadjusted and adjusted item distributions can be found in the online materials at OSF: <https://osf.io/gfytn/>

²⁰ The online materials are available at OSF: <https://osf.io/gfytn/>

In the next steps, we conducted multiple confirmatory factor analyses. Model fit was interpreted using established fit indices: RMSEA and its 90% confidence interval should be $\leq .05$ for a close fit and $< .08$ for an acceptable fit (Browne & Cudeck, 1992), SRMR should be $< .05$ for a close fit, and $< .08$ for an acceptable fit (Hu & Bentler, 1995), and CFI should be $> .97$ for a close fit and $> .95$ for an acceptable fit (Bentler, 1990). For comparisons of nested models, we used χ^2 difference tests. For other model comparisons, we used AIC (Akaike, 1998) and BIC (Schwarz, 1978), where a smaller value indicates a better fit.

We investigated the factor structure described in Study 1 for HWB definitions by evaluating the model fit with the sample of Study 2. The model contained 8 factors measured by four (belonging, luck, purpose), five (positive attitude, tranquility), or six (absence of negativity, joy and desires, personal development) items. The fit indices ranged from not optimal to acceptable (online materials Table B). Applying the same factor structure to HWB-related intentions also revealed a model fit that ranged from not optimal to acceptable.

To develop a parsimonious scale, we excluded items in the next step. For this, we considered empirical criteria like the factor loadings, how the exclusion of single items would affect reliability and fit statistics, and the criteria that were already considered in Study 1. These different criteria revealed conflicting suggestions regarding the best performing items. Furthermore, differences between HWB definitions and HWB-related intentions revealed conflicting suggestions. We aimed to find a factor solution that worked well for both scales since the final measures should be perfectly parallel versions of each other. In such ambivalent situations, we prioritized good empirical performance of items measuring HWB definitions over performance of items measuring HWB-related intentions. In total, we removed 16 items, which considerably improved the model fit for both parallel versions of the measure (HWB definitions: $AIC_{diff} = -13\,262.804$, $BIC_{diff} = -13\,379.003$; HWB-related intentions: $AIC_{diff} = -12\,721.404$, $BIC_{diff} = -12\,837.602$).

Next, we tested alternative factor structures as suggested by deviations between exploratory factor analyses and theoretical considerations. More precisely, we tested how the model fit changes when positive attitude and tranquility as well as personal development and purpose would be combined in a single factor. We compared models where we combined the related factors with models where the related factors were modeled separately. For these model comparisons, we used both the initial CFA model (before item exclusion) as well as the final models. Combining positive attitude and tranquility decreased the model fit significantly for all four comparisons (HWB definitions initial $\chi^2(7) = 152.94$, $p < .001$; final $\chi^2(7) = 71.292$, $p < .001$; HWB-related intentions

initial $\chi^2(7) = 105.32$, $p < .001$; final $\chi^2(7) = 42.143$, $p < .001$). Combining personal development and purpose also decreased the model fit significantly for all four comparisons (HWB definitions initial $\chi^2(7) = 47.173$, $p < .001$; final $\chi^2(7) = 55.373$, $p < .001$; HWB-related intentions initial $\chi^2(7) = 34.292$, $p < .001$; final $\chi^2(7) = 26.588$; $p < .001$). These results suggest that it is reasonable to consider positive attitude and tranquility as well as personal development and purpose as separate factors.

In a final step, we improved the fit of the models by allowing pairs of items to correlate. For this, we identified promising correlations using modification indices. We considered only correlations between items within the same factor such that the correlations are theoretically plausible. We allowed correlations between Items 108 and 36, 106 and 86, and 87 and 51 for both HWB definitions and HWB-related intentions. The fit statistics and psychometric properties of these models were good (Table 4.5)²¹. The results described in this section were mostly consistent between the unadjusted and adjusted versions of the items.

4.7.2.2. *Characteristics of the Final Versions of the CoDI Scales*

We named the novel measures the “Complexity of Happiness Definitions and Intentions” (CoDI) Scales. The items can be found in the Appendix. Cronbach’s alpha for the subscales ranged between $\alpha = .63$ and $\alpha = .87$. To quantify associations, we used Pearson’s product-moment correlation coefficients. Descriptive statistics for the subscales and inter-factor correlations are displayed in Table 4.3.

HWB definitions-complexity and HWB-related intentions-complexity were approximately normally distributed. Correlations between acquiescence and the CoDI subscales, definitions-complexity, and intentions-complexity ranged between small and medium effect sizes (effect sizes in this study were interpreted in accordance with Cohen, 1988, where $r > .3$ indicates a medium effect size and $r > .5$ indicates a high effect size). As in Study 1, this indicates that people who tend to agree on opposite statements also tend to agree on items of the CoDI Scales. Although the

²¹ We performed robustness checks to investigate whether dropping items and allowing correlations between items affect the results of the validation analyses. Specifically, we investigated correlations between the final scales with three items for each factor and the initial long version of the scales. Further, we investigated correlations between the manifest (final) scale scores and the latent factor scores of the model with correlated residuals (online materials Table C). The correlation patterns between corresponding scales were always very high ($\geq .88$). Therefore, scale meanings did not appear to be affected by decisions in the scale development. Further, we recalculated the validation analyses using the latent factor scores (online materials Table D). These additional analyses show that the model specifications did not fundamentally affect the results of this paper and the subsequent conclusions.

general patterns of correlations were consistent between the unadjusted and adjusted versions of the scales, this result highlights the importance of taking response tendencies into account and that controlling for acquiescence might be a way to identify potential problems with response tendencies.

Table 4.5. *Standardized factor loadings and fit statistics for the final CFA models.*

Item No.	HWB Definitions								HWB-Related Intentions							
	PA	TQ	JD	AN	PD	PU	BL	LC	PA	TQ	JD	AN	PD	PU	BL	LC
75	.73								.80							
108	.73								.73							
36	.70								.77							
42		.70								.62						
51		.78								.75						
87		.64								.80						
3			.60								.61					
17			.71								.55					
10			.71								.67					
99				.74								.43				
58				.73								.70				
63				.91								.69				
93					.69								.74			
39					.73								.71			
71					.64								.58			
106						.64								.65		
86						.72								.64		
59						.68								.63		
45							.82								.67	
101							.84								.68	
20							.74								.89	
107								.76								.78
81								.86								.82
103								.87								.70

	HWB Definitions								HWB-Related Intentions							
Item No.	PA	TQ	JD	AN	PD	PU	BL	LC	PA	TQ	JD	AN	PD	PU	BL	LC
Fit statistics																
χ^2 (df = 224)	384.62; $p < .001$								441.84; $p < .001$							
AIC	19 601.49								19 765.69							
BIC	19 877.46								20 041.66							
CFI	.94								.91							
TLI	.93								.89							
RMSEA [90% CI]	.05 [.04; .06]								.06 [.05; .07]							
SRMR	.06								.06							
Fit statistics after consideration of correlations within factors																
χ^2 (df = 221)	336.29; $p < .001$								418.94; $p < .001$							
AIC	19 559.16								19 748.79							
BIC	19 846.03								20 023.66							
CFI	.96								.92							
TLI	.95								.90							
RMSEA [90% CI]	.04 [.03; .05]								.06 [.05; .07]							
SRMR	.05								.06							

Note. HWB = happiness and well-being; PA = positive attitude; TQ = tranquility; JD = joy and desires; AN = absence of negativity; PD = personal development; PU = purpose; BL = belonging; LC = luck; for the item wordings see online materials Table B.

4.7.2.3. *Nomological Net of the Novel Measures*

To provide evidence for the convergent and discriminant validity of the novel measures, we examined bivariate correlations. HWB definitions-complexity and HWB-related intentions-complexity were positively associated ($r = .48$, $p < .001$). Correlations between corresponding scales for HWB definitions and HWB-related intentions showed that the corresponding scales are sufficiently associated but not so strong that we have to assume that the parallel versions capture the same construct. Further, these correlations suggest that endorsing a specific HWB definition and the intention to pursue a specific facet of HWB in everyday life differs in strength between different definitions and facets of HWB.

Next, we examined correlations with other measures. Overall, these correlational patterns correspond with the preregistered expectations, although they did not always reach the threshold of $r > .3$ to provide evidence for meaningful associations (preregistered expectations and examined correlations are displayed in Table 4.4). Nevertheless, the correlational patterns of related scales clearly provide support for the convergent validity of the novel scales. For example, the Beliefs about Well-Being subscale pleasure showed the highest correlations with the CoDI subscales positive attitude and joy and desires, the subscale avoidance of negative showed the highest correlation with the CoDI subscale absence of negativity, the subscale self-development showed the highest correlation with the CoDI subscale personal development, and the subscale contribution to others showed the highest correlation with the CoDI subscale belonging. Generally, associations of HWB-related intentions with related scales tend to be stronger than of HWB definitions and reached more often the threshold of $r > .3$. Support for the discriminant validity appears to be provided for HWB definitions since the preregistered associations were mostly considerably stronger than other observed correlations that have not been preregistered. However, for HWB-related intentions, the discriminant validity is not always clear, since generally many associations could be observed between intentions and other measures that were not preregistered. Further, the nomological networks showed differences between subscales for positive attitude and tranquility as well as between subscales for personal development and purpose. As for the confirmatory factor analyses, these results suggest that it is reasonable to consider positive attitude and tranquility as well as personal development and purpose as separate factors.

4.7.2.4. *Associations with Well-Being*

For subjective well-being, the correlations with subscales for HWB definitions were small to moderate. Both positive (e.g., between personal development and positive affect: $r = .28$, $p < .001$) and negative (e.g., between absence of negativity and positive affect, $r = -.16$, $p = .007$) correlations were found. Definitions-complexity was only significantly correlated with positive affect ($r = .13$, $p = .026$). Subscales for HWB-related intentions were positively correlated with subjective well-being, and these correlations were generally higher than for subscales of HWB definitions (e.g., between positive attitude and positive affect: $r = .55$, $p < .001$). Intentions-complexity correlated significantly with all facets of subjective well-being (e.g., positive affect: $r = .52$, $p < .001$).

Associations of the CoDI Scales with psychological well-being showed similar correlation patterns. Only growth ($r = .19$, $p = .002$) and positive relations ($r = .18$, $p = .003$) correlated

significantly with definitions-complexity and all facets correlated significantly with intentions-complexity (e.g., growth: $r = .41, p < .001$). In sum, associations with well-being were stronger and more consistent for HWB-related intentions and their complexity than for HWB definitions and their complexity. Further, these results indicate that the complexity of HWB definitions is positively associated with some facets of well-being and that the complexity of HWB-related intentions is positively associated with all investigated facets of well-being.

4.8. General Discussion

We presented two studies in which we demonstrated that HWB-related intentions and their complexity were positively associated with subjective and psychological well-being. Associations between HWB definitions and well-being, however, were not always significant, in some cases negative and definitions-complexity was only positively related to positive affect, growth, and positive relations. The distributions of HWB definitions-complexity and of HWB-related intentions-complexity showed that people vary on a continuum on these characteristics and that people usually do not focus on one facet in their pursuit of HWB. The positive associations between these constructs and well-being demonstrated that for the experience of well-being, it does not only matter which specific facets of HWB people endorse but also the extent to which people define and pursue happiness in a multifaceted manner, which is in line with previous literature on similar questions (Grimm et al., 2015; Henderson & Knight, 2012; Huta & Ryan, 2010; Sirgy & Wu, 2009). However, since associations with well-being were more strongly and consistently for HWB-related intentions and their complexity than for HWB definitions and their complexity, the former emerged as more important for the experience of well-being than the latter.

To operationalize these constructs, we developed the CoDI Scales, a set of measures to assess HWB definitions, HWB-related intentions, HWB definitions-complexity, and HWB-related intentions-complexity. The scales distinguish eight facets of HWB: absence of negativity, positive attitude, tranquility, personal development, luck, joy and desires, purpose, and belonging. We provided evidence on the factorial structure, reliability, and validity of these measures. The CoDI Scales have several advantages compared to related scales. First, they cover eight different HWB definitions, whereas previous scales only cover a maximum of four different factors (e.g., McMahan & Estes, 2011b; Peterson et al., 2005). Hence, the CoDI Scales include HWB definitions that have previously not been included in similar scales, despite being important for lay people (e.g., tranquility or luck; Delle Fave et al., 2016; Oishi et al., 2013). Second, during the

scale-development process, we considered a broad scope of focuses and perspectives on HWB definitions, including qualitative and quantitative studies of lay people, theoretical elaborations, and investigations of language use related to HWB in different cultures. Third, in contrast to previous scales, we took the distinction between HWB definitions and HWB-related intentions into account. The significance of this distinction is supported by our results, which showed that the two parallel scales measured related but not identical constructs. Fourth, the operationalization of HWB definitions-complexity and of HWB-related intentions-complexity allows the systematic investigation of these constructs in future research. In sum, the CoDI Scales are an extensive tool that allows a nuanced investigation of lay people's approach to HWB. For example, in a previous article using the CoDI Scales we showed that people who tend to be concerned about their level of happiness also tend to define HWB solely as the absence of negativity and to have no intentions to pursue any facets of HWB – not even the absence of negativity (Krasko et al., 2021).

Although it is well known that questionnaire-based results usually contain method variance that can be attributed to response tendencies like acquiescence (Danner et al., 2015; Soto et al., 2008; Wetzel et al., 2013), such response tendencies are rarely taken into account. In the present paper, we showed that acquiescence indeed affected the strengths of associations, although the general patterns of results remained unaffected. Response tendencies should much more frequently be considered in research that relies on self-report.

An important limitation of these studies is that we used German convenience samples, which limits the generalizability of the results. In particular, the results cannot be generalized to non-Western cultures since cultural differences in HWB definitions exist (Oishi et al., 2013; Uchida & Ogihara, 2012). Therefore, it would be an important next step to translate the scales into other languages and to investigate whether characteristics of the CoDI Scales as well as observed associations with well-being can be replicated in other cultures.

Moreover, future studies should investigate whether the factorial structure of the CoDI Scales can be confirmed in other samples since the results of our studies were rather exploratory and our decisions regarding the factor structure need further validation. For example, we decided to distinguish the factors positive attitude and tranquility as well as the factors personal development and purpose although this contradicts the results of the exploratory factor analyses. In both cases, the two pairs of factors represent HWB definitions that are related and thus could be expected to correlate with each other. In other words, positive attitude and tranquility both refer to positive

emotions, whereas personal development and purpose both refer to eudaimonic definitions. Although this decision is supported theoretically as well as by the results, it needs to be re-evaluated in future studies.

Another limitation is the cross-sectional nature of the studies, which prohibits any causal conclusions between the variables of interest. Positive associations between lay definitions of HWB and actual levels of well-being have previously been reported (McMahan & Estes, 2011a, 2011b; Steger, Kashdan, Sullivan, et al., 2008). Positive associations between constructs similar to the complexity of HWB definitions and actual levels of well-being have also previously been reported (Grimm et al., 2015; Henderson & Knight, 2012; Huta & Ryan, 2010). However, it remained unclear why these associations exist. It can be speculated that HWB definitions and their complexity are a prerequisite for HWB-related intentions and their complexity which, in turn, affect actual levels of well-being. Whether these links exist should be longitudinally investigated in the future.

Several open questions regarding HWB definitions and their complexity and HWB-related intentions and their complexity could become the subject of future research. For example, how can discrepancies between HWB definitions and HWB-related intentions be explained? It may be that such discrepancies can be explained by individual differences in personality, regulatory focus, or self-efficacy. Additionally, correlations showed that the extent of discrepancies differed between different HWB definitions, which might be attributable to differences in the characteristics of HWB definitions.

Results of the present studies as well as previous literature demonstrated that the diversity of a set of related constructs is predictive of outcomes over and above mean levels of these constructs (Huta & Ryan, 2010; Quoidbach et al., 2014; Sheldon & Niemiec, 2006). We suggest that the diversity of lay definitions might also be predictive of central outcomes in other areas of research on lay people's views, like intelligence (Giraudeau et al., 2007), health (Bishop & Yardley, 2010), or quality of life in older age (Bowling & Gabriel, 2007). Our operationalization of definitions-complexity and intentions-complexity can be used in the future to investigate the diversity of lay definitions in other areas of research.

4.9. Conclusion

We introduced the concepts complexity of HWB definitions (i.e., how many HWB definitions people endorse simultaneously) and complexity of HWB-related intentions (i.e., how many

unique facets of HWB people intend to pursue in everyday life). These concepts can be operationalized with the CoDI Scales, a tool to assess peoples' HWB definitions and their complexity as well as HWB-related intentions and their complexity. The CoDI Scales distinguish eight facets of HWB, including HWB definitions that have previously not been included in similar scales, despite being important for lay people (e.g., luck, tranquility). Further, we demonstrated that HWB-related intentions and their complexity were positively associated with well-being. For HWB definitions, relations with well-being were smaller and less consistent and definitions-complexity was only positively related to positive affect, growth, and positive relations. This paper highlights the importance of a multifaceted definition and pursuit of HWB for the actual levels of well-being and provides an extensive tool for a nuanced investigation of lay people's approach to HWB.

4.10. DataAccessibility Statement

The study materials, data, and analysis scripts used for this article can be accessed at <https://osf.io/5qy27/> and <https://osf.io/gfytn/>. The preregistrations and an overview of deviations from the preregistrations can be found at <https://osf.io/bq4hr>, <https://osf.io/jcb75>, and <https://osf.io/pwxcs/>.

4.11. Author Contribution Statement

The contributions of each author according to the CRediT Classification:

Julia Krasko:	Conceptualization, Data Curation, Formal Analysis, Investigation, Methodology, Project Administration, Software, Visualization, Writing – Original Draft Preparation, Writing – Review and Editing
Sabrina Intelisano:	Conceptualization (<i>supporting</i>), Methodology (<i>supporting</i>), Writing – Review and Editing
Maike Luhmann:	Conceptualization, Funding acquisition, Methodology (<i>supporting</i>), Resources, Supervision, Writing – Review and Editing

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4.13. Appendix

The CoDI Scales: German Version

Instruktion: Bitte geben Sie an, wie sehr die folgenden Aussagen auf Sie zutreffen.
Antwortformat: 1 = trifft nicht zu, 2 = trifft kaum zu, 3 = trifft ein wenig zu, 4 = trifft etwas zu, 5 = trifft überwiegend zu, 6 = trifft voll und ganz zu

	HWB Definitionen Itemstamm: Glück bedeutet für mich persönlich...	HWB Intentionen Itemstamm: Im Alltag versuche ich...	Subskala
1.	sich im Hier und Jetzt auf das Positive zu konzentrieren.	mich im Hier und Jetzt auf das Positive zu konzentrieren.	Positive Einstellung
2.	allgemein eine positive emotionale Einstellung zum Leben zu haben.	allgemein eine positive emotionale Einstellung zum Leben zu haben.	Positive Einstellung
3.	heiter durch das Leben zu gehen.	heiter durch das Leben zu gehen.	Positive Einstellung
4.	ein friedliches Gemüt.	ein friedliches Gemüt an den Tag zu legen.	Innere Ruhe
5.	Ruhe und Gelassenheit.	ruhig und gelassen zu sein.	Innere Ruhe
6.	ein Gefühl der inneren Ruhe.	ein Gefühl der inneren Ruhe zu haben.	Innere Ruhe
7.	das Ausmaß, in dem gegenwärtige Vorlieben erfüllt sind.	meine gegenwärtigen Vorlieben zu erfüllen.	Freude und Gelüste
8.	ein großes Ausmaß an Vergnügen zu erleben.	ein großes Ausmaß an Vergnügen zu erleben.	Freude und Gelüste
9.	gleichzeitige Befriedigung in mehreren Lebensbereichen.	nach Befriedigung in mehreren Lebensbereichen gleichzeitig zu streben.	Freude und Gelüste
10.	dass man sich keine Sorgen macht.	mir keine Sorgen zu machen.	Abwesenheit von Negativem
11.	sich nur selten schlecht zu fühlen.	mich nur selten schlecht zu fühlen.	Abwesenheit von Negativem
12.	selten traurig zu sein	traurigen Ereignissen und Gedanken aus dem Weg zu gehen.	Abwesenheit von Negativem
13.	der Erwerb neuer Fähigkeiten.	neue Fähigkeiten zu erwerben.	Persönliche Entwicklung
14.	Offenheit und Interesse für alle Fragen des Lebens zu zeigen.	Offenheit und Interesse für alle Fragen des Lebens zu zeigen.	Persönliche Entwicklung
15.	über sich selbst hinauszuwachsen.	über mich selbst hinauszuwachsen.	Persönliche Entwicklung
16.	einen klaren Sinn im Leben zu haben.	einen klaren Sinn im Leben zu haben.	Sinn
17.	wegweisende Ziele im Leben zu haben, an denen man seine Handlungen ausrichten kann.	wegweisende Ziele im Leben zu haben, an denen ich meine Handlungen ausrichten kann.	Sinn
18.	dass das eigene Leben eine	meinem Leben eine verbleibende	Sinn

	verbleibende Bedeutung hat.	Bedeutung zu verleihen.	
19.	sich zugehörig zu fühlen.	mich zugehörig zu fühlen.	Zugehörigkeit
20.	sich anderen nahe zu fühlen.	mich anderen nahe zu fühlen.	Zugehörigkeit
21.	mit anderen in seiner Gemeinschaft verbunden zu sein.	mit anderen in meiner Gemeinschaft verbunden zu sein.	Zugehörigkeit
22.	das Ergebnis von vorteilhaften Umständen.	von vorteilhaften Umständen begünstigt zu sein.	Zufallsglück
23.	durch Glück oder Schicksal begünstigt zu sein.	jemand zu sein, der durch Glück oder Schicksal begünstigt wird.	Zufallsglück
24.	zufällige Ereignisse, die einem einen Vorteil bringen.	jemand zu sein, dem zufällige Ereignisse einen Vorteil bringen.	Zufallsglück

The CoDI Scales: English Version

Instruction: Please indicate to what extent you agree with the following statements. Response format: 1 = does not apply, 2 = applies hardly, 3 = applies a little, 4 = applies somewhat, 5 = applies strongly, 6 = applies completely

HWB Definitions Item stem: For me personally, happiness means...		HWB Intentions Item stem: In daily life, I try...	Subscale
1.	to focus on the positive aspects in the here and now.	to focus on the positive aspects in the here and now.	positive attitude
2.	to have a positive attitude towards life in general.	to have a positive attitude towards life in general.	positive attitude
3.	to go through life cheerfully.	to go through life cheerfully.	positive attitude
4.	a peaceful state of mind.	to have a peaceful state of mind.	tranquility
5.	calmness and tranquility.	to be calm and tranquil.	tranquility
6.	a feeling of inner quietness.	to have a feeling of inner quietness.	tranquility
7.	the extent to which current preferences are satisfied.	to satisfy my current preferences.	joy and desires
8.	experiencing a great deal of pleasure.	to experience a great deal of pleasure.	joy and desires
9.	simultaneous satisfaction in several areas of life.	to strive for simultaneous satisfaction in several areas of life.	joy and desires
10.	not to worry.	not to worry.	absence of negativity
11.	to rarely feel bad.	to rarely feel bad.	absence of negativity
12.	to rarely be sad.	to avoid sad experiences and thoughts.	absence of negativity
13.	the acquisition of new skills.	to acquire new skills.	personal development
14.	to show openness and interest for all the questions about life itself.	to show openness and interest for all the questions about life itself.	personal development
15.	to develop beyond oneself.	to develop beyond myself.	personal development
16.	to have a clear meaning in life.	to have a clear meaning in life.	purpose
17.	to have guiding goals in life that direct one's own actions.	to have guiding goals in life that direct my own actions.	purpose
18.	that one's own life has a lasting meaning.	that my own life has a lasting meaning.	purpose
19.	to feel a sense of belonging.	to feel a sense of belonging.	belonging
20.	to feel close to others.	to feel close to others.	belonging
21.	to be connected with others in one's community.	to be connected with others in my community.	belonging
22.	the result of advantageous circumstances.	to be favored by advantageous circumstances.	luck
23.	to be favored by luck or fate.	to be someone who is favored by luck or fate.	luck
24.	to benefit from random events.	to be someone who benefits from random events.	luck

5 | Theoretical Model of the Pursuit of Happiness and Well-being

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5. The Complexity of the Pursuit of Happiness is Associated with the Success of Well-Being Related Behaviors in Everyday Life

Abstract

Can people choose to be happy? To date we have no definite answer to this very old question. In this paper, we introduced and tested a new theoretical model of the pursuit of happiness and well-being (HWB) in which we integrated individual HWB definitions, HWB-related intentions, and HWB-enhancing activities. Further, we tested different characteristics of HWB-enhancing activities that have previously been discussed in the literature as potentially relevant for the successful pursuit of HWB: the breadth (i.e., how many different facets of HWB are positively affected by one single activity), variety (i.e., how many different HWB-enhancing activities people conduct in daily life), and frequency (i.e., overall number of HWB-enhancing activities) of HWB-enhancing activities. The results of an experience sampling study support our preregistered hypotheses: Individual definitions of HWB were predictive of intentions and well-being related behaviors in everyday life. Further, the engagement in broader and a higher number of HWB-enhancing activities was associated with higher levels of daily well-being. The variety of HWB-enhancing activities, however, did not predict daily well-being. Overall, we demonstrated that defining and pursuing HWB in a multifaceted manner is related to higher levels of well-being.

Keywords: Definitions of Happiness; Happiness Activities; Pursuit of Happiness; Well-being; Experience Sampling

5.1. Introduction

Can people choose to be happy? And if yes, what is a successful way to pursue happiness? These questions have been discussed for centuries without a final conclusion. Although genetic factors seem to be highly relevant (Bartels, 2015; Nes & Røysamb, 2017), other factors, including engagement in certain activities, can also explain why people experience different levels of well-being (Huta & Ryan, 2010; Lyubomirsky et al., 2005; Lyubomirsky & Layous, 2013). Therefore, it seems that people are indeed able to improve their happiness if they choose to do so. However, people also engage in activities that they believe might enhance their happiness, but that fail to meet that goal (Hsee & Hastie, 2006; Schiffer & Roberts, 2017) or even backfire, resulting in lower levels of well-being (Martin, 2008; Mauss et al., 2011; McGuirk et al., 2018). Consequently, people are not always able to improve their happiness if they choose to do so.

In this paper, we present a new model that might resolve these divergent findings on the question of whether and how people can improve happiness and well-being (HWB) successfully. To describe our model, we refer to both the terms happiness and well-being interchangeably, since lay people frequently attribute many different concepts to the term happiness, including concepts that some authors in psychology or philosophy would rather attribute to theories of well-being (Delle Fave et al., 2016; Intelisano et al., 2020; Jongbloed & Andres, 2015). According to our model, people's personal definitions of happiness determine how many HWB facets they intend to pursue, how they pursue HWB in everyday life, and how successful they are in improving and maintaining actual levels of well-being. An overview of the model is shown in Figure 5.1. In the next sections, we describe the different components of the model and explain why these components might be important for the pursuit of HWB. Further, we empirically tested the theoretical model in everyday life using experience sampling.

5.2. The Complexity of HWB Definitions

HWB can be defined in many different ways, that is, a range of different aspects and features (e.g., experiencing positive affect or the presence of meaning in life) have previously been used to describe HWB (Intelisano et al., 2020; Oishi et al., 2013; Tov, 2018). We will refer to different aspects and features used to describe HWB as *facets* of HWB. Previous studies showed that actual levels of well-being were differentially associated with different facets of HWB that people endorse (i.e., view as relevant definitions of HWB) and pursue (i.e., intentions and activities related to specific HWB facets) (Huta & Ryan, 2010; McMahan & Estes, 2011a, 2011b; Ortner et

al., 2018; Steger et al., 2008; Zeng & Chen, 2020). For example, one study found that eudaimonic behaviors were more strongly related to well-being than hedonic behaviors (Steger et al., 2008). In these studies, however, more than one path to HWB was positively associated with well-being, and differences in associations were often not large enough to justify this emphasis of the superiority of pursuing certain HWB facets (Huta & Ryan, 2010; McMahan & Estes, 2011b; Ortnier et al., 2018). Trying to identify a superior path to HWB does also not reflect lay people's pursuit of HWB, since people usually do not report a dominant HWB definition (Grimm et al., 2015). Therefore, some authors argue that pursuing various HWB facets simultaneously might be more crucial for actual levels of well-being than looking for one facet with the greatest prospects of success (Grimm et al., 2015; Henderson & Knight, 2012; Huta & Ryan, 2010; Krasko et al., 2022).

Krasko et al. (2022) introduced the concept of *complexity of HWB definitions* (definitions-complexity) to describe how many HWB definitions people endorse on a continuum from simple (i.e., endorsing only one or few HWB definitions) to complex (i.e., endorsing multiple HWB definitions simultaneously). For example, Daniel might describe HWB solely as the experience of joy. In contrast, Catherine might consider not only joy but also a generally positive attitude towards life, and being connected to other people as important aspects of HWB. Daniel's personal HWB definition is rather simple, whereas Catherine defines HWB in a more complex manner. The complexity of HWB definitions allows studying the pursuit of HWB in a multifaceted way and might reveal associations with well-being that have been overlooked in the past because research has frequently focused on identifying only the most successful path to HWB.

In our theoretical model, we propose that people with complex HWB definitions are more successful in improving and maintaining well-being than people with simple HWB definitions. Previous literature on similar ideas suggested that a multifaceted pursuit of HWB is associated with higher well-being than a less multifaceted approach (Grimm et al., 2015; Henderson & Knight, 2012; Huta & Ryan, 2010; Sheldon & Niemiec, 2006; Sirgy & Wu, 2009). Possible explanations for this relationship include (1) a better distribution of personal recourses (Sheldon & Niemiec, 2006; Sirgy & Wu, 2009), (2) the satisfaction of a wider range of needs (Huta & Ryan, 2010; Ortnier et al., 2018), (3) compensation or buffer effects (Keyes et al., 2002; Sirgy & Wu, 2009), and (4) positive spillover effects (Sumer & Knight, 2001). In line with this literature, we expected a positive relationship between definitions-complexity and well-being (H1).

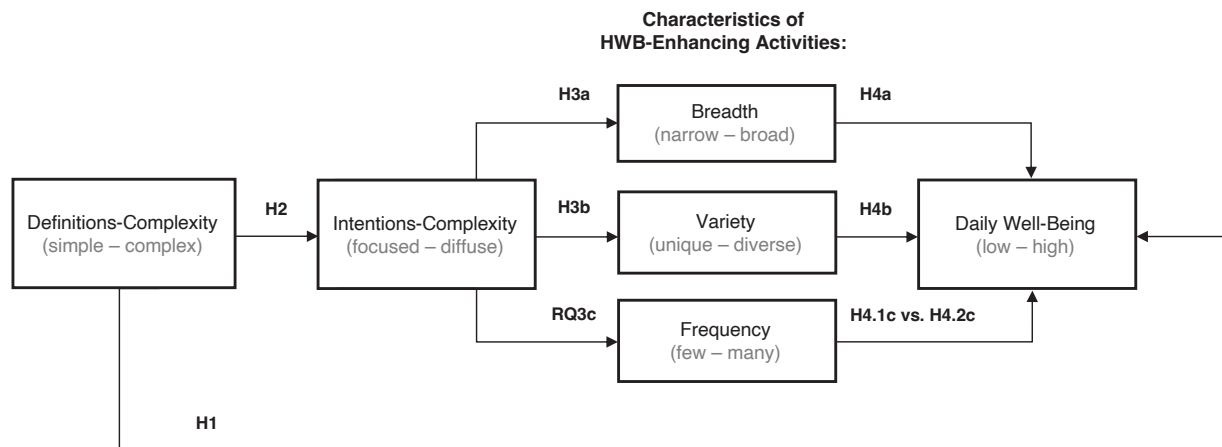


Figure 5.1. Overview of the theoretical model of the pursuit of happiness and well-being in everyday life. The information in parentheses refers to the content that is represented by the lower and upper ends of the continuous variables, respectively. HWB = Happiness and well-being.

5.3. The Complexity of HWB-Related Intentions

Similarly to definitions-complexity, people vary in the number of HWB facets they intend to pursue in everyday life simultaneously (intentions-complexity) on a continuum from focused (i.e., pursuing one or few facets of HWB) to diffuse (i.e., pursuing several facets of HWB simultaneously) (Krasko et al., 2022). Daniel, for example, might only have the intention to pursue the experience of joy. Catherine, however, might intend to pursue joy, purpose in life and other facets of HWB simultaneously. Daniels HWB-related intentions are rather focused, whereas Katharina’s HWB-related intentions are more diffuse.

In our theoretical model, we propose that people with complex HWB definitions tend to report more diffuse HWB-related intentions than people with simple HWB definitions. This relationship has been observed in the past. Although HWB definitions seem not always to translate into corresponding intentions, positive associations between corresponding facets of HWB definitions and HWB-related intentions could usually be shown (Krasko et al., 2022; Ruch et al., 2010). Therefore, we aimed to replicate the positive relationship between HWB definitions-complexity and intentions-complexity (H2).

5.4. HWB-Enhancing Activities

To have an impact on well-being, one needs to live in accordance with one’s HWB definitions and actually realize HWB-related intentions in daily life. Everyday activities that people engage in with the goal to enhance HWB (henceforward: HWB-enhancing activities) might be more effective to

reach a desired level of well-being than changing less controllable factors like personality or life circumstances (Caunt et al., 2013). Since people tend to engage in behaviors and activities that benefit their happiness goals (Fowers et al., 2010; Zeng & Chen, 2020), we expected that HWB-related intentions would manifest in HWB-enhancing activities.

Engaging in certain activities is positively linked to well-being (Csikszentmihalyi & Hunter, 2003; Grimm et al., 2015; Huta & Ryan, 2010; Luhmann et al., 2021; Lyubomirsky & Layous, 2013; Ortner et al., 2018; Sin & Lyubomirsky, 2009; Zuo et al., 2017). Examples include social interactions (Rowland & Curry, 2019; Van Lange & Columbus, 2021), physical activities (Buecker et al., 2021; Rowland & Curry, 2019), resting (Rowland & Curry, 2019), prosocial behaviors (Snippe et al., 2018; Titova & Sheldon, 2022), eating (Csikszentmihalyi & Hunter, 2003; Rowland & Curry, 2019), and consumption choices (Veenhoven et al., 2021; Zhong & Mitchell, 2010). Therefore, it seems reasonable to assume that HWB-enhancing activities affect actual levels of well-being positively. However, people are not always good at predicting what will make them happy and sometimes also engage in activities that they believe might make them happy, but that do not meet that goal (Hsee & Hastie, 2006; Luhmann et al., 2021; Schiffer & Roberts, 2017).

It has previously been suggested that certain characteristics of HWB-enhancing activities determine whether HWB-enhancing activities chosen by people affect actual levels of well-being positively (Lyubomirsky & Layous, 2013). Following this idea, we proposed that characteristics of HWB-enhancing activities might explain why some people successfully improve and maintain HWB with everyday activities and others do not. These characteristics include the breadth, variety, and frequency of HWB-enhancing activities and are outlined below.

5.4.1. *The Breadth of HWB-Enhancing Activities*

One specific HWB-enhancing activity can affect several facets of HWB simultaneously (Grimm et al., 2015; Huta & Ryan, 2010; Waterman et al., 2008; Zuo et al., 2017). The *breadth* of HWB-enhancing activities describes how many different facets of HWB are positively affected by one single activity simultaneously. For example, Daniel plans to go to a music festival to experience joy while listening to his favorite music. Catherine also plans to go to a music festival and is looking forward to experiencing joy. She asked several friends if they would like to join and is also looking forward to meeting new people at the festival to increase her sense of connectedness to others. Daniel's HWB-enhancing activity is rather narrow (i.e., taps into one or few facets of HWB

only), whereas Catherine's HWB-enhancing activity is rather broad (i.e., taps into multiple facets of HWB simultaneously).

In our theoretical model, we expect people with diffuse HWB-related intentions to engage in broader HWB-enhancing activities than people with focused HWB-related intentions. The available time for HWB-enhancing activities is limited in daily life. To meet a wider range of happiness goals, people with diffuse HWB-related intentions should therefore choose HWB-related activities that have the potential to serve different HWB goals simultaneously more often than people with focused HWB-related intentions. Therefore, we expected a positive relationship between intentions-complexity and the breadth of HWB-enhancing activities (H3a).

Further, we propose that people who engage in broader HWB-enhancing activities report higher levels of well-being. Broader HWB-enhancing activities might support the distribution of personal resources, contribute to satisfying a wider range of needs, foster positive spillover or compensation effects, and consequently contribute to higher levels of well-being (Huta & Ryan, 2010; Keyes et al., 2002; Ortner et al., 2018; Sheldon & Niemiec, 2006; Sirgy & Wu, 2009; Sumer & Knight, 2001). Therefore, we expected a positive relationship between the breadth of HWB-enhancing activities and daily well-being (H4a).

5.4.2. *The Variety of HWB-Enhancing Activities*

The *variety* of HWB-enhancing activities describes how many *different* HWB-enhancing activities people conduct in daily life. For example, Daniel has only a few activities he regularly engages in to maintain or improve his well-being. Catherine has a much greater set of activities she regularly engages in for her well-being and she frequently comes up with ideas for new activities. Daniel's HWB-enhancing activities are rather unique (i.e., engaging in the same or very similar HWB-enhancing activities), whereas Catherine's HWB-enhancing activities are rather diverse (i.e., engaging in many different HWB-enhancing activities).

In our theoretical model, we expect people with diffuse HWB-related intentions to engage in more diverse HWB-enhancing activities to be able to meet their wider range of happiness goals (Fowers et al., 2010; Zeng & Chen, 2020). In contrast, people with focused HWB-related intentions should be more likely to engage in only a small set of HWB-enhancing activities because they only aim to maintain or improve one or few facets of HWB. Therefore, we expected a positive relationship between intentions-complexity and the variety of HWB-enhancing activities (H3b).

Lyubomirsky and colleagues argued that the variety of HWB-enhancing activities might be an important feature that contributes to the success of such activities (Lyubomirsky & Layous, 2013; Sin & Lyubomirsky, 2009). Similar to broader HWB-enhancing activities, more diverse HWB-enhancing activities might support the distribution of personal resources, satisfy a wider range of needs, and foster positive spillover or compensation effects (Huta & Ryan, 2010; Keyes et al., 2002; Ortner et al., 2018; Sheldon & Niemiec, 2006; Sirgy & Wu, 2009; Sumer & Knight, 2001). In line with this idea, people with two predominant activities that are regularly pursued with passion reported higher well-being than people who regularly pursued only one such activity (Philippe et al., 2009; Schellenberg & Bailis, 2021). One study found that older adults who engaged in more diverse activities (not specifically HWB-enhancing activities) reported higher well-being than those who engaged in less diverse activities (Lee et al., 2018). The authors argued that more diverse activities benefit more diverse social roles and larger social networks, which in turn affects well-being positively. Similarly, several studies revealed positive associations between a greater leisure repertoire size and different outcomes related to health and well-being (e.g., Payne et al., 2006). Further, more diverse HWB-enhancing activities might result in more extraordinary experiences from time to time, which is associated with higher well-being among young people than ordinary experiences (Bhattacharjee & Mogilner, 2014). In line with this literature, we expected a positive relationship between the variety of HWB-enhancing activities and daily well-being (H4b).

5.4.3. *The Frequency of HWB-Enhancing Activities*

The *frequency* of HWB-enhancing activities describes the overall number of such activities people conduct in daily life. For example, Daniel only occasionally invests time in his well-being, whereas Catherine engages in HWB-enhancing activities several times each day. Daniel engages in only a few HWB-enhancing activities, whereas Catherine engages in many HWB-enhancing activities.

No clear expectations can be derived regarding possible associations between HWB-related intentions and the frequency of HWB-enhancing activities. It can be argued that people with diffuse HWB-related intentions engage in more HWB-enhancing activities to be able to meet their wider range of happiness goals (Fowers et al., 2010; Zeng & Chen, 2020). However, it is also possible that people with focused HWB-related intentions frequently engage in the same or very similar HWB-enhancing activities. Therefore, we did not propose an expectation regarding the association between intentions-complexity and the frequency of HWB-enhancing activities but investigated this association with an open research question (RQ3c).

Lyubomirsky and Layous (2013) proposed that the frequency of HWB-enhancing activities might be an important feature that contributes to the success of such activities. But is a higher frequency of HWB-enhancing activities always better for well-being? The available answers to this question are contradictory. Generally, investing more time in HWB-enhancing activities appears to be beneficial to actual levels of well-being (Park & Wang, 2019; Schellenberg & Bailis, 2021; Sin & Lyubomirsky, 2009). However, trying (too much) to be happy might also lead to lower well-being (Joshani & Weijers, 2014; Kesebir & Diener, 2008; Martin, 2008; McGuirk et al., 2018). This view can be supported empirically (Ford, Mauss, et al., 2015; Gentzler et al., 2019; Martin, 2008; Mauss et al., 2011) and implies that engaging in too many activities to improve one's well-being might affect well-being negatively. Because of these two contradicting perspectives, we formulated and tested two competing hypotheses: The frequency of HWB-enhancing activities is either positively (H4.1c) or negatively (H4.2c) related to daily well-being.

5.5. The Present Study: Investigating a Theoretical Model of the Pursuit of Happiness and Well-Being in Daily Life

The goal of this preregistered study was to investigate a theoretical model of the pursuit of HWB. In a nutshell, we propose that a positive link exists between the complexity of HWB definitions and actual levels of well-being that can be explained by the complexity of HWB-related intentions and breadth and variety as important characteristics of HWB-enhancing activities. We also explored whether this link can be explained by the frequency of HWB-enhancing activities. An overview of the model is provided in Figure 5.1. We investigated each relationship between components of the model separately. Additionally, we examined all associations of the theoretical model in a combined mediation model to investigate whether intentions-complexity and HWB-enhancing activities mediate the association between definitions-complexity and daily well-being (H5).

5.6. Methods

The study design, hypotheses, and analyses were preregistered²². Data and analyses are open and available for download²³.

²² The preregistration (<https://osf.io/b8d3e>) and a transparent overview of deviations from the preregistration (<https://osf.io/xbgqp>) are available at OSF.

²³ Data and html files with analysis code and results are available at OSF: <https://osf.io/xbgqp>.

5.6.1. *Participants*

The data were collected in Germany in the first half of 2018 using different online (e.g., Facebook groups) and offline (e.g., flyers in supermarkets) sources for recruitment. Participants could receive either course credit or up to 20€ as compensation. All participants were invited to a lottery of two event vouchers worth 150€ each. Based on a priori power analyses and a pilot daily diary study (Luhmann et al., 2016), we aimed to have a minimum sample size of 400 after the application of exclusion criteria. For data exclusion, we examined the data quality with a dichotomous question and three instructed-response items (see below). We excluded 213 participants with indicators of poor data quality for at least two of these four criteria. After data exclusion, the final sample size was $N = 474$. Participants' age ranged from 18 to 53 ($M = 24.85$, $SD = 5.31$), 74.6% were female, and 59.9% in a relationship. An overview of all demographic variables is provided in the Online Materials (OM) ²⁴.

5.6.2. *Procedure*

The theoretical model was tested using experience sampling methodology (ESM; Larson & Csikszentmihalyi, 2014). Data collection was approved by the ethics committee of the Department of Psychology, Ruhr University Bochum. For data collection, we used Qualtrics and the app ExpiWell (former: Expimetrics), which allowed us to collect data from owners of smartphones with Android or iOS operating systems. Participants registered for the study in Qualtrics, received study information, provided informed consent, and confirmed that they had a minimum age of 18. Further, they chose a time for their participation and created a personal code. At their chosen time for participation, participants were reminded via email and downloaded the app, created an account in ExpiWell, and completed a baseline assessment. On the following day, the 7-day ESM period started. During this period, participants received four notifications each day and were asked to provide information on their latest activity. The time for these notifications was randomized within pre-defined time windows (8AM – 12PM; 12PM – 2PM; 2PM – 5:30PM; 5:30PM – 8:30PM). In the evening of each day, participants received another notification at 9PM where they again provided information on their latest activity and additionally answered questions about their daily well-being. If participants did not respond to a notification, a reminder was sent 30 minutes after the initial notification. The surveys could be completed up to 60 minutes after the initial notification. After the ESM period, participants were asked to complete a follow-up

²⁴ Online materials are provided at OSF: <https://osf.io/xbgqp>

assessment and were then forwarded to Qualtrics, where they could provide personal information for compensation purposes.

5.6.3. *Measures and Variables*

In this section, we describe only the relevant measures for the present study²⁵. The data contains hierarchically clustered variables at three levels: Level 1 represents the ESM reports, which were not used for the analyses, since the respective variables were aggregated. Level 2 represents the days during the ESM phase (daily level), and Level 3 represents the participants (person level). Unless otherwise stated, item responses were averaged within subscales to create scores. Descriptive statistics and reliability estimates are displayed in Table 5.1.

Definitions-complexity and intentions-complexity. At baseline (person level), participants completed the CoDI Scales (Krasko et al., 2022), which are two parallel scales to measure HWB definitions and HWB-related intentions. Both parallel scales measure eight facets of HWB with three items each: absence of negativity, positive attitude, tranquility, joy and desires, personal development, purpose, belonging, and luck. The items were phrased as a completion of a specific item stem. The item stem was “*For me personally, happiness means...*” (e.g., “experiencing a great deal of pleasure”) for HWB definitions, and “*In daily life, I try ...*” (e.g., “to experience a great deal of pleasure”) for HWB-related intentions. Responses were collected using asymmetric scale labels with one level for rejection (1 = *does not apply*) and five levels indicating different nuances of agreement (from 2 = *applies hardly* to 6 = *applies completely*).

Definitions-complexity and intentions-complexity were computed by averaging the subscales representing different facets of HWB. A strong agreement with many different HWB definitions or HWB-related intentions would result in high scores for complexity, whereas a strong agreement with only one or few HWB definitions or HWB-related intentions and a low agreement with the other definitions or intentions would result in low scores for complexity. Definitions-complexity varies on a continuum from simple (i.e., endorsing only one or few HWB definitions) to complex (i.e., endorsing multiple HWB definitions simultaneously). Intentions-complexity varies on a continuum from focused (i.e., pursuing one or few facets of HWB) to diffuse (i.e., pursuing several facets of HWB simultaneously). The reliability and validity of the scales have previously been demonstrated (Krasko et al., 2021, 2022).

²⁵ We also assessed several other measures. A complete list of all assessed measures can be found in the preregistration of the study design: <https://osf.io/b8d3e>.

Table 5.1. *Descriptive statistics and reliabilities.*

Variable	Daily Level				Person Level			
	<i>n</i>	<i>M</i>	<i>SD</i>	Rel.	<i>n</i>	<i>M</i>	<i>SD</i>	Rel.
HWB Definitions								
Absence of Negativity	-	-	-	-	434	4.05	1.13	.75
Positive Attitude	-	-	-	-	434	4.65	0.93	.65
Tranquility	-	-	-	-	434	4.46	0.99	.68
Joy and Desires	-	-	-	-	434	4.42	0.84	.56
Personal Development	-	-	-	-	434	4.12	1.07	.72
Purpose	-	-	-	-	434	4.16	1.01	.65
Belonging	-	-	-	-	434	4.51	1.04	.74
Luck	-	-	-	-	434	3.93	1.11	.71
Definitions-Complexity	-	-	-	-	434	4.29	0.58	.71
HWB-Related Intentions								
Absence of Negativity	-	-	-	-	433	3.88	0.99	.55
Positive Attitude	-	-	-	-	433	4.52	0.99	.74
Tranquility	-	-	-	-	433	4.53	0.95	.70
Joy and Desires	-	-	-	-	433	4.35	0.89	.62
Personal Development	-	-	-	-	433	4.47	0.96	.68
Purpose	-	-	-	-	433	4.03	1.07	.71
Belonging	-	-	-	-	433	4.46	1.05	.77
Luck	-	-	-	-	433	3.18	1.18	.81
Intentions-Complexity	-	-	-	-	433	4.18	0.62	.76
HWB-Enhancing Activities								
Breadth	2519	4.66	1.56	-	445	4.63	1.23	-
Variety	1953	0.93	0.14	-	405	0.93	0.08	-
Frequency	2803	0.58	0.31	-	461	0.57	0.23	-
Daily Well-Being								
Absence of Negativity	2475	4.25	1.10	.71	438	4.21	0.84	.93
Positive Attitude	2475	4.19	1.04	.81	438	4.14	0.79	.91
Tranquility	2475	4.27	0.96	.76	438	4.21	0.73	.92
Joy and Desires	2475	4.00	1.01	.75	438	3.95	0.75	.88
Personal Development	2475	3.59	1.02	.67	438	3.57	0.77	.88
Purpose	2475	3.58	1.04	.66	438	3.56	0.84	.90
Belonging	2475	4.29	1.11	.81	438	4.25	0.85	.96
Luck	2475	3.22	1.13	.73	438	3.20	0.88	.95
Life Satisfaction	2475	3.47	0.81	.68	438	3.42	0.62	.96
Positive Affect	2475	3.79	0.79	.76	438	3.75	0.60	.99
Negative Affect	2475	2.09	0.90	.75	438	2.13	0.67	.99
Affect Balance	2475	1.69	1.55	-	438	1.62	1.16	-

Note. Rel. = Reliability; Cronbach's α for measures that have only been assessed in the baseline assessment (e.g., HWB definitions); ω_{within} for Level 2 and ω_{between} for Level 3 variables of measures that have repeatedly been assessed (e.g., daily well-being). This table only covers the focal variables. Descriptive statistics of covariates are displayed in OM 1.

HWB-enhancing activities: breadth, variety, and frequency. Participants described their latest activity in an open text field and then indicated whether they had intended to increase HWB with this activity using a dichotomous question (response options: yes/no). Only those activities for which the response option “yes” was chosen represent HWB-enhancing activities and were used to compute variables for characteristics of HWB-enhancing activities described below. Further, participants indicated whether and how the activity affected the different facets of HWB covered by the CoDI Scales, using the following response options: -- *strong negative effect*, - *negative effect*, o *no effect*, + *positive effect*, ++ *strong positive effect*. All variables related to HWB-enhancing activities are built on the information on the latest activity described in this section and were aggregated within each day (daily level).

To compute the ***breadth*** of HWB-enhancing activities, we used the information on whether and how different facets of HWB have been affected by the latest activity. We coded each positively affected HWB facet with 1 and each neutrally or negatively affected facet with 0. We computed a sum score of these coded values for each activity such that lower scores represent narrow activities (i.e., tap into one or few facets of HWB only) and higher score represents broad activities (i.e., tap into multiple facets of HWB simultaneously). For the analyses, a daily score was computed by averaging the breadth of all HWB-enhancing activities within each day.

To compute the ***variety*** of HWB-enhancing activities, we used the open-text responses of participants’ latest activities and conducted content analyses. For the content analyses, we developed an extensive coding scheme that allowed us to capture different features of each activity that are not necessarily mutually exclusive (instead of creating wide, mutually exclusive categories for each activity). For example, the coding scheme represented whether an activity was conducted in a certain context (work vs. education vs. leisure), what kind of content the participants engaged with (e.g., creative/artistic, news), and many other features of activities (e.g., spending money, doing paperwork)²⁶. In total, we created 88 coding variables. For each activity, applicable coding variables were coded with 1, and not applicable coding variables were coded with 0. The coding was conducted by a research assistant. Parts of the coding (66.50%) were conducted twice by an intern. To quantify the level of agreement, we used Cohen’s kappa (Cohen, 1960)²⁷, which should

²⁶ For the present paper, the coding of the open text responses is only relevant for the variable variety of HWB-enhancing activities. The complete coding scheme is displayed in a spreadsheet in the “Codebook” file that is available at OSF: <https://osf.io/xbgqp>

²⁷ Cohen’s Kappa and frequency tables for the coding variables are provided in OM, Section 3.1.

be higher than $\kappa = .60$ to indicate an acceptable level of agreement. We excluded 21 coding variables that did not reach this threshold. For the remaining coding variables, disagreements between raters were resolved by the first author of this paper. Using all coding variables in combination, each activity submitted by the participants had a specific pattern of os and is, and these patterns were saved in a new variable. To compute the variety of HWB-enhancing activities, we computed how often each unique activity pattern of os and is occurred within a day. For example, someone who indicated on a particular day to have brunch with friends at one assessment and to watch an entertaining movie at two assessments would have reported three activities in total, but only two different activity patterns. These frequencies of unique activity patterns were divided by the total number of HWB-enhancing activities within each day. In the example above, this would result in a score of 0.67 (2 unique activity patterns divided by 3). Lower scores reflect a greater uniqueness of HWB-enhancing activities (i.e., engaging in the same or very similar activities several times a day); higher scores reflect a greater diversity of HWB-enhancing activities (i.e., engaging in several different activities within a day). We replaced activity patterns that consisted only of os with missing values (this affected 157 single activities; e.g., because of a very superficial or ambiguous description, such that none of the coding variables could be selected). It is not possible to derive information about the variety of activities when participants reported only one HWB-enhancing activity for a day. Therefore, we included variety scores only when participants reported at least two HWB-enhancing activities for a day.

For the *frequency* of HWB-enhancing activities, we computed the sum of HWB-enhancing activities within each day. This value was dependent on how reliably participants conducted the single assessments and might have also been affected by technical issues with the app (i.e., more reliable study participants generally complete more ESM surveys and may therefore also report more HWB-enhancing activities, which does not necessarily reflect that they actually invested more in HWB-enhancing activities in relation to less reliable study participants). Therefore, we divided the number of reported HWB-enhancing activities by the total number of reported activities within each day. The resulting variable represented the relative frequency of HWB-enhancing activities across all activities and should be less biased by the reliability of study participants and technical issues with the app. Lower scores reflected the engagement in relatively few HWB-enhancing activities (i.e., most reported activities were conducted for other reasons than to improve HWB); higher scores represented engagement in relatively many HWB-enhancing activities (i.e., most reported activities were conducted to improve or maintain HWB).

Daily well-being. We assessed several well-being variables on the evening of each day (daily level). We constructed another parallel version of the CoDI Scales to assess daily well-being. For this parallel scale, a general instruction was provided: “Please indicate to what extent the following statements apply to you” (e.g., “Today, I experienced a great deal of pleasure”). Responses were collected using symmetric scale labels ranging from 1 (*does not apply*) to 6 (*applies completely*). Further, we used the SPANE (Diener et al., 2010; German version by Rahm et al., 2017) to assess positive and negative affect with three items each. Participants indicated how often they felt a certain affective state during the day (e.g., “good”, “bad”). Responses were collected on a scale ranging from 1 (*very rarely or never*) to 5 (*very often or always*). In addition to the scores for positive and negative affect, we computed affect balance by subtracting negative affect from positive affect. Previous studies demonstrated the reliability, validity, and cross-cultural invariance of the six chosen items of this scale (Diener et al., 2010; Jovanović et al., 2022; Rahm et al., 2017). Further, we assessed daily satisfaction with two items. One of the items was integrated into the SPANE measure (by asking for the term “satisfied”), and the other item was integrated into the daily well-being measure of the CoDI Scales (“Today, I was satisfied with my life”). Since the number of response options differed across these two items, the latter item was adjusted to five response levels before both items were averaged to compute a score.

Acquiescence. A previous study using the CoDI Scales showed that scale responses were affected by response bias (Krasko et al., 2022), which is a common issue in questionnaire-based research (Danner et al., 2015; Soto et al., 2008; Wetzel et al., 2013). To control for acquiescence, we included ten item pairs with opposite statements that were presented together with items for HWB-related intentions in the baseline assessment (person level) and applied to the same item stem. An acquiescence score was computed by using responses to these items (Danner et al., 2015; Ferrando et al., 2004; Soto et al., 2008). We included only four item pairs with sufficient correlations ($r < -.20$) in the acquiescence score. We averaged these items and subtracted the value 3.5 (i.e., the mid-point of the scale) from each score. Therefore, deviations of the resulting acquiescence score from 0 indicate individual tendencies to disagree (negative deviations) or to agree (positive deviations) to items independent of the item content. Item responses for HWB definitions, HWB-related intentions, and daily well-being measures of the CoDI Scales (see below) were adjusted for response tendencies by subtracting this acquiescence score from each item response.

Covariates. We assessed extraversion and neuroticism in the baseline assessment (person level) with three items each using the BFI-2-XS (Danner et al., 2016; Soto & John, 2016). Responses

were collected on a scale ranging from 1 (completely does not apply) to 5 (applies completely). Previous studies demonstrated the reliability and validity of the scale (Danner et al., 2016; Soto & John, 2016). We also assessed age and gender in the baseline assessment. To control for data quality (see Meade & Craig, 2012), we included two instructed-response items in the baseline assessment and one instructed-response item in the final assessment (e.g., “To assess data quality, please choose response option no. 2”). We also included one dichotomous item for self-assessment of data quality (i.e., directly asking the participants whether they answered the survey questions appropriately) in the final assessment. To capture perceived reactivity effects, participants indicated in the final assessment whether they feel that their everyday behavior has been affected by their study participation. Responses were collected on a scale ranging from 1 (very rarely or never) to 5 (*very often or always*).

Further, we created variables (daily level) to reflect the assessment procedure: (1) An effect-coded categorical variable represented the day of the week (Monday – Sunday). (2) A time variable represented the day of assessment (usually ranging from 1 to 7 with a few exceptions that cover longer periods). (3) Due to some technical issues at the beginning of the study, some assessments were collected by using a static version of the survey (i.e., instead of waiting for random notifications, participants triggered the surveys by themselves at a chosen time but were asked to remain within the usual time windows). To distinguish between the original and the static version of assessments, a dichotomous variable was created, where 0 represented the original assessment and 1 the static version. The frequency of the static version was 0.1%.

5.6.4. Analyses

Analyses were conducted with R (R Core Team, 2020), using the packages *kableExtra* (Zhu, 2021), *lavaan* (Rosseel, 2012), *lme4* (Bates et al., 2015), *lmerTest* (Kuznetsova et al., 2017), *semPlot* (Epskamp et al., 2019), and *sjPlot* (Lüdtke, 2021). Two-tailed tests with a significance level of $\alpha = .05$ were used for all analyses.

We evaluated the daily well-being measure of the CoDI Scales by investigating whether the factor structure previously found (Krasko et al., 2022) also appropriately represented the parallel version to assess daily well-being using multilevel confirmatory factor analysis with Maximum Likelihood estimation. The model fit was evaluated according to established fit indices (acceptable fits were indicated by RMSEA < .08, Browne & Cudeck, 1992; SRMR < .10, Hu & Bentler, 1995; CFI > .95, Bentler, 1990). Further, we investigated bivariate correlations of the CoDI daily well-being

measure with positive and negative affect, affect balance, and daily satisfaction as indicators for construct validity. To provide evidence for meaningful associations, correlations should have an effect size of $r > .30$ (medium effect size according to Cohen, 1988 and large effect size according to Gignac & Szodorai, 2016).

In the next steps, we tested our hypotheses and research questions (Figure 5.1). For H2, H3a, H3b, and RQ3c, we used OLS regression analyses and grand-mean centered variables. We regressed intentions-complexity on definitions-complexity (H2). Further, we regressed breadth (H3a), variety (H3b), and frequency (RQ3c) of HWB-enhancing activities on intentions-complexity to investigate associations between intentions-complexity and characteristics of HWB-enhancing activities. Intentions-complexity is a person-level variable that does not vary within participants and can therefore not explain daily variations in the different characteristics of HWB-enhancing activities. Therefore, characteristics of HWB-enhancing activities were aggregated across the whole experience sampling period by computing mean scores.

For hypotheses with a hierarchical data structure (H4a, H4b, H4.1c, H4.2c), we used Maximum Likelihood multilevel modeling with person-mean centered variables on a daily level nested within participants. The different daily well-being outcomes were regressed on the breadth (H4a), variety (H4b), or frequency (H4.1c & H4.2c) of HWB-enhancing activities. We estimated random intercept models (i.e., only the intercepts but not the slopes were allowed to vary between participants) and compared these models with random slopes models (i.e., both the intercepts and slopes were allowed to vary between participants). Since χ^2 deviance tests indicated for the majority of the models that random slopes did not improve the model fit significantly, we conducted the analyses using random intercept models. Degrees of freedom and p values for fixed effects were computed with Satterthwaite approximation.

Additional analyses were conducted to test the robustness of the results. First, age, gender, extraversion, and neuroticism were added as covariates to all models described above. Second, we included several covariates that represent the assessment procedure: two variables at the person level (acquiescence & perceived reactivity effects) and four variables at the daily level (weekday, day of assessment, number of submitted activities, & whether the original or the static version of the study was used). Third, we conducted sensitivity analyses to investigate the impact of indicators of poor data quality. As described above, we only excluded participants with at least two indicators of poor data quality. Therefore, the data still contained participants with indicators of

poor data quality. We conducted additional analyses separately for each indicator of poor data quality by leaving out participants who failed to respond appropriately.

Finally, we analyzed a complete path model (Figure 5.1) to test Hypotheses H1 and H5 by using OLS regression analyses and grand-mean centered variables. Definitions-complexity and intentions-complexity are person-level variables that do not vary within participants. Therefore, for H5, all variables were averaged across the ESM period. In this model, (a) intentions-complexity was regressed on definitions-complexity, (b) each characteristic of HWB-enhancing activities (averaged across the ESM period) was regressed on intentions-complexity, and (c) average daily well-being variables were regressed on the characteristics of HWB-enhancing activities. This model allowed us to investigate the direct effect of definitions-complexity on daily well-being (H1), with and without controlling for HWB-enhancing activities. Further, the model revealed whether a relation between definitions-complexity and daily well-being can be explained by intentions-complexity and characteristics of HWB-enhancing activities (H5). This model was not used for testing the other hypotheses described above since it does not account for the hierarchical data structure. Indirect effects were estimated using bootstrapped 95% bias-corrected confidence intervals.

Information on the requirements of the data and model assumptions are provided in OM 1, Section 6. The linearity of bivariate relationships was examined using scatterplots and appeared to be given. Normal distributions and homoscedasticity of the residuals were examined by visual inspections of different plots (e.g., Q-Q plots). The normal distribution appeared to be violated for some of the models, which, however, has no severe impact on the accurate estimation of fixed effects (Maas & Hox, 2004). Intraclass correlations ranged between .384 and .532. We examined whether the variables for characteristics of HWB-enhancing activities and daily well-being differ between the different days of the week by using repeated-measures ANOVAs. For some variables, we found differences between days of the week (however, the day of the week was included as a covariate in the models). We also examined bivariate correlations between HWB definitions and HWB-related intentions that were unadjusted and adjusted for acquiescence. According to the preregistration, we expected that the correlations between the unadjusted and adjusted versions of these variables should be higher than $r = .70$ to justify the usage of the unadjusted version. Since the correlations mostly reached this threshold (with the smallest observed correlation between definitions-complexity and intentions-complexity, $r = .69$), we used the unadjusted version.

5.7. Results

We analyzed 2,815 daily-level data points from 473 participants, which covered 11,285 single ESM reports. Participants provided on average data for 5.66 days during the ESM phase and 19.73 single ESM reports. More information on study participation (Section 1) and descriptive statistics for all variables (Sections 3 & 4) can be found in OM 1.

5.7.1. Evaluation of the CoDI daily well-being scale

We evaluated the factorial validity of the daily well-being measure of the CoDI Scales using multilevel confirmatory factor analyses. Overall, results revealed an acceptable model fit ($\chi^2(448) = 1474.01$, $p < .001$; CFI = .97; RMSEA = .03; SRMR_{within} = .03; SRMR_{between} = .11). Most of the correlations between the CoDI well-being measures and other well-being measures were considerably greater than $r = .3$. The detailed results can be found in OM 2, Section 1. These results provide first evidence of construct validity and suggest that the factor structure of the CoDI Scales also appropriately represents the daily well-being version of the scale.

5.7.2. Evaluation of the Theoretical Model of the Pursuit of Happiness and Well-Being

Consistent with H2, people with a higher level of definitions-complexity also reported a higher level of intentions-complexity ($b = 0.56$, $t(332) = 10.80$, $p < .001$). The effect remained significant and decreased only marginally after adding control variables. Also consistent with our hypotheses, people with more diffuse HWB-related intentions tended to engage in broader (H3a) HWB-enhancing activities, as shown in both models without covariates ($b = 0.51$, $t(329) = 5.24$, $p < .001$) and with covariates ($b = 0.30$, $t(322) = 2.60$, $p = .010$). More diffuse HWB-related intentions were furthermore associated with a higher number (RQ3c) of HWB-enhancing activities ($b = 0.05$, $t(332) = 3.09$, $p = .002$), even when controlling for all covariates ($b = 0.04$, $t(325) = 2.06$, $p = .040$). However, contrary to H3b, people with more diffuse HWB-enhancing activities did not engage in more diverse HWB-enhancing activities: This effect was small and only marginally significant in the baseline model ($b = -0.01$, $t(318) = -1.98$, $p = .049$), and not statistically significant after adding all covariates ($b = -0.01$, $t(311) = -1.45$, $p = .149$).

Results on the association between characteristics of HWB-enhancing activities and well-being at the end of the day are displayed in Table 5.2. People who engaged in broader HWB-enhancing activities reported higher well-being at the end of the day (range $b = -0.07$ for negative affect – $b = 0.20$ for belonging), which was hardly affected by adding covariates and consistent with H4a.

However, people who engaged in more diverse HWB-enhancing activities did overall not report higher well-being. We only found a significant association for the outcome absence of negativity ($b = 0.32$) in both the baseline model and the model with covariates, which was inconsistent across sensitivity analyses. Results for the frequency of HWB-enhancing activities were inconsistent across different well-being variables but generally revealed that people who engaged in more HWB-enhancing activities reported higher daily well-being for most well-being variables (range $b = -0.13$ for negative affect – $b = 0.51$ for joy & desires). This result is in favor of the competing hypothesis H4.1c and contradicts H4.2c.

Results for the complete mediation models are displayed in Table 5.3 (H1) and Table 5.4 (H5). Consistent with H1, people with a higher level of definitions-complexity also reported higher levels of well-being at the end of the day (range $b = -0.10$ for negative affect – $b = 0.30$ for belonging). The effects remained significant after adding the mediator variables for all well-being outcomes but negative affect (range $b = -0.08$ for negative affect – $b = 0.24$ for belonging). The results for the well-being outcomes absence of negativity and purpose were also not statistically significant after adding covariates. Consistent with H5, the link between definitions-complexity and well-being could partly be explained by the intentions-complexity and breadth of HWB-related activities. The indirect effect of the breadth of HWB-enhancing activities was significant for all well-being outcomes in the baseline model (range $b = -0.02$ for negative affect – $b = 0.05$ for personal development). Adding covariates produced non-significant effects for the well-being outcomes absence of negativity, negative affect, and affect balance. However, the link between definitions-complexity and well-being could not be explained by the other characteristics of HWB-related activities: The indirect effect for variety of HWB-enhancing activities was not significant for all well-being outcomes in both the models with and without covariates. The indirect effect for frequency of HWB-enhancing activities was only marginally significant for the well-being outcome luck in the model without ($b = 0.01$; 95% CI $[-0.01 - 0.05]$) and with covariates ($b = 0.01$; 95% CI $[-0.00 - 0.03]$). Unless otherwise mentioned above, the results were similar across sensitivity analyses. Complete results tables for all models as well as sensitivity analyses are presented in OM 2 (Sections 2 – 9).

5.8. Discussion

In this study, we introduced and tested a new theoretical model of the pursuit of HWB. According to our results, defining and pursuing HWB in a multifaceted manner is related to higher levels of well-being. People with complex HWB definitions tended to pursue several facets of HWB

simultaneously, differed in how they engaged in HWB-enhancing activities, and also reported higher levels of daily well-being in comparison to people with simple HWB definitions. To the best of our knowledge, our study was the first that operationalized and tested three different characteristics of HWB-enhancing activities that have already been discussed in the literature as potentially relevant for the successful pursuit of HWB (Lyubomirsky & Layous, 2013): Engaging in HWB-enhancing activities that tap into multiple facets of HWB simultaneously seems to be a successful strategy to experience higher levels of well-being, since the breadth of HWB-enhancing activities was a positive predictor of daily well-being. It was also the only characteristic of HWB-enhancing activities that could partly explain (together with intentions-complexity) the link between definitions-complexity and daily well-being. The frequency of HWB-enhancing activities was less consistent but also a positive predictor of daily well-being. The variety of HWB-enhancing activities, however, did not predict daily well-being. In the next sections, we discuss these results in detail.

5.8.1. *Theoretical Model of the Pursuit of Happiness and Well-Being*

People with complex HWB definitions reported higher levels of well-being and seemed therefore to be more successful in improving and maintaining well-being than people with simple HWB definitions. This result is in line with previous work where the importance of a multifaceted pursuit of HWB for actual levels of well-being has been proposed or demonstrated (Grimm et al., 2015; Henderson & Knight, 2012; Huta & Ryan, 2010; Krasko et al., 2022; Sheldon & Niemiec, 2006; Sirgy & Wu, 2009) and also confirms that trying to identify a superior path to HWB does not reflect people's pursuit of HWB (Grimm et al., 2015). Therefore, we agree with the claim that well-being researchers should expand the investigation of a multifaceted definition and pursuit of HWB instead of focusing on specific isolated paths to HWB (Grimm et al., 2015; Henderson & Knight, 2012).

Table 5.2. *HWB-enhancing activities predicting daily well-being without covariates (Baseline Model) and with all covariates (Model 3).*

Outcome variable	Baseline Model					Model 3				
	Estimate	SE	df	t	p	Estimate	SE	df	t	p
Predictor: Breadth of HWB-enhancing activities (H4a)										
Absence of Negativity	0.10	0.02	1888.09	6.00	<.001	0.10	0.02	1624.09	5.13	<.001
Positive Attitude	0.15	0.02	1891.07	9.43	<.001	0.14	0.02	1622.71	8.00	<.001
Tranquility	0.11	0.02	1891.79	7.59	<.001	0.10	0.02	1623.81	6.41	<.001
Joy and Desires	0.16	0.02	1894.80	10.44	<.001	0.17	0.02	1625.85	9.53	<.001

Outcome variable	Baseline Model					Model 3				
	Estimate	SE	df	t	p	Estimate	SE	df	t	p
Personal Development	0.12	0.02	1900.77	7.42	<.001	0.11	0.02	1622.34	6.49	<.001
Purpose	0.12	0.01	1887.23	8.27	<.001	0.12	0.02	1614.25	7.59	<.001
Belonging	0.20	0.02	1895.00	12.38	<.001	0.19	0.02	1624.45	11.10	<.001
Luck	0.15	0.02	1894.89	9.36	<.001	0.14	0.02	1613.24	7.90	<.001
Life Satisfaction	0.10	0.01	1885.73	8.02	<.001	0.10	0.01	1627.68	7.70	<.001
Positive Affect	0.11	0.01	1895.04	9.45	<.001	0.11	0.01	1621.80	8.85	<.001
Negative Affect	-0.07	0.01	1895.75	-4.71	<.001	-0.06	0.02	1625.39	-4.15	<.001
Affect Balance	0.18	0.02	1894.34	7.58	<.001	0.18	0.03	1622.60	6.93	<.001
Predictor: Variety of HWB-enhancing activities (H4b)										
Absence of Negativity	0.32	0.16	1448.04	2.07	.039	0.37	0.17	1276.47	2.21	.027
Positive Attitude	0.13	0.15	1459.08	0.86	.389	0.16	0.16	1280.29	1.01	.312
Tranquility	-0.08	0.14	1454.50	-0.60	.551	-0.09	0.15	1277.27	-0.62	.533
Joy and Desires	0.15	0.15	1467.49	1.06	.291	0.14	0.16	1283.35	0.86	.390
Personal Development	0.09	0.15	1464.84	0.62	.538	0.12	0.16	1283.67	0.72	.470
Purpose	0.22	0.13	1448.50	1.66	.096	0.27	0.14	1272.34	1.88	.060
Belonging	0.21	0.16	1465.14	1.37	.171	0.15	0.16	1284.37	0.93	.354
Luck	-0.13	0.15	1452.18	-0.91	.365	-0.21	0.16	1265.85	-1.35	.177
Life Satisfaction	0.13	0.11	1453.76	1.12	.264	0.17	0.12	1277.93	1.42	.155
Positive Affect	0.06	0.11	1457.75	0.57	.568	-0.04	0.12	1279.37	-0.30	.766
Negative Affect	-0.15	0.13	1452.33	-1.12	.265	-0.12	0.14	1276.55	-0.85	.398
Affect Balance	0.21	0.22	1455.36	0.96	.339	0.08	0.24	1279.22	0.36	.721
Predictor: Frequency of HWB-enhancing activities (H4c)										
Absence of Negativity	0.25	0.08	2090.44	3.21	.001	0.20	0.09	1783.00	2.32	.021
Positive Attitude	0.39	0.08	2085.39	5.20	<.001	0.31	0.08	1781.31	3.81	<.001
Tranquility	0.34	0.07	2086.79	4.96	<.001	0.30	0.08	1783.29	3.98	<.001
Joy and Desires	0.51	0.07	2090.97	7.01	<.001	0.48	0.08	1783.47	5.83	<.001
Personal Development	0.07	0.07	2097.03	0.90	.370	0.05	0.08	1777.68	0.58	.563
Purpose	0.18	0.07	2078.38	2.68	.007	0.14	0.07	1766.04	1.91	.056
Belonging	0.24	0.08	2089.96	3.18	.001	0.18	0.08	1779.96	2.12	.034
Luck	0.32	0.07	2089.42	4.38	<.001	0.34	0.08	1765.74	4.14	<.001
Life Satisfaction	0.17	0.06	2082.73	2.94	.003	0.15	0.06	1786.33	2.37	.018
Positive Affect	0.24	0.06	2090.82	4.35	<.001	0.20	0.06	1780.51	3.20	.001
Negative Affect	-0.13	0.07	2097.75	-2.03	.042	-0.15	0.07	1785.29	-2.04	.041
Affect Balance	0.37	0.11	2095.69	3.43	.001	0.34	0.12	1781.65	2.84	.005

Note. The complete models and Model 2 are displayed in OM 2.

Table 5.3. *Definitions-complexity predicting daily well-being without moderators (Direct Effect), with moderators and without covariates (Baseline Model), and with moderators and all covariates (Model 3).*

Outcome variable	Std. Estimate	Estimate	SE	z	p	Lower CI	Upper CI
Direct Effect							
Absence of Negativity	.16	0.23	0.07	3.30	.001	0.086	0.364
Positive Attitude	.26	0.36	0.07	5.33	<.001	0.238	0.497
Tranquility	.23	0.29	0.06	4.81	<.001	0.178	0.418
Joy and Desires	.29	0.38	0.06	6.18	<.001	0.268	0.506
Personal Development	.23	0.31	0.06	4.93	<.001	0.198	0.451
Purpose	.25	0.36	0.08	4.74	<.001	0.206	0.513
Belonging	.30	0.44	0.07	6.33	<.001	0.318	0.600
Luck	.26	0.41	0.08	4.98	<.001	0.253	0.575
Life Satisfaction	.21	0.23	0.05	4.61	<.001	0.129	0.324
Positive Affect	.25	0.26	0.05	5.43	<.001	0.165	0.353
Negative Affect	-.10	-0.12	0.06	-2.20	.028	-0.239	-0.011
Affect Balance	.19	0.38	0.10	3.96	<.001	0.196	0.560
Baseline Model							
Absence of Negativity	.12	0.18	0.08	2.30	.022	0.043	0.351
Positive Attitude	.18	0.23	0.07	3.38	.001	0.110	0.381
Tranquility	.17	0.21	0.07	3.20	.001	0.072	0.327
Joy and Desires	.22	0.27	0.06	4.23	<.001	0.146	0.393
Personal Development	.13	0.17	0.06	2.84	.005	0.054	0.284
Purpose	.17	0.24	0.08	2.91	.004	0.089	0.404
Belonging	.24	0.33	0.07	4.52	<.001	0.178	0.469
Luck	.17	0.25	0.08	3.19	.001	0.102	0.396
Life Satisfaction	.15	0.15	0.05	2.81	.005	0.044	0.254
Positive Affect	.17	0.18	0.05	3.43	.001	0.072	0.268
Negative Affect	-.08	-0.09	0.06	-1.48	.140	-0.205	0.031
Affect Balance	.13	0.26	0.10	2.56	.010	0.047	0.460
Model 3							
Absence of Negativity	.07	0.09	0.08	1.21	.225	-0.059	0.236
Positive Attitude	.13	0.17	0.07	2.33	.020	0.024	0.301
Tranquility	.12	0.14	0.06	2.15	.031	0.013	0.256
Joy and Desires	.15	0.18	0.06	2.85	.004	0.051	0.291
Personal Development	.11	0.13	0.06	2.20	.028	0.006	0.246
Purpose	.11	0.15	0.08	1.79	.074	-0.026	0.295
Belonging	.20	0.28	0.08	3.57	<.001	0.113	0.421
Luck	.16	0.24	0.08	2.86	.004	0.077	0.402
Life Satisfaction	.13	0.13	0.06	2.29	.022	0.017	0.237
Positive Affect	.18	0.17	0.05	3.21	.001	0.065	0.277
Negative Affect	-.05	-0.06	0.07	-0.91	.363	-0.180	0.082
Affect Balance	.12	0.23	0.11	2.08	.037	0.004	0.442

Note. Std = standardized; The complete models and Model 2 are displayed in OM 2.

Table 5.4. *Indirect effects of HWB-enhancing activities in models without covariates (Baseline Model) and with all covariates (Model 3).*

Outcome variable	Baseline Model						Model 3							
	Std. Estimate	Estimate	SE	z	p	Lower CI	Upper CI	Std. Estimate	Estimate	SE	z	p	Lower CI	Upper CI
Indirect effect: Breadth of HWB-enhancing activities														
Absence of Negativity	.02	0.03	0.01	2.11	.035	0.007	0.060	.00	0.00	0.01	0.23	.822	-0.007	0.016
Positive Attitude	.04	0.05	0.02	3.01	.003	0.023	0.088	.01	0.02	0.01	1.69	.090	0.002	0.041
Tranquility	.04	0.04	0.02	2.77	.006	0.018	0.078	.01	0.01	0.01	1.44	.149	0.001	0.033
Joy and Desires	.04	0.04	0.02	2.94	.003	0.018	0.079	.01	0.02	0.01	1.78	.075	0.003	0.039
Personal Development	.05	0.06	0.02	3.66	<.001	0.029	0.097	.02	0.02	0.01	1.93	.054	0.005	0.055
Purpose	.04	0.06	0.02	3.27	.001	0.032	0.103	.02	0.02	0.01	1.75	.080	0.004	0.059
Belonging	.03	0.05	0.02	2.83	.005	0.020	0.085	.01	0.02	0.01	1.73	.084	0.002	0.042
Luck	.04	0.06	0.02	3.41	.001	0.030	0.097	.02	0.03	0.02	1.96	.050	0.004	0.063
Life Satisfaction	.03	0.03	0.01	2.63	.008	0.014	0.064	.01	0.01	0.01	1.55	.121	0.002	0.029
Positive Affect	.03	0.03	0.01	2.65	.008	0.012	0.059	.01	0.01	0.01	1.38	.168	0.001	0.029
Negative Affect	-.02	-0.02	0.01	-1.71	.087	-0.045	-0.002	.00	0.00	0.00	-0.11	.910	-0.011	0.007
Affect Balance	.02	0.05	0.02	2.30	.021	0.016	0.102	.01	0.01	0.01	0.92	.356	-0.002	0.041
Indirect effect: Variety of HWB-enhancing activities														
Absence of Negativity	.00	0.00	0.00	0.32	.746	-0.004	0.015	.00	0.00	0.00	0.33	.740	-0.003	0.013
Positive Attitude	.00	0.00	0.00	0.29	.775	-0.004	0.012	.00	0.00	0.00	0.10	.919	-0.005	0.007
Tranquility	.00	0.00	0.00	0.21	.831	-0.004	0.009	.00	0.00	0.00	0.12	.904	-0.005	0.007
Joy and Desires	.00	0.00	0.00	0.21	.835	-0.004	0.009	.00	0.00	0.00	0.31	.759	-0.003	0.008
Personal Development	.00	0.00	0.00	-0.01	.993	-0.008	0.007	.00	0.00	0.00	-0.21	.835	-0.009	0.004
Purpose	.00	0.00	0.00	-0.24	.811	-0.011	0.005	.00	0.00	0.00	-0.11	.916	-0.010	0.005
Belonging	.00	0.00	0.00	-0.32	.746	-0.011	0.004	.00	0.00	0.00	0.19	.846	-0.004	0.008
Luck	.00	0.00	0.00	-0.60	.548	-0.016	0.002	.00	0.00	0.01	-0.73	.468	-0.023	0.001
Life Satisfaction	.00	0.00	0.00	0.18	.856	-0.004	0.010	.00	0.00	0.00	0.52	.601	-0.001	0.012
Positive Affect	.00	0.00	0.00	0.41	.681	-0.002	0.010	.00	0.00	0.00	0.32	.749	-0.002	0.009
Negative Affect	.00	0.00	0.00	-0.12	.904	-0.008	0.006	.00	0.00	0.00	0.10	.918	-0.005	0.008
Affect Balance	.00	0.00	0.01	0.28	.779	-0.005	0.015	.00	0.00	0.00	0.11	.911	-0.007	0.011

Outcome variable	Baseline Model						Model 3							
	Std. Estimate	Estimate	SE	z	p	Lower CI	Upper CI	Std. Estimate	Estimate	SE	z	p	Lower CI	Upper CI
Indirect effect: Frequency of HWB-enhancing activities														
Absence of Negativity	.00	0.00	0.01	-0.04	.966	-0.016	0.018	.00	0.00	0.00	-0.36	.723	-0.012	0.007
Positive Attitude	.01	0.01	0.01	0.83	.408	-0.004	0.028	.00	0.00	0.00	0.06	.953	-0.005	0.011
Tranquility	.00	0.00	0.01	0.11	.913	-0.010	0.016	.00	0.00	0.00	-0.30	.767	-0.010	0.005
Joy and Desires	.01	0.01	0.01	1.29	.196	0.000	0.031	.00	0.00	0.00	1.02	.310	-0.001	0.016
Personal Development	.01	0.01	0.01	1.20	.231	-0.001	0.027	.00	0.00	0.00	0.26	.798	-0.005	0.011
Purpose	.00	0.01	0.01	0.63	.528	-0.009	0.022	.00	0.00	0.01	-0.02	.986	-0.010	0.010
Belonging	.01	0.01	0.01	0.96	.339	-0.003	0.028	.00	0.00	0.00	0.21	.834	-0.005	0.013
Luck	.01	0.02	0.01	1.94	.053	0.006	0.050	.01	0.01	0.01	1.23	.220	0.000	0.031
Life Satisfaction	.00	0.00	0.01	0.79	.428	-0.004	0.018	.00	0.00	0.00	-0.44	.664	-0.010	0.003
Positive Affect	.01	0.01	0.01	0.83	.406	-0.003	0.024	.00	0.00	0.00	0.23	.820	-0.005	0.010
Negative Affect	.00	0.00	0.01	-0.34	.734	-0.017	0.009	.00	0.00	0.00	-0.35	.728	-0.012	0.004
Affect Balance	.00	0.01	0.01	0.64	.522	-0.009	0.037	.00	0.00	0.01	0.33	.744	-0.009	0.020

Note. Std. = standardized; The complete models and Model 2 are displayed in OM 2.

People who defined HWB in a more complex manner also reported more diffuse HWB-related intentions, that is, a higher number of HWB facets they intended to pursue simultaneously in everyday life. Further, people with more diffuse HWB-related intentions engaged in broader and a higher number of HWB-enhancing activities. Happiness-related beliefs appear therefore to translate into corresponding goals and intentions, which in turn are related to the engagement in behaviors and activities that benefit people's happiness goals (Fowers et al., 2010; Krasko et al., 2022; Ruch et al., 2010).

We robustly found that people who engaged in broader HWB-enhancing activities reported higher levels of well-being at the end of the day. Additionally, together with intentions-complexity, the breadth of HWB-enhancing activities could partly explain the link between the complexity of HWB definitions and daily well-being. Others have argued that a multifaceted definition and pursuit of HWB benefits well-being because it supports the distribution of personal resources, contributes to satisfying a wider range of needs, and fosters positive spillover or compensation effects (Huta & Ryan, 2010; Keyes et al., 2002; Ortner et al., 2018; Sheldon & Niemiec, 2006; Sirgy & Wu, 2009; Sumer & Knight, 2001). According to our results, it seems that this distribution of personal resources and the satisfaction of a wider range of needs is realized at the behavioral level with broader HWB-enhancing activities.

However, we had similar expectations for the variety of HWB-enhancing activities, which was rarely associated with daily well-being and did not explain the link between the complexity of HWB definitions and well-being. This contradicts previous work suggesting that the variety of HWB-enhancing activities might be an important feature that contributes to the success of such activities (Lyubomirsky & Layous, 2013; Sin & Lyubomirsky, 2009). One explanation for this finding is that the operationalization of HWB-enhancing activities was not optimal, as we discuss below. Other possible explanations for why we did not find the expected relationship can be found in previous research. In one study, the diversity of activities was positively associated with well-being in older adults but not associated with well-being in middle-aged adults and even in the opposite direction in young adults (Lee et al., 2018). The authors suggested that more diverse activities benefit larger social networks in older adults, which in turn affects well-being positively since it decreased the role loss that is typically experienced in older adults. Further, diverse activities might be better adjusted to the needs of older adults because of their better self-knowledge and enhanced strategies to regulate emotional experiences in everyday life. In contrast, activity diversity may not be beneficial for the well-being of younger age groups due to a lack of self-knowledge and because it might reflect the strain of many obligations, roles, and activities

(Lee et al., 2018). Likewise, trying to pursue several facets of HWB simultaneously with a range of diverse HWB-enhancing activities might foster stress and consequently affect well-being negatively. Although the study of Lee et al. (2018) focused on activities in general, it does indicate that age-related differences might also be important for the variety of HWB-enhancing activities. What's more, studies that demonstrated positive associations between the related construct leisure repertoire size and different outcomes related to health and well-being (e.g., Payne et al., 2006) frequently focused on older adults or found more pronounced positive effects of a greater leisure repertoire size in older adults than in younger adults. We may not have been able to find associations between the variety of HWB-enhancing activities and daily well-being (even after controlling for age) because older participants were underrepresented in our sample. Future investigations of the variety of HWB-enhancing activities should examine more age-heterogeneous samples.

People who engaged in many HWB-enhancing activities reported higher well-being at the end of the day than people who engaged in few HWB-enhancing activities. Although this result was inconsistent across different facets of well-being, the associations were always positive, which is in line with previous literature that suggested the frequency of HWB-enhancing activities to be an important feature for the success of such activities (Lyubomirsky & Layous, 2013). This result is also in line with previous findings on positive associations between engaging in HWB-enhancing activities and actual levels of well-being (Bolier et al., 2013; Ghielen et al., 2017; Lyubomirsky et al., 2005; Lyubomirsky & Layous, 2013; Meyers et al., 2013; Sin & Lyubomirsky, 2009). In contrast, the idea that trying (too much) to be happy might lead to lower levels of well-being (Joshi & Weijers, 2014; Martin, 2008; McGuirk et al., 2018) cannot be supported by our results. However, the frequency of HWB-enhancing activities did not explain the link between definitions-complexity daily well-being.

5.8.2. *Limitations and Future Research*

Some limitations of this study as well as some open questions should be addressed in the future. The operationalization of the frequency of HWB-enhancing activities was quite straightforward, but the operationalization of the breadth and variety of HWB-enhancing activities raises some questions. For breadth, it remains an open question whether the *quality* of broader HWB-enhancing activities actually differs from narrow HWB-enhancing activities. More precisely, people might aim to invest in several facets of well-being simultaneously and therefore engage in an activity in a way that leaves more room for different well-being related experiences. However, it

might also be possible that people with broader HWB-enhancing activities only differ in their *perception* of benefits for different well-being facets that result from activities from people with narrow HWB-enhancing activities. With our operationalization of the breadth of HWB-enhancing activities it is not possible to infer whether the experienced well-being related benefits of the activities differ or the actual quality of the activities.

The low variance of the variety of HWB-enhancing activities indicates that the operationalization of this variable was probably not optimal. High variety scores were overrepresented and low variety scores were underrepresented in the data, such that the majority of participants tended to report rather diverse HWB-enhancing activities. Although assessing activities with open-text responses has advantages, the variables derived from these responses might have been affected by the information people disclosed. For example, activities were sometimes described with one word only (e.g., "swimming"), whereas other activity descriptions went into much more detail (e.g., "I went swimming. Sports do not belong to my preferred activities, but I met a group of people there who are very important to me. Luckily, I pushed myself."). Such differences in the provided information might have affected the reliability of the variety of HWB-enhancing activities. Another, more pre-structured operationalization of the variety of HWB-enhancing activities should be used in the future to examine whether the distribution and the results of this variable could be replicated using an alternative operationalization.

The theoretical model of the pursuit of HWB implies a causal relationship between the variables. However, we are well aware that causal inferences are only possible to a limited degree with this study (see also Grosz et al., 2020; Rohrer & Murayama, 2021). The variables have been assessed in a clear temporal order and in some models, we have investigated within-person differences. Although within-person designs are not sufficient for causal inferences, they nevertheless support the identification of potential causal mechanisms, because they rule out the possibility that stable differences between people have an impact on the associations found within people (Rohrer & Murayama, 2021). Yet, it cannot be ruled out that other mechanisms might have been responsible for our results, for example, other time-varying variables that affected both the independent and dependent variables. For those models that examine between-person differences, possible confounding with stable differences remains a limitation. It can also not be ruled out that (some of) the relationships in the model are reversed. Several steps could help to move closer to understanding the causal mechanisms of our model in the future. It would be important to investigate different variations of the model, for example by reversing the relationships or integrating other (stable and time-varying) variables to rule out potential alternative explanations.

Further, examining longer periods in which all components of the model are repeatedly assessed (i.e., also variables that are assumed to be rather stable like definitions-complexity and intentions-complexity) could help to understand whether the directions of the relationships could also be reversed or whether reciprocal relationships have an impact on the pursuit of HWB. Additionally, longitudinal experimental or controlled intervention studies would be needed in which participants could be randomly assigned to different conditions that aim to manipulate different components of the model.

Since we used a German convenience sample, the results cannot be generalized to other populations. This is worth particular attention when examining definitions and pursuit of HWB since people from different cultures differ in how they define HWB (Brailovskaia et al., 2022; Oishi et al., 2013; Uchida & Ogihara, 2012) and whether the pursuit of HWB is generally desired and valued (Ford, Dmitrieva, et al., 2015; Joshanloo et al., 2014). Initial (although underpowered) evidence also showed that HWB-enhancing activities in the context of HWB interventions are differentially successful in different cultures (Lambert et al., 2022). Therefore, it is important to replicate this study in other cultures.

5.9. Conclusion and Implications

We introduced and tested a novel model of the pursuit of HWB in which we integrated HWB definitions, HWB-related intentions, and HWB-enhancing activities as important components for the pursuit of HWB. The results of an ESM study showed that people with more complex HWB definitions tended to pursue several facets of HWB simultaneously, differed in how they engaged in HWB-enhancing activities, and reported higher levels of daily well-being. The breadth of HWB-enhancing activities (i.e., activities that tap into multiple facets of HWB simultaneously) positively predicted different facets of daily well-being and, together with intentions-complexity, partly explained the link between definitions-complexity and daily well-being. The frequency of HWB-enhancing activities was a less consistent but positive predictor of daily well-being. The variety of HWB-enhancing activities, however, was not associated with daily well-being. Overall, we demonstrated that defining and pursuing HWB in a multifaceted manner is related to higher levels of well-being.

Our findings could inform people who want to improve their well-being (or practitioners who are engaged in promoting people's well-being). We suggest that those people should reflect on what HWB means for them and whether that personal definition of HWB might be too narrow. It may

be helpful to develop a more multifaceted definition of HWB, to formulate corresponding everyday goals and intentions, and to generate ideas on how to support these different facets of HWB with daily activities. Based on our results, we can particularly recommend engaging in broader HWB-enhancing activities. Therefore, we suggest to think about how to promote different facets of HWB with single HWB-enhancing activities simultaneously and to implement such activities in everyday life.

5.10. Data Accessibility Statement

The study materials, data, and analysis code used for this article can be accessed at <https://osf.io/xbgqp>. The preregistration and an overview of deviations from the preregistration can be found at <https://osf.io/b8d3e> and <https://osf.io/xbgqp>.

5.11. Author Contribution Statement

The contributions of each author according to the CRediT Classification:

Julia Krasko:	Conceptualization, Data Curation, Formal Analysis, Investigation, Methodology, Project Administration, Software, Visualization, Writing – Original Draft Preparation, Writing – Review and Editing
Sabrina Intelisano:	Conceptualization (<i>supporting</i>), Methodology (<i>supporting</i>), Writing – Review and Editing
Maike Luhmann:	Conceptualization, Funding acquisition, Methodology (<i>supporting</i>), Resources, Supervision, Writing – Review and Editing

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6 | General Discussion

6. General Discussion

Can the popular belief that one's efforts can influence one's happiness actually be supported empirically? The literature to date provided conflicting answers to this question (Gruber et al., 2011; Huta & Ryan, 2010; Sin & Lyubomirsky, 2009; Zerwas & Ford, 2021). In this dissertation, I aimed to investigate whether the pursuit of HWB can generally be successful and, if so, under which conditions. To reach this goal, I examined whether the pursuit of HWB is beneficial or detrimental for actual levels of well-being (RQ1), how HWB can be defined (RQ2) and pursued, and whether a multifaceted definition and pursuit of HWB contribute to actual levels of well-being (RQ3).

In Chapter 2 to Chapter 5, I presented four articles spanning seven studies to answer these research questions by resolving open questions, ambiguous findings, and shortcomings of previous research that needed to be addressed. In this final chapter, the central findings of this dissertation will be integrated and discussed from an overarching perspective. After a brief overview of the key findings from the four chapters (see Table 6.1 for a summary), the theoretical, methodological, and practical implications will be discussed along with relevant limitations and directions for future research.

Table 6.1. *Summary of the key findings in this dissertation.*

Chapter	Aims	Key Findings	Conclusion
2	<p>(1) Developing a new multidimensional scale to measure the endorsement of the goal of being happy.</p> <p>(2) Investigating whether relations with well-being differ between the dimensions of the new scale.</p>	<p>The novel Happiness Goal Orientations Scale distinguishes two dimensions: Happiness-Related Strivings (i.e., the propensity to move actively and persistently toward the desired level of happiness) and Happiness-Related Concerns (i.e., the propensity to worry about and to focus on threats to one's level of happiness). Happiness-Related Strivings were positively associated with well-being, whereas Happiness-Related Concerns were negatively associated with well-being.</p>	<p>The pursuit of HWB can be both beneficial and detrimental to one's level of well-being. The differing relations between the two dimensions of Happiness Goal Orientation with well-being demonstrate the importance of addressing the endorsement of the goal of being happy as a multidimensional construct.</p>

Chapter	Aims	Key Findings	Conclusion
3	<p>(1) Presenting a new dimensional taxonomy to classify philosophical and psychological HWB definitions.</p> <p>(2) Investigating similarities and differences between philosophical and psychological HWB definitions.</p>	Two independent continuous dimensions have been identified to describe HWB definitions: Degree of stability (from dynamic to stable) and psychological process (from affective to cognitive). The most important findings revealed by using this dimensional taxonomy are: (a) no universally accepted HWB definition exists, (b) philosophical and psychological HWB definitions are overall quite similar, (c) the majority of HWB definitions are either described as affective and dynamic or as cognitive and stable concepts.	Overall, philosophers and psychologists define HWB in a similar manner. Further, the dimensional taxonomy can be used to identify HWB definitions across disciplines that are similar enough that attempts to integrate them are promising.
4	<p>(1) Investigating associations between a multifaceted definition and pursuit of HWB and actual levels of well-being.</p> <p>(2) Developing two parallel scales to assess HWB definitions and HWB-related intentions and operationalizing the multifaceted definition and pursuit of HWB.</p>	Eight facets of HWB could be distinguished for both HWB definitions and HWB-related intentions: Absence of negativity, positive attitude, tranquility, personal development, luck, joy and desires, purpose, and belonging. Intentions-complexity was positively associated with all facets of well-being, whereas definitions-complexity was only positively associated with some facets of well-being.	People differ in whether they define and pursue HWB in a unilateral or rather multifaceted manner. People who define and pursue HWB in a multifaceted manner also tend to report higher levels of well-being than people who define and pursue HWB in a unilateral manner. However, HWB-related intentions and their complexity appear to be more important for the experience of well-being than HWB definitions and their complexity.
5	<p>(1) Testing a new theoretical model of the pursuit of HWB in everyday life that integrates HWB definitions, HWB-related intentions, and HWB-enhancing activities as predictors of daily well-being.</p> <p>(2) Operationalizing and investigating different characteristics of HWB-enhancing activities as predictors of daily well-being.</p>	Definitions-complexity was predictive of intentions-complexity and daily well-being. Intentions-complexity was predictive of the engagement in broader and a higher number of HWB-enhancing activities, which, in turn, were associated with higher levels of daily well-being. The variety of HWB-enhancing activities, however, did not predict daily well-being. Further, together with intentions-complexity, the breadth of HWB-enhancing activities could partly explain the link between the complexity of HWB definitions and daily well-being.	Defining and pursuing HWB in a multifaceted manner is related to higher levels of well-being than defining and pursuing HWB in a unilateral manner. Engaging generally in many HWB-enhancing activities as well as in activities that tap into multiple facets of HWB simultaneously appear to be successful strategies to pursue HWB in everyday life.

Note. HWB = happiness and well-being; definitions-complexity = complexity of HWB-definitions (i.e., higher values indicate that people endorse more HWB definitions); intentions-complexity = complexity of HWB-related intentions (i.e., higher values indicate that people intend to pursue more HWB facets in everyday life); breadth of HWB-enhancing activities = how many different HWB facets were simultaneously positively affected by activities conducted to improve or maintain one's well-being; variety of HWB-enhancing activities = whether rather similar or a broad range of different activities were conducted to improve or maintain one's HWB.

6.1. Summary of the Findings of This Dissertation

6.1.1. *Happiness Goal Orientations*

Whether the pursuit of HWB is beneficial or detrimental for actual levels of well-being has been controversially discussed in the past (Catalino et al., 2014; Luhmann et al., 2016; Zerwas & Ford, 2021). Empirical results on this matter were also conflicting (Catalino et al., 2014; Mauss et al., 2011). Some authors proposed that these conflicting findings may possibly be explained by distinguishing different dimensions relevant to the endorsement of the goal of being happy (Luhmann et al., 2016; Zerwas & Ford, 2021).

In Chapter 2, four studies were presented to examine this idea (total $N = 1200$). First, I developed the multidimensional *Happiness Goal Orientations Scale* that assesses to what extent people endorse the goal of being happy. Item development was inspired by theories of motivational systems and goal pursuit (Elliot & Thrash, 2002; Higgins, 1997; Kuhl, 2000). The scale was finalized using item analyses, exploratory factor analyses, and confirmatory factor analyses, and distinguishes two dimensions: *Happiness-Related Strivings* represent the propensity to move actively and persistently toward the desired level of happiness, whereas *Happiness-Related Concerns* represent the propensity to worry about and to focus on threats to one's level of happiness. The final scale had good psychometric properties. First, reliability of the scale was in a good range (Cronbach's alphas between $\alpha = .70$ and $\alpha = .89$). Second, evidence for the validity of the scale was provided using bivariate correlations and OLS multiple regression. For example, Happiness-Related Strivings were associated with endorsing a broad range of HWB definitions and the intention to pursue several different facets of HWB in everyday life. In contrast, Happiness-Related Concerns were associated with defining HWB solely as the absence of negativity and having no intentions to pursue HWB in everyday life.

The final scale was then used to investigate whether relationships with well-being differ between the two dimensions of Happiness Goal Orientations. Indeed, bivariate correlations and OLS regressions revealed positive associations between Happiness-Related Strivings and well-being and negative associations between Happiness-Related Concerns and well-being. Therefore, depending on the dimension, Happiness Goal Orientations appear to be both beneficial and detrimental to one's well-being. However, well-being associations were stronger and more consistent for Happiness-Related Concerns than for Happiness-Related Strivings. In line with the suggestions of Luhmann et al. (2016) and Zerwas and Ford (2021), these findings reconcile

conflicting results in the literature and demonstrate that it is important to address the endorsement of the goal of being happy as a multidimensional construct.

6.1.2. *Integrating Philosophical and Psychological Definitions of Happiness and Well-Being*

Popular philosophical and psychological HWB definitions overlap strongly, but notable differences between the disciplines nevertheless exist. A mutual classification system that integrates philosophical and psychological HWB definitions would help utilize the strengths of both disciplines in understanding HWB and foster interdisciplinary theoretical integration. Existing categorical classification systems (Huta & Waterman, 2014; Parfit, 1984; Woodard, 2013) are insufficient to cover HWB definitions across both disciplines.

In Chapter 3, a new classification system for philosophical and psychological HWB definitions was developed, which distinguishes two continuous dimensions: Degree of stability (from dynamic to stable) and psychological process (from affective to cognitive). This dimensional taxonomy captures more nuanced differences between single HWB definitions than existing categorical classification systems. Moreover, it can be used to illustrate similarities and differences between HWB definitions in graphical displays. The dimensional taxonomy was then used to examine similarities and differences between philosophical and psychological HWB definitions identified in a literature review. This systematic investigation of HWB definitions revealed that no universally accepted HWB definition exists within and between the disciplines. Further, a majority of HWB definitions in both disciplines were either described as stable and cognitive or as affective and dynamic concepts, which was also indicated by a high association between the dimensions ($r = .67$). Overall, philosophical and psychological HWB definitions appear to describe similar phenomena, as also indicated by a multivariate analysis of variance that showed that distributions of the two dimensions did not differ across the two disciplines.

6.1.3. *Introducing the CoDI Scales*

Although in recent years many well-being researchers came to the conclusion that different facets of HWB should be pursued simultaneously for the highest levels of well-being, only a few studies investigated this idea (Grimm et al., 2015; Henderson & Knight, 2012; Huta & Ryan, 2010; Waterman et al., 2008). However, all existing studies on this topic covered only a few HWB facets and used scales that either conflate different processes of the pursuit of HWB or cover only one specific process relevant to the pursuit of HWB (e.g., HWB definitions only; McMahan & Estes, 2011b; Peterson et al., 2005).

In Chapter 4, two studies were presented that examined relations of a multifaceted definition and a multifaceted pursuit of HWB with actual levels of well-being (total $N = 542$). To overcome the shortcomings of existing measures mentioned above, I first developed two parallel scales that measure several different HWB definitions and HWB-related intentions and operationalize a multifaceted definition and pursuit of HWB. The resulting *Complexity of Definitions and Intentions (CoDI) Scales* were developed based on the HWB definitions identified in Chapter 3 and finalized using item analyses, exploratory factor analyses, and confirmatory factor analyses. The scale distinguishes eight HWB facets for each of the two parallel scales: Absence of negativity, positive attitude, tranquility, personal development, luck, joy and desires, purpose, and belonging. Further, the scale can be used to operationalize definitions-complexity (i.e., how many HWB definitions people endorse simultaneously) and intentions-complexity (i.e., how many HWB facets people intend to pursue). The final scale had good psychometric properties. First, reliability of the scale was in an acceptable to good range (Cronbach's alphas between $\alpha = .63$ and $\alpha = .87$). Second, evidence on the validity of the scale was provided using bivariate correlations. Further, although corresponding HWB definitions and HWB-related intentions were associated, their associations were not strong enough to argue that they capture the same process. The distributions of definitions-complexity and intentions-complexity showed that people vary on a continuum on these characteristics and seem, therefore, generally not to focus on one facet of HWB. This finding is in line with previous studies (Grimm et al., 2015).

The final CoDI Scales were then used to investigate bivariate correlations between a multifaceted definition as well as a multifaceted pursuit of HWB and different facets of well-being. In line with previous literature, both definitions-complexity and intentions-complexity were positively associated with well-being (Grimm et al., 2015; Huta & Ryan, 2010; Sirgy & Wu, 2009). However, HWB-related intentions and their complexity were more strongly and consistently associated with well-being than HWB definitions and their complexity.

6.1.4. Theoretical Model on the Pursuit of Happiness and Well-being

To fully understand how lay people successfully pursue HWB, it is important to also examine actual behaviors aimed at improving or maintaining HWB, that is, HWB-enhancing activities. Generally, HWB-enhancing activities seem to benefit actual levels of well-being (Henderson et al., 2013; Sin & Lyubomirsky, 2009). However, HWB-enhancing activities do not always promote well-being successfully (Hsee & Hastie, 2006). To understand under which conditions HWB-

enhancing activities can be successful, Lyubomirsky and Layous (2013) suggested taking the characteristics of persons and characteristics of HWB-enhancing activities into account.

In Chapter 5, I introduced a theoretical model on the pursuit of HWB that integrates the person characteristics HWB definitions and HWB-related intentions, as well as different characteristics of HWB-enhancing activities as predictors of daily well-being. The model was evaluated using experience sampling data by collecting information on the latest activity five times each day on seven consecutive days and by assessing actual levels of well-being in the evening of each day ($N = 474$; 11,285 single ESM reports). Three characteristics of HWB-enhancing activities were investigated: The breadth (i.e., how many different facets of HWB were positively affected by one single activity), variety (i.e., how many different HWB-enhancing activities people conduct in daily life), and frequency (i.e., the overall number of HWB-enhancing activities). Another parallel version of the CoDI Scales to assess daily well-being was developed to investigate a broad range of different well-being facets. Multilevel confirmatory factor analysis and bivariate correlations revealed good psychometric properties of this scale. OLS regression models and multilevel models showed that people with more complex HWB definitions also intend to pursue more HWB facets and report higher levels of daily well-being than people with simple HWB definitions. Therefore and in line with the results of Chapter 4, defining and pursuing HWB in a multifaceted manner is related to higher levels of well-being than defining and pursuing HWB in an unilateral manner (Grimm et al., 2015; Huta & Ryan, 2010). Further, people with a higher level of intentions-complexity tend to engage in broader and a higher number of HWB-enhancing activities, which, in turn, were associated with higher levels of daily well-being. Thus, the characteristics of HWB-enhancing activities can indeed explain the conditions under which engagement in such activities can be successful (Lyubomirsky & Layous, 2013). However, the variety of HWB-enhancing activities was neither predicted by intentions-complexity nor did it predict daily well-being. A complete mediation model revealed that together with intentions-complexity, the breadth of HWB-enhancing activities (but not the variety or frequency) could partly explain the link between the complexity of HWB definitions and daily well-being.

6.2. Theoretical Implications

In this chapter, the conclusions of the presented studies are integrated and their theoretical implications for the pursuit of HWB are discussed. In particular, I will highlight (a) similarities and differences between academic and lay definitions of HWB, (b) the benefit of pursuing HWB

in general, and (c) the benefit of a multifaceted definition and pursuit of HWB. I close this chapter with future directions for research on the pursuit of HWB.

6.2.1. Academics and Lay People Define Happiness and Well-Being in a Similar (but not Identical) Way

Although the term ‘happiness’ can be a powerful tool to attract the public’s attention when communicating ideas and scientific findings on HWB (Tov et al., 2022), it can also confuse communication because it refers to many different concepts. The exploration of how academics and lay people define HWB in Chapters 3 and 4 served as fundamental work on which the examination of the other research questions in this dissertation could build. Some theoretical implications about HWB definitions can be derived from these chapters.

Similarities Between Academic and Lay People’s HWB Definitions

Overall, philosophers, psychologists, and lay people refer to similar aspects when defining HWB. The specific HWB definitions that are covered by the CoDI Scales and endorsed by lay people (Chapter 4) mostly reflect a range of HWB definitions identified in Chapter 3. This notion might be somewhat trivial because the CoDI Scales were developed for the most part based on the literature review in Chapter 3. But it would have also been possible that lay people, for example, only endorse hedonic HWB definitions. Instead, both psychological state-based hedonic aspects and value-based eudaimonic aspects were endorsed not only by academics but also by lay people. Moreover, the CoDI Scales also cover less prominent HWB facets such as positive attitude and tranquility. Positive attitude defines HWB as a predisposition for positive affective states, which can also be found in philosophical HWB definitions (Haybron, 2005, 2008). Tranquility refers to inner peace and a positive affective state that is characterized by low arousal levels, which corresponds to hedonic HWB definitions (Berenbaum et al., 2019; Ellsworth & Smith, 1988). However, high-arousal affective states such as joy or excitement are more typically associated with hedonic HWB. Although low-arousal affective states have previously been identified as important for lay people’s HWB definitions (Delle Fave et al., 2016; Uchida & Ogihara, 2012), they were not covered by quantitative assessments of HWB definitions. In the future, tranquility or low-arousal affective states should be considered when studying how lay people define and pursue HWB.

Neither within the group of academics nor within lay people does a single universally accepted HWB definition exist. Instead, as in previous literature (Grimm et al., 2015), many people defined HWB in a multifaceted way. A multifaceted HWB definition is also increasingly promoted by psychologists (Henderson et al., 2013; Huta & Ryan, 2010; Waterman et al., 2008).

In philosophy, a multifaceted HWB definition corresponds to some objective list theories, which define HWB as several different aspects that must be present in people's lives, often including hedonic, eudaimonic, and other aspects (Fletcher, 2015; Tiberius, 2006).

'Joy and Desires' Differs Between Academic and Lay People's HWB Definitions

Differences between HWB definitions in the academic literature and lay people's views were also identified. The HWB facet of joy and desires covered by the CoDI Scales appears to combine the experience of pleasure with the satisfaction in several areas of life and the fulfillment of current preferences. Therefore, this factor combines different philosophical HWB definitions (i.e., hedonic theories, desire-based theories and life satisfaction theories; Kesebir, 2018; Tiberius, 2006). These theories can all be classified as subjectivist accounts, that is, HWB definitions that emphasize the importance of the subjective perspective or experience (Kesebir, 2018; Tiberius, 2006). In psychology, joy and desires correspond to the subjective well-being facets life satisfaction and experience of positive affect (Diener, 1984; Diener et al., 1999). The following conclusions can be derived from the emergence of the factor joy and desires. First, lay people either cannot distinguish between the different subjectivist accounts covered by this factor or these theoretically distinct HWB definitions are so highly correlated that they could not be distinguished empirically. Second, it might be worth contemplating whether these definitions can be integrated theoretically, particularly regarding life satisfaction and desire-based accounts. According to our dimensional taxonomy in Chapter 3, both groups of HWB definitions describe HWB as cognitive psychological processes. It can be assumed that people reflect on their desires or preferences when judging their life satisfaction, such that desire-based and life-satisfaction HWB definitions might describe similar phenomena.

'Luck' is Important for Lay Peoples HWB Definitions

Another interesting difference between contemporary academic and lay definitions of HWB is that lay people tend to define HWB in terms of good luck or fate (i.e., favorable external circumstances or random events). Although qualitative studies have previously identified the importance of luck for lay people's HWB definitions (Brailovskaia et al., 2022; Oishi et al., 2013; Pflug, 2009), this facet was never included in quantitative psychological research on the pursuit of HWB. This result should be interpreted with caution before being replicated in other languages since only German samples were used in this dissertation, and the German term "Glück" refers to both happiness and luck. However, Oishi et al., (2013) showed that 80% of investigated nations

consider luck or fortune in their dictionary definitions of HWB. Luck was historically a central HWB definition (Lomas, 2016; McMahon, 2004, 2018; Oishi et al., 2013). The historian McMahon explains this dominant role of luck with hostile, challenging, and unpredictable environments of former times (McMahon, 2004, p.23):

“For cultures regularly subject to upheavals and twists of fate—from the descent of plague to the appearance of a marauding army to the onset of famine or the wrath of one’s betters—it was difficult to imagine happiness as something that could endure, still less as something that one could control. Happiness, rather, was in the hands of the gods, meted out by fortune, or forged in the crucible of fate. And though the prosperous might better hedge against uncertainty than the poor, even they were not immune to the upheavals and sudden reversals that inevitably threatened us all.”

Along with the economic changes of the 18th century, the definition of HWB slowly shifted towards something that can be achieved and controlled, a perspective that became very salient in the last two centuries (Kesebir, 2018; McMahon, 2004). Thus, challenging life circumstances such as a low socioeconomic status and multiple current crises might explain why some people still define HWB in terms of luck today (see also Oishi et al., 2013), which would be an interesting subject for future research (e.g., how do HWB definitions change in response to current crises?).

It seems plausible to assume that people who define HWB in terms of luck also perceive HWB as less controllable. Interestingly, however, the distribution of items and scale scores for HWB-related intentions (Chapters 4 & 5) suggests that some people also intend to pursue the experience of luck. Since luck is, by definition, outside of human control, it raises the question of why some people believe it is worth investing in the experience of luck and how they think this might be possible. Perhaps they think about putting themselves in certain situations in order to be able to experience luck at all when answering items for HWB-related intentions (e.g., you can only win the lottery if you buy a lotto ticket), which represents approach motivation (Elliot & Thrash, 2002). Another possibility is that people think of something like being mindful when answering these items (Richter & Hunecke, 2021) (i.e., one must go through life attentively to perceive the favorable circumstances that life offers). The study presented in Chapter 5 showed that around 21% of all activities reported were perceived as having a positive impact on the experience of luck. However, these activities do not show any particular pattern at first glance as they cover usual everyday activities (e.g., having lunch, sleeping, and reading). Overall, there are several open questions regarding defining and pursuing HWB in terms of luck. The studies of this dissertation

and previous literature strongly suggest its importance for lay people. Consequently, luck should be included in empirical attempts to understand lay people's approach to HWB.

In sum, lay people define HWB not only in terms of prominent hedonic and eudaimonic HWB definitions but also in terms of positive attitude and tranquility, which are less prominent HWB definitions discussed in the academic literature. Furthermore, although usually ignored in the literature on the pursuit of HWB, luck appears to be an important HWB definition for lay people. The shift in the well-being literature towards multifaceted HWB definitions coincides with the fact that lay people typically do not focus on one single HWB definition.

6.2.2. Actively Pursuing Happiness and Well-Being is Associated with Higher Well-Being

Will the search for HWB ultimately be self-defeating? Rather, the studies in this dissertation suggest that people who are generally willing to pursue the goal of being happy with effort and persistence (Chapter 2), have intentions to pursue different HWB facets (Chapter 2, 4, & 5), and engage in many HWB enhancing activities in everyday life (Chapter 5) are those who report higher levels of well-being. These relations could be replicated across a range of different well-being outcomes. In line with previous studies, it can be concluded that it is worth investing in HWB (Catalino et al., 2014; Datu & King, 2016; Huta & Ryan, 2010; Peterson et al., 2005).

Chapter 2 showed that some people also endorse the goal of being happy by rather focusing on threats to one's HWB and worrying about not being happy enough. Such Happiness-Related Concerns have been expressed by people who tend to report lower levels of well-being. Previous studies that found negative relations between endorsing HWB and actual levels of well-being often used the Valuing Happiness Scale which also includes items that refer to worries about not being happy enough (Gruber et al., 2011; Luhmann et al., 2016; Mauss et al., 2011). Likewise, people who define HWB as the absence of negativity tend to report lower levels of well-being (McMahan et al., 2016; see also Chapter 4). Trying to avoid negative experiences at all costs seems therefore detrimental to actual levels of well-being. Indeed, people who can accept negative experiences and occasional unhappiness as an important part of life tend to experience higher well-being and lower negative emotional reactions to events (Ford et al., 2018; Luong et al., 2016).

However, the Happiness-Related Strivings dimension of the Happiness Goal Orientations Scale, which was positively associated with well-being, refers not only to the desire to be happy but also to the desire not to be unhappy. Hence, whether people focus on being happy or rather on avoiding being unhappy does not seem to be the most crucial distinction for actual levels of well-

being. Instead, it seems to be more crucial whether people are willing to invest in happiness goals actively. People with high levels of Happiness-Related Strivings tend to endorse several HWB definitions (between $r = .03$ and $r = .21$) and intend to invest in a range of different HWB facets (between $r = .11$ and $r = .40$). Therefore, it can be concluded that Happiness-Related Strivings are also associated with a multifaceted definition and pursuit of well-being, which, in turn, is associated with higher well-being according to the results of Chapter 4 and 5 (see also Chapter 6.2.3). Further, although people with high levels of Happiness-Related Strivings generally indicate that they intend to actively invest in not being unhappy, they do not tend to *define* HWB in terms of the absence of negativity. Therefore, the absence of negativity does not seem to be central to the HWB definition of people with high levels of Happiness-Related Strivings.

In contrast, people with high levels of Happiness-Related Concerns define HWB only as the absence of negativity ($r = .26$), do not have any intentions to invest in HWB facets (between $r = -.45$ and $r = -.02$), and often do not even intend to invest in the absence of negativity ($r = .03$). Therefore, people with high levels of Happiness-Related Concerns seem to strongly focus on the desire not to be unhappy by being rather passive about investing in one's happiness. As a consequence, they might monitor their well-being more closely, which, in turn, impairs the experience of well-being, for example, because they are more likely to be disappointed in their feelings (Schooler et al., 2003; Schooler & Mauss, 2010; Zerwas & Ford, 2021).

The desire to avoid unhappiness is human nature (Higgins, 1997; Nussbaum, 1992). However, extreme Happiness-Related Concerns seem to interfere with well-being. Therefore, it would be important to understand why some people develop high levels of Happiness-Related Concerns (for ideas see Chapter 6.2.4). Moreover, conceptual overlap raises the question of whether Happiness-Related Concerns merely represent neuroticism. Neuroticism describes the tendency to experience a range of negative emotions, to be anxious, and insecure (Soto & John, 2017). High correlations between both constructs have indeed been observed in Chapter 2 (between $r = .54$ and $r = .73$). However, Happiness-Related Concerns remained a significant predictor of different facets of well-being in most cases after controlling for neuroticism. Still, the discriminant validity of Happiness-Related Concerns seems unclear and should be further investigated.

In sum, people who endorse the goal of being happy do either actively pursue HWB with effort and persistence, which is related to higher well-being, or focus on the possibility of not being happy enough by being rather passive with regard to their happiness, which is related to lower

well-being. Future studies should attempt to understand why some people develop Happiness-Related Concerns and whether it can empirically be distinguished from neuroticism.

6.2.3. *The Multifaceted Definition and Pursuit of Happiness and Well-Being are Associated with Higher Well-Being*

Using the novel CoDI Scales (Chapter 4) and operationalizing HWB-enhancing activities (Chapter 5) allowed me to overcome shortcomings of the existing research (Grimm et al., 2015; Henderson et al., 2013; Huta & Ryan, 2010) to examine the benefits of a multifaceted definition and pursuit of HWB. Altogether, this dissertation shows that a multifaceted definition and pursuit of HWB is related to higher levels of well-being, which could be shown for different processes of the pursuit of HWB (HWB definitions, HWB-related intentions, HWB-enhancing activities), different levels of well-being (trait well-being and daily well-being), and different facets of well-being (e.g., subjective well-being, optimal psychological functioning, tranquility). The multifaceted pursuit of HWB was expected to benefit well-being through better distribution of personal resources, satisfaction of a wider range of needs, and positive spillover or compensatory effects (Huta & Ryan, 2010; Ortner et al., 2018; Sheldon & Niemiec, 2006; Sirgy & Wu, 2009). At the behavioral level, these advantages of a multifaceted pursuit of HWB seem to be realized with broader HWB-enhancing activities, that is, activities that simultaneously affect several facets of HWB.

Models of goal pursuit indicate that people's values and beliefs determine their future goals, which, in turn, should motivate them to invest in these goals with recurring behaviors that ideally contribute to goal fulfillment (Dweck, 2017; Fowers et al., 2010; Gollwitzer, 1993). Applied to lay people's multifaceted pursuit of HWB, the studies in this dissertation support the proposed links. People who defined HWB in a multifaceted manner also pursued HWB in a multifaceted manner and reported higher levels of daily well-being than people who defined and pursued HWB in a unilateral manner. However, a few issues remain unresolved.

Defining HWB in a multifaceted manner was robustly associated with daily well-being in Chapter 5. In Chapter 4, in contrast, associations with trait well-being were only significant for the facets positive affect, growth, and positive relations. Daily well-being may be more closely related to HWB definitions due to stronger links with experiences during the day, whereas general life circumstances might introduce more variance for trait well-being. Additionally, shortcomings of traditional self-report methods such as retrospective bias (Pavot, 2018; Scollon, 2018; Scollon et

al., 2003) might also have impacted the validity of trait well-being, a problem that should have been at least reduced in the experience sampling study in Chapter 5.

Moreover, both studies showed stronger and more consistent relationships with well-being for HWB-related intentions than for HWB definitions. This demonstrates that HWB definitions do not always translate into HWB-related intentions and, consequently, that people do not always live and act in consistency with their beliefs. HWB-related intentions appear to be more closely related to actual behaviors and, therefore, a more proximal predictor of actual levels of well-being than HWB definitions. In the future, it should be examined why HWB definitions do not always translate into corresponding intentions (for ideas see Chapter 6.2.4).

The positive relationships between the breadth and frequency of HWB-enhancing activities with daily well-being are consistent with the Positive-Activity Model, which proposes that certain characteristics of HWB-enhancing activities can explain when HWB-enhancing activities can or cannot be successful (Lyubomirsky & Layous, 2013). For the multifaceted pursuit of HWB, however, only the breadth was observed as a relevant characteristic of HWB-enhancing activities since it was the only characteristic that could explain (together with intentions-complexity) the relation between more complex HWB definitions and higher levels of well-being. Similar expectations for the variety of HWB-enhancing activities could not be confirmed, which contradicts previous studies (although these studies investigated activities in general and not HWB-enhancing activities) (Lee et al., 2018; Payne et al., 2006; Philippe et al., 2009). It may be that variety is in fact not a successful strategy to improve or maintain well-being, or that it only benefits certain groups of people. In particular, age seems a promising candidate for explaining when variety can and when it cannot predict well-being. The importance of age will be discussed in more detail below. However, it is also possible that the operationalization of the variety of HWB-enhancing was not optimal, which will be discussed in Chapter 6.3.1.

Overall, defining and pursuing HWB in a multifaceted manner is related to higher levels of well-being, although this association was stronger and more robust for daily well-being than for trait well-being and for HWB-related intentions than for HWB definitions. Engaging in broader HWB-enhancing activities could partly explain this link at the behavioral level. Well-being researchers should expand the investigation of a multifaceted pursuit of HWB instead of focusing on specific isolated paths to HWB (see also Grimm et al., 2015; Henderson & Knight, 2012).

6.2.4. Future Directions to Understand the Successful Pursuit of Happiness and Well-Being

The studies in this dissertation raised some questions that should be addressed to better understand the conditions under which the pursuit of HWB can be successful. Next, I offer some perspectives to further develop the field of HWB research.

Why Do Some People Refrain From Actively Pursuing Happiness and Well-Being?

It remains an open question why some people do not intend to actively pursue HWB (Chapter 2) and why HWB definitions do not always translate into corresponding intentions (Chapters 4 & 5). Cognitive and motivational characteristics associated with goal pursuit in general, such as self-efficacy and approach and avoidance motivations (Elliot & Thrash, 2010; Wolf et al., 2018) can possibly provide some answers to these questions. Further, beliefs about the nature of HWB such as fear of happiness (Joshani, 2013, 2022; Joshani & Weijers, 2014) or the perceived controllability of HWB (Joshani, 2017; Passmore et al., 2018) might also explain why people do not invest in the pursuit of HWB even when the experience of HWB is generally endorsed.

Can Person Characteristics Explain the Successful Multifaceted Pursuit of Happiness and Well-Being?

Lyubomirsky and Layous (2013) proposed with the Positive-Activity Model that the successful engagement in HWB-enhancing activities may not only be explained by characteristics of HWB-enhancing activities but also by person characteristics as well as a person-activity fit. Applied to a multifaceted pursuit of HWB, some person characteristics might explain whether people tend to pursue HWB in a multifaceted manner and whether they are more or less successful in doing so.

For example, the specific conditions of a person's life should be taken into account (Henderson & Knight, 2012; Hoang & Knabe, 2021). Someone who is stressed and overwhelmed due to many roles and responsibilities will probably not benefit in the same way from many and diverse HWB-enhancing activities as someone with more available time or a rather monotonous daily routine (see also Hoang & Knabe, 2021). Thus, it might be worth examining the fit between such life conditions and, for example, the breadth or variety of HWB-enhancing activities in predicting actual levels of well-being.

People's age has generally proven to be an important characteristic for the successful pursuit of HWB (Lyubomirsky & Layous, 2013; McMahan & Estes, 2012). For example, with rising age, people benefit more from HWB-enhancing activities, supposedly due to greater commitment and engagement (Lyubomirsky & Layous, 2013; Sin & Lyubomirsky, 2009). Different availability of

time in daily life could also explain why older people benefit more from such activities and this could be especially important for a multifaceted pursuit of HWB. Lee et al. (2018) found that the diversity of general activities was positively associated with well-being only for older people, not at all associated with well-being in middle-aged people, and even negatively associated with well-being in younger people. According to the authors, diverse activities rather benefit older people because of better self-knowledge, enhanced strategies to regulate emotional experiences, and reduced social role loss that is typically experienced by older people. For younger people, in contrast, diverse activities may reflect greater stress due to too many obligations, roles, and activities. Such age differences could also explain why no associations were found between the variety of HWB-enhancing activities and daily well-being in Chapter 5 since older participants were underrepresented in our sample. Thus, age-related differences in whether people pursue HWB in a multifaceted (vs. unilateral) manner as well as differences in associations with actual levels of well-being in doing so should be taken into account in future research.

In general, people benefit to different degrees from HWB-enhancing activities depending on their personality traits. In particular, people with high levels of extraversion and openness benefit more from HWB-enhancing activities than people with low levels of these traits (Fayn et al., 2015; Lyubomirsky & Layous, 2013; Oerlemans et al., 2011; Senf & Kienfe, 2013). For a multifaceted definition and pursuit of HWB, especially openness for experiences should be addressed as a potential moderator in future. People with high levels of openness tend to be curious and interested in new activities and experiences (Fayn et al., 2015; Soto & John, 2017). Therefore, it can be expected that open people rather engage in a multifaceted pursuit of HWB and also rather benefit from broad and diverse HWB-enhancing activities.

Which Other Activity Characteristics Can Explain the Successful Pursuit of Happiness and Well-Being?

Besides breadth, variety, and frequency that have been investigated in this dissertation, several other characteristics of HWB-enhancing activities might explain when the engagement in such activities can or cannot be successful in general. Further, these characteristics might also explain the link between a multifaceted definition and pursuit of HWB and actual levels of well-being.

The total duration spent with HWB-enhancing activities reflects how much time people actually invest in pursuing HWB (White & Dolan, 2009). Studies suggest that the hours spent with an activity are a positive predictor of well-being (Park & Wang, 2019; Schellenberg & Bailis, 2021) and that happiness interventions produced greater improvements in well-being when they were

longer (Sin & Lyubomirsky, 2009). However, there can also be a point at which further engagement in HWB-enhancing activities does not benefit well-being anymore (Lyubomirsky et al., 2005). Assessing the total duration of HWB-enhancing activities and using non-linear modeling would help to identify this point.

The regularity or routine may also predict the success of HWB-enhancing activities. An activity might not be frequently conducted within a week but regularly over a year. Some activities may require finding a routine before they can affect well-being positively. For example, it can be difficult to relax when just starting to meditate or to feel comfortable exercising before having built up a basic fitness level. In one study, the routine of general activities was positively related to meaning in life (Heintzelman & King, 2019).

A contrary characteristic, namely the novelty of HWB-enhancing activities, may also be important for the success of HWB-enhancing activities. Novel HWB-enhancing activities could be perceived as enrichment in everyday life and represent extraordinary experiences, which are associated with higher well-being than ordinary experiences (Bhattacharjee & Mogilner, 2014).

The required effort also seems to be an important characteristic of HWB-enhancing activities. Activities that challenge people and require a certain investment of energy have previously been found to be positively related to well-being (Lyubomirsky & Layous, 2013; Schiffer & Roberts, 2017; Sin & Lyubomirsky, 2009). However, the required effort possibly also leads to a trade-off effect between higher levels of well-being due to a greater impact and lower levels of well-being due to the experienced effort (Raza et al., 2022).

In sum, future studies on the pursuit of HWB should identify explanations for why some people do not actively pursue HWB since this would provide an important starting point in happiness interventions. Furthermore, several person characteristics (life conditions, age, personality traits), and characteristics of HWB-enhancing activities (e.g., total duration, regularity, novelty), might shed light on specific conditions under which the multifaceted pursuit of HWB can be successful.

6.3. Methodological Implications

In this chapter, the methodological implications of this dissertation are discussed and integrated. In particular, I highlight (a) improvements in the operationalizations to study the definition and pursuit of HWB, (b) reflections on the study designs, and (c) sample characteristics needed to appropriately examine the pursuit of HWB.

6.3.1. *New Operationalizations to Study the Definition and Pursuit of Happiness and Well-Being*

In this dissertation, I presented several novel tools and operationalizations to assess important aspects of defining and pursuing HWB: (a) the Happiness Goal Orientations Scale, a multidimensional measure of the extent to which people endorse the goal of being happy (Chapter 2), (b) a dimensional taxonomy to describe different HWB definitions (Chapter 3), (c) the CoDI Scales, a set of tools to assess people's HWB definitions and their complexity, HWB-related intentions and their complexity (Chapter 4), as well as actual levels of well-being for the corresponding facets included in this scale (Chapter 5), and (d) suggestions to operationalize the breadth, variety, and frequency of HWB-enhancing activities (Chapter 5). What many of these measures have in common is that they allow a more fine-grained, differentiated, and methodologically appropriate study of the definition and pursuit of HWB than existing measures.

Using Dimensional Instead of Categorical Assessments

In modern psychological research, dimensional taxonomies are frequently used and it is widely acknowledged that many interindividual differences are more appropriately represented with continuous measures than categorical ones (Brennan et al., 1998; Mulder, 2021; Rosenman et al., 2003). Initially, however, many concepts were described and assessed using categorical taxonomies and empirical results have shown over time that this approach does not appropriately reflect the nature of these concepts, for example, personality traits (John et al., 2008), attachment orientations (Brennan et al., 1998; Fraley et al., 2015), or personality disorders (Mulder, 2021). Beyond the description of person characteristics, dimensional taxonomies have recently been increasingly developed to also overcome shortcomings of categorical assessments for other phenomena such as situations (Rauthmann et al., 2014) or life events (Haehner et al., 2022; Luhmann, Fassbender, et al., 2021). Dimensional taxonomies provide several advantages. Categorical classification systems often entail the problem of a lack of mutual exclusiveness (i.e., every unit can only be assigned to one category) and exhaustiveness (i.e., for every unit there is a suitable category). This problem can be resolved with dimensional taxonomies that rather cover general characteristics and allow to assess the extent to which certain characteristics apply, instead of focusing on specific contents that require forced choices about the inclusion or exclusion to categories. This artificial categorization of characteristics is often accompanied by a loss of information. For this reason, continuous assessments of dimensional taxonomies can better explain the variance of relevant outcomes and better reflect fine-grained differences between the units of analysis (Brennan et al., 1998; Rosenman et al., 2003). Further, using multiple

dimensions allows one to distinguish constructs in terms of multiple characteristics simultaneously (see also below). In this dissertation, I was able to overcome several weaknesses of previous research by using dimensional assessments instead of categorical ones.

First, in Chapter 3, a taxonomy to describe HWB definitions in the literature was introduced, which distinguishes the two continuous dimensions degree of stability (from dynamic to stable) and psychological process (from affective to cognitive). The goal of this dimensional taxonomy was to integrate philosophical and psychological HWB definitions by also addressing fine differences between the definitions of these disciplines. This goal could not be reached with existing categorical classification systems due to the problems associated with categorical systems outlined above. Applying this dimensional taxonomy to several HWB definitions identified in a literature review demonstrated that it can be used to answer specific research questions and to systematically identify similarities and differences between HWB definitions. Although the interrater agreement between two independent raters for the dimensional taxonomy was good, more evidence on this issue is needed by involving other researchers and other disciplines interested in HWB definitions. Further, the taxonomy can be expanded in the future by adding other dimensions to describe HWB definitions. Chapter 3 provides an overview of criteria to determine whether a specific dimension meets the requirements for this purpose.

Second, in the experience sampling study (Chapter 5), participants indicated to what extent each activity affected different facets of HWB. In previous studies, HWB-enhancing activities have often been assigned to either hedonic or eudaimonic activities (Chung et al., 2022; Ruch et al., 2010; Steger et al., 2008), which is a very broad categorical operationalization of such activities. This approach does not reflect that single HWB-enhancing activities often correspond to multiple HWB facets simultaneously for lay people. This conclusion has already been shared by some researcher (Grimm et al., 2015; Huta & Ryan, 2010; Waterman et al., 2008; Zuo et al., 2017), and the present dissertation provides additional evidence for this claim. Overall, broad categories of different HWB facets should no longer be used to investigate HWB-enhancing activities.

Building on this assessment of activities, the breadth, variety, and frequency of HWB-enhancing activities could be computed. One advantage of the operationalization of these concepts was that they represent general characteristics of how people pursue HWB with actual behaviors, instead of focusing on the potential benefits of broad, single categories of activities as often conducted in previous studies (Oerlemans et al., 2011; Proyer, 2013; Tkach & Lyubomirsky, 2006; Warner & Vroman, 2011). Further, these variables were not assessed directly but derived from information

provided by the participants and do, therefore, only indirectly rely on self-reports. However, some limitations for the operationalization of breadth and the variety of HWB-enhancing activities should be addressed in the future. First, evidence on the validity of these measures is needed, for example, by examining associations with self- or informant-reported evaluations of these constructs. Alternatively, passive assessments with mobile sensors also provide opportunities to replace or validate the self-report-based characteristics of HWB-enhancing activities (Wiernik et al., 2020). Moreover, it is unclear whether the operationalization of breadth represents true differences in the quality between narrow and broad HWB-enhancing activities (e.g., by creating more opportunities for different types of experiences) or just differences in the *perception* that several HWB facets were affected by single activities (despite objectively identical activities).

For the variety of HWB-enhancing activities, high scores were overrepresented in the data, leading to low variance for this score. Besides possible theoretical explanations (i.e., most people engage in diverse activities), the operationalization of this variable was probably not ideal. Activities were assessed with open-text responses, and an extensive coding scheme was used to cover a range of non-mutually exclusive features of each activity instead of creating wide, mutually exclusive categories, which would not allow capturing all types of HWB-enhancing activities people engage in (Henderson & Knight, 2012). This coding scheme served as a basis for the variety score. However, the coding variables were likely affected by the number of information people disclosed in open-text responses. Therefore, a more pre-structured operationalization of variety might reduce the problem of low variance in the future. Perhaps, creating a dimensional assessment of (some of) the features represented in my coding scheme for activities can provide the optimal operationalization. The advantage of this approach would be that different, non-mutually exclusive dimensions would provide a more detailed picture of each activity than pre-defined lists of activity categories, and the reliability of the variety score would not depend on the number of information provided by participants' open-text responses.

Using Multidimensional Assessments

Using multiple dimensions allows one to distinguish multiple characteristics of constructs simultaneously. In various areas of psychological research, the introduction of a multidimensional perspective for constructs that were initially described as unidimensional phenomena facilitated important insights (e.g., Back et al., 2013; George & Park, 2017; Stoeber & Otto, 2006; Stricker et al., 2019). For example, the distinction between adaptive and maladaptive perfectionism was only introduced later in the research process (Stricker et al., 2019), just as the

distinction between two processes related to meaning in life, namely the search vs. the presence of meaning (Steger et al., 2006). The introduction of a multidimensional perspective advanced scientific progress in these examples because it addressed conceptual difficulties and helped to resolve contradicting findings in the literature, by revealing differing processes, interpersonal consequences, and nomological networks. In this dissertation, I employed multidimensional perspectives in two ways to overcome weaknesses of previous research.

In Chapter 2, the Happiness Goal Orientation Scale introduced a multidimensional distinction of the endorsement of the goal of being happy. This scale distinguishes between an adaptive and a maladaptive dimension which differ in their nomological nets and their associations with well-being. Whereas one dimension was positively related to well-being, the other one was negatively related to well-being. The psychometric quality of the scale proved to be good. However, further investigations of the nomological net of Happiness Goal Orientations are needed. A two-dimensional version of the originally unidimensional Valuing Happiness Scale (Mauss et al., 2011) was also investigated in Chapter 2, and different directions of associations with well-being were found between the two dimensions. Interestingly, the unidimensional version of the Valuing Happiness Scale revealed negative associations with well-being. Using the original scale as proposed by the authors would therefore have also led to the conclusion that valuing happiness is detrimental to well-being, as in previous studies using this scale (Gruber et al., 2011; Mauss et al., 2011; Zerwas & Ford, 2021). Thus, previous work on valuing happiness and related constructs has conflated two different dimensions, leading to conflicting results. Introducing a multidimensional perspective facilitated the understanding of these contradicting findings, which is in line with suggestions by Luhmann et al. (2016) and Zerwas and Ford (2021). In future studies of endorsing or valuing happiness, either a multidimensional perspective should be taken into account (e.g., by using the Happiness Goal Orientations Scale) or it must be made transparent whether an adaptive or maladaptive focus of these constructs should be examined.

The CoDI Scales introduced in Chapter 4 were designed to systematically distinguish between HWB definitions and HWB-related intentions as distinct relevant processes for the pursuit of HWB. Existing scales cover only one of these processes (Huta & Ryan, 2010; McMahan & Estes, 2011b) or, which is an even greater concern, mingle different processes in a single dimension (Peterson et al., 2005). With the CoDI Scales, both definitions and the corresponding intentions can be assessed for each HWB facet as distinct predictors of well-being or other constructs of interest. For example, associations with Happiness Goal Orientations differed between HWB definitions and HWB-related intentions, demonstrating that the parallel scales provide differing

information and allow unique insights in the pursuit of HWB. Distinguishing between these processes also aligns with models of goal pursuit that describe beliefs, goal setting, and behavior intentions as discrete steps toward goal achievement (Dweck, 2017; Gollwitzer, 1993). Overall, different processes relevant to the pursuit of HWB should be measured by clearly distinguished dimensions in future assessments. Additionally, another parallel version of the CoDI Scales to capture actual levels of corresponding daily well-being facets was presented in Chapter 5. The psychometric quality of these scales appears to be good. However, more evidence on the factorial structure and the nomological net should be collected in the future.

Global Examination of Different Sub-Phenomena

Until now, the methodological implications suggested a greater differentiation and a more nuanced assessment of concepts and processes. In this section, I make an opposite suggestion: A more global examination of different sub-phenomena can reveal insights that would be overlooked by focusing solely on single aspects of a concept of interest.

In this dissertation, the investigation of a multifaceted definition and pursuit of HWB contributed to an understanding of how people view and approach happiness that could not be gained by focusing only on the comparison of single HWB facets. It could be shown in Chapters 4 and 5 that people differ in their HWB definitions, HWB-related intentions, and actual behaviors (i.e., breadth of HWB-enhancing activities) in terms of whether they pursue HWB in a unilateral or multifaceted manner. The operationalization of different processes of a multifaceted pursuit of HWB is one of the first attempts to investigate a multifaceted pursuit of HWB empirically. However, variables that reflect a multifaceted definition and pursuit of HWB require more research in the future to provide evidence for their validity, for example, by examining associations with self-reports of perceived definitions-complexity and intentions-complexity. Further, alternative ways to compute these scores should be considered, for example, a score that builds on the ‘emodiversity’ indices suggested by Quoidbach et al. (2014), which are metrics to operationalize the diversity of emotions. Prior to choosing the approach to compute definitions-complexity and intentions-complexity presented in this dissertation, different ways of computing these variables have been compared. However, before a comprehensive validation of the chosen approach is available, alternatives should not be discarded.

Well-being is a multifaceted construct, and previous studies showed that certain HWB definitions and HWB-enhancing activities affected some facets of well-being more than other facets (Huta &

Ryan, 2010; Ortner et al., 2018; Steger et al., 2008). Therefore, well-being should be examined globally in research on the pursuit of HWB by not only relying on a small selection of specific well-being facets. Many studies, however, often cover facets only of subjective well-being or only optimal psychological functioning (e.g., Joshanloo, 2021; Ruch et al., 2010). Results of these studies consequently provide limited insights and might lead to biased impressions regarding potentially relevant mechanisms for overall levels of well-being (Huta and Ryan, 2010). In all studies of this dissertation, a range of different well-being facets were investigated as outcome variables, and many results could be replicated across these different well-being facets. However, some differing results between single well-being facets could also be identified, and for these results, the lack of robustness was communicated (e.g., positive associations between definitions-complexity and well-being could only be observed for three facets of well-being in Chapter 4). Overall, for the study of the pursuit of HWB, a range of different facets of well-being should be assessed as outcome variables in future studies.

Attempts to Reduce Issues With Self-Report

Relying on self-reports is common in psychological research and, in particular, in well-being research, where the subjective perspective is a central aspect of the concepts of interest. Although measures of well-being generally work well, they also have limitations (Diener et al., 2013; Lucas, 2018; Pavot, 2018; Ryff & Keyes, 1995). Different sources of biases and irrelevant variance have been identified in the past, such as item-order effects, memory biases, or acquiescence (Danner et al., 2015; Diener et al., 2013; Schimmack & Oishi, 2005; Scollon, 2018). Some issues with traditional retrospective self-report measures such as memory bias are supposed to be reduced with experience sampling (Pavot, 2018; Scollon, 2018; Scollon et al., 2003). However, experience sampling may increase other concerns such as measurement reactivity (Eisele et al., 2022). In the studies of this dissertation, I intended to reduce some of these limitations of self-reports. Although not a central focus of this dissertation, some of these results are worth noting.

One attempt was to control the impact of acquiescence in the studies presented in Chapters 4 and 5. Acquiescence is defined as a content-independent agreement to items (Danner et al., 2015). In the studies of this dissertation, acquiescence was approximately normally distributed, indicating that some people tend to agree and some to disagree independently of the specific item content. In Chapter 4, item responses of the CoDI Scales were adjusted by subtracting acquiescence scores. Interestingly, this adjustment normalized all distributions of item responses (Figure 6.1).

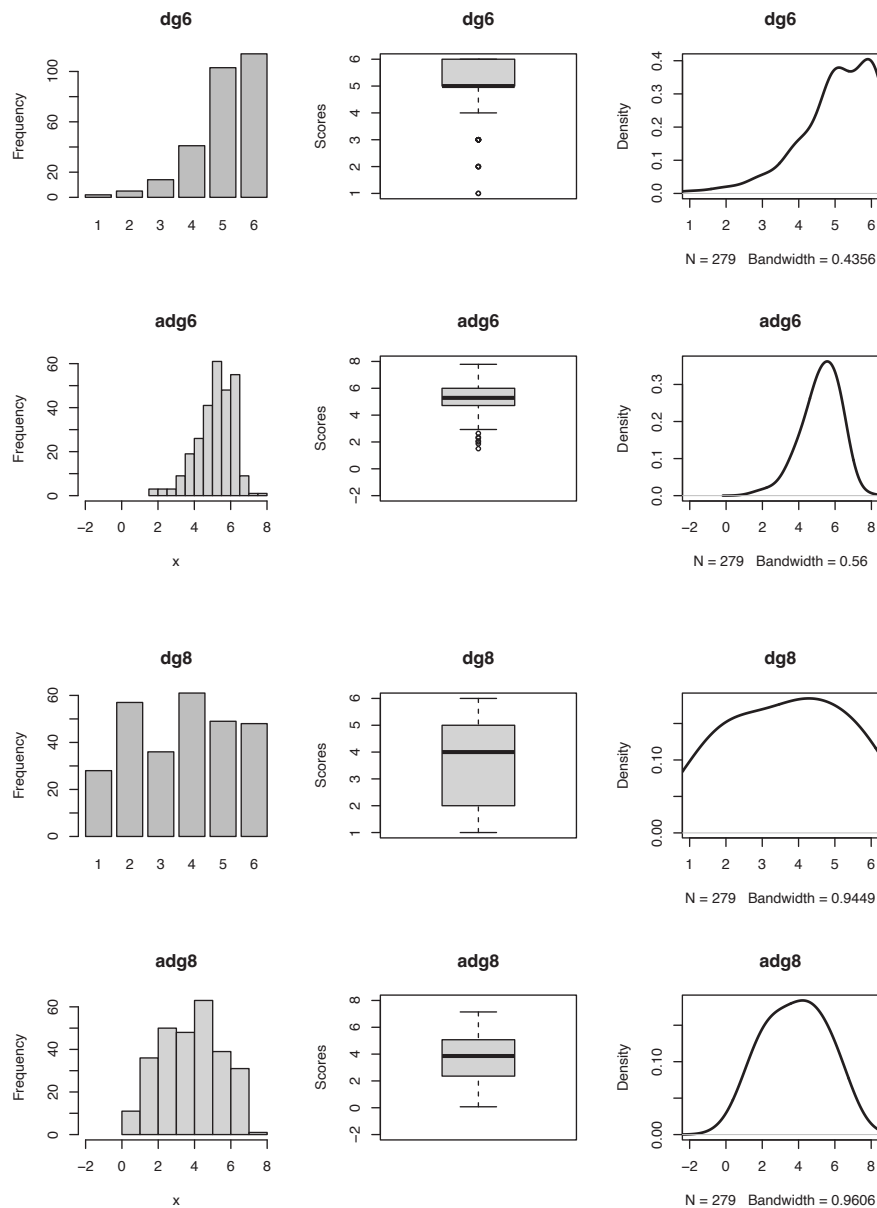


Figure 6.1. Distribution of two items (Item 6 and Item 8) for HWB definitions unadjusted (upper rows; dg) and adjusted (lower rows; adg) for acquiescence.

Comparing results between using the unadjusted and the adjusted items also showed that acquiescence indeed affected the strengths of associations (e.g., with definitions-complexity and intentions-complexity). However, the overall patterns of results (e.g., in confirmatory factor analyses) were not affected by using either the adjusted or the unadjusted version of the scale. In Chapter 5, acquiescence was included as one (of several) control variables in the models and turned frequently out to be a significant predictor. Overall, these observations show that it should be much more often accounted for acquiescence in studies that rely on self-report.

Another attempt to reduce measurement limitations was to control measurement reactivity in the experience sampling study in Chapter 5. Measurement reactivity is defined as changes in the participant that are caused by the measurement itself, for example, in the underlying constructs or behaviors of interest (Eisele et al., 2022). Because of the repetitive nature of experience sampling assessments that can cause an increasing self-awareness, such reactive changes are assumed to be particularly severe using this study design. Evidence on whether measurement reactivity is an important issue in experience sampling designs is mixed (Eisele et al., 2022; Hufford et al., 2002; Labhart et al., 2020; McCarthy et al., 2015). To assess self-perceived reactivity, participants indicated whether they felt that their study participation affected their everyday behavior. Although most participants indicated that they rarely experienced such reactivity effects, some indicated that they experienced such effects often. Self-perceived reactivity was included as one (of several) control variables in the models and turned frequently out to be a significant predictor. This result suggests the importance to control for reactivity effects in experience sampling studies. However, whether the perceived reactivity corresponds to actual changes in the participants as a result of the repetitive measures is not clear and needs to be examined first.

In sum, this dissertation provides many tools and operationalizations to study the definition and pursuit of HWB in a more fine-grained, differentiated, and methodologically appropriate way than existing tools. However, more evidence on the psychometric quality of these tools is needed. The three most important implications that can be derived from the application of these tools are: (a) Broad categories of different HWB facets should no longer be used to investigate HWB-enhancing activities, (b) endorsing and pursuing HWB should be assessed with multidimensional measures that cover adaptive and maladaptive aspects of these constructs, and (c) different processes relevant for the pursuit of HWB should be assessed in future studies.

6.3.2. *Study Designs*

The studies included in this dissertation were based on observational cross-sectional and experience-sampling data sets. For scale construction and to investigate general associations between the constructs of interest (Chapters 2 & 4), cross-sectional studies are an economic and pragmatic solution. The resource-efficient collection of cross-sectional data also allowed us to perform different steps of test construction by using different independent data sets, as should be the standard for test construction (Downing, 2006).

However, confident conclusions about the direction of the relationships between the endorsement and pursuit of HWB and actual levels of well-being are not possible. Observational data do not allow conclusions about the causality of effects, or at least make them very difficult due to very strong assumptions that would have to be met (Rohrer, 2018; Rohrer & Lucas, 2020). In particular, it cannot be inferred which of two possible causal directions represents the true nature of relationships: The active pursuit of HWB may increase well-being but it could also be that people with higher levels of well-being are more willing and able to actively invest in the pursuit of HWB than people with low well-being. Indeed, some studies suggest that deficits in mental health and well-being impede the pursuit of HWB (although evidence on this issue is mixed; Froh et al., 2009; Lyubomirsky & Layous, 2013; Sin & Lyubomirsky, 2009). Most plausibly, these processes are mutually reinforcing, such that higher well-being is not only a result of the successful pursuit of HWB but also provides more resources and a greater motivation to pursue HWB actively (Fredrickson, 1998; Haase et al., 2012). Additionally, observed relationships between variables might also have been caused by other, probably unknown characteristics or by a common method bias.

In the experience sampling study (Chapter 5), variables were assessed in a clear temporal order and HWB-enhancing activities, as well as daily well-being, have been assessed repeatedly. The repetitive assessment of variables is an important advantage of experience sampling studies because it allows to examine associations between variables that change within people during the study period. In this way, well-being fluctuations within people could be predicted by characteristics of HWB-enhancing activities performed over the day. Such within-person designs are also not sufficient for causal inferences, but they nevertheless support the identification of potential causal mechanisms by ruling out the possibility that observed within-person associations have been caused by time-invariant stable differences between people (Rohrer & Murayama, 2021). However, it cannot be ruled out that observed within-person associations have been caused by other time-varying variables.

Overall, causal inferences are only possible to a very limited degree with the study designs used in this dissertation. However, I generally assume causal processes to be involved, as can be derived from two research questions of this dissertation (RQ1 & RQ3) and from the theoretical model in Chapter 5 (for the suggestion to openly communicate causal assumptions see Grosz et al., 2020; Rohrer & Lucas, 2020; Rohrer & Murayama, 2021). In the future, several steps need to be conducted to better understand the causal mechanisms of the links proposed in this dissertation. First, different variations of these links should be examined on basis of concise theoretical

reasoning. For example, other potentially relevant variables need to be integrated to rule out alternative explanations or to uncover moderator effects. I have listed some suggestions in Chapter 6.2.4 that could be a good starting point for this step. Second, all relevant components of the respective links need to be assessed repeatedly over longer time periods, including variables that are assumed to be rather stable like definitions-complexity and intentions-complexity. This step would contribute to the understanding of the directions of relationships. Third, other methods should be used in addition to self-report assessments to ensure that the relationships found are not merely the result of common method bias (e.g., informant-reports, mobile sensing). Fourth, experience sampling intervention studies should be combined with intensive longitudinal data collection by randomly assigning participants to different conditions to experimentally manipulate different processes that are relevant for the pursuit of HWB. For example, the multifaceted pursuit of HWB could be experimentally manipulated by instructing participants to pursue several HWB facets in everyday life.

In sum, the observational cross-sectional and experience sampling data sets used in this dissertation are not sufficient to explain the proposed causal mechanisms of the relation between the pursuit of HWB and actual levels of well-being. Several further steps are needed in the future to identify causal mechanisms, like the examination of alternative explanations, longitudinal assessments, and controlled intervention studies.

6.3.3. *Samples*

The datasets included in this dissertation covered predominantly young, female, highly educated, and German participants. Consequently, the conclusions drawn cannot easily be generalized to other populations. It would be important to replicate the studies, including the factor structure and psychometric quality of the novel scales used, in different populations. In this chapter, I briefly address the population characteristics for which heterogeneity and representativeness are particularly relevant for future studies of the pursuit of HWB.

Age

The importance of age for the *multifaceted* pursuit of HWB has already been emphasized in Chapter 6.2.4, and age appears also to generally affect how people define HWB (Joshani, 2021; McMahan & Estes, 2012) and how successfully they pursue HWB (Lyubomirsky & Layous, 2013; Sin & Lyubomirsky, 2009). Potential explanations for these age differences include a higher availability of time over the day, different roles in society, and different ways of dealing with stress

and negative events (Lee et al., 2018; Scott et al., 2013). However, age differences in the pursuit of HWB cannot be identified with the rather age-homogeneous samples used in this dissertation.

Culture

Although the lack of cultural variation affects all areas of psychological research, it would be particularly problematic to ignore cultural differences when studying the definition and pursuit of HWB, as literature suggests cultural variation in several relevant constructs. Cultural differences have been identified in norms, values, and beliefs with regard to HWB and emotional experiences (Ford et al., 2015; Joshanloo & Weijers, 2014), ideal levels of HWB (Hornsey et al., 2018), definitions of HWB (Brailovskaia et al., 2022; Uchida & Ogihara, 2012), and the success of HWB interventions (Lambert et al., 2022). Additionally, national-level determinants like GDP or work culture probably also affect the pursuit of HWB (Ahmadiani et al., 2022; Diener et al., 2018). Hence, it would be an important next step to translate the Happiness Goal Orientations Scale and the CoDI Scales into other languages, establish their cross-cultural measurement invariance (Fischer & Karl, 2019; Milfont & Fischer, 2010; Vandenberg & Lance, 2000), and to investigate whether the associations found in this dissertation could be replicated in other cultures.

Socioeconomic Status

Samples should be more diverse in terms of socioeconomic status since it might affect whether and how people pursue HWB. Markers that reflect low socioeconomic status such as income and education are associated with distress and lower levels of well-being (Achdut & Sarid, 2020; Jokela, 2022; Piquart & Sörensen, 2000). Thus, it seems particularly important for people in such challenging life circumstances to pursue HWB. However, the lack of financial resources diminishes possibilities to invest in the pursuit of HWB. For example, socioeconomic differences are associated with differences in leisure time activities and social participation (Achdut & Sarid, 2020; Lindström et al., 2001; McClure & Ryder, 2018). Further, low socioeconomic status might also explain how people define HWB and how controllable they perceive happiness to be (see also Oishi et al., 2013). Therefore, it would be important to investigate more heterogeneous samples in terms of socioeconomic status to better understand their impact on the pursuit of HWB.

Self-Selection Effects

It is important to keep in mind that people who participate in studies that investigate the pursuit of HWB probably differ from people who chose not to. Kaczmarek et al. (2013) found that people

with strong intentions to change their lifestyles, greater curiosity, and lower depressive symptoms were more likely to participate in an HWB intervention. The fact that people with more depressive symptoms tend not to participate in such studies makes it difficult to identify whether prior levels of mental health and well-being impair the success of the pursuit of HWB, an assumption for which the existing evidence is mixed (Froh et al., 2009; Lyubomirsky & Layous, 2013; Sin & Lyubomirsky, 2009). Although it might be not easy, it would be necessary to figure out a way to reach people who do usually not participate in studies on the pursuit of HWB.

In summary, due to samples that are predominantly young, female, German, and high in socioeconomic status, the results of this dissertation cannot be generalized to other populations. Future studies should aim to recruit more heterogeneous samples with respect to age, culture, and socioeconomic status and attempt to reduce self-selection effects.

6.4. Practical Implications

Some recommendations and strategies can be obtained from the results of this dissertation for people who desire to improve their HWB as well as for professionals who guide people in achieving this goal (e.g., initiators of HWB interventions, therapists, coaches). Further, certain measures at the institutional level (e.g., policy, education, business) could support the realization of these strategies. However, these recommendations have not yet been evaluated, for example in the context of intervention studies, which would be an important next step.

6.4.1. *Suggestion for (Professionals Working With) People Who Want to Increase Their Happiness*

Three practical recommendations to improve or maintain HWB can be derived from this dissertation: People should (a) actively pursue HWB, (b) not focus too much on the avoidance of unhappiness and on worries about not being happy enough, and (c) pursue HWB in a multifaceted manner.

The studies presented in Chapters 2, 4, and 5 showed that people who indicated to pursue HWB actively also reported more intentions to pursue HWB in everyday life, which, in turn, was associated with engaging in more successful HWB-enhancing activities. Although the causal links between these processes have yet to be evaluated, no single analysis in this dissertation indicated that the active investment in HWB affects well-being or other important outcomes negatively. Therefore, the active pursuit of HWB can generally be encouraged.

However, as indicated in Chapter 2, focusing too much on the desire not to be unhappy and constantly worrying about not being happy enough was accompanied by low well-being. Negative associations between such Happiness-Related Concerns and well-being were found to be stronger and more consistent than positive associations between the active pursuit of HWB and actual levels of well-being. Therefore, it appears particularly crucial for actual levels of well-being to understand that being ‘happy’ does not mean never having any negative experiences in life (Tov et al., 2022). Instead, it affects well-being positively to accept negative emotions and experiences as well as occasional unhappiness as important parts of life (Ford et al., 2018; Luong et al., 2016).

Defining and pursuing HWB in a multifaceted manner was accompanied by high well-being, as suggested in Chapters 4 and 5. Thus, it should promote well-being to broaden the perspective and to contemplate whether one’s HWB definition might be too narrow (e.g., by focusing only on the absence of negativity). It is important to understand that there is more to happiness than just happy feelings and that many different ways exist to invest in HWB (Tov et al., 2022). However, for actual levels of well-being, it is even more important to translate HWB definitions into everyday intentions, to generate ideas on how different facets of HWB can be supported with daily activities, and to actually engage in corresponding activities. Chapter 5 suggests that engaging in activities that have the potential to affect different facets of HWB simultaneously is a particularly successful strategy to improve or maintain one’s well-being with everyday behaviors.

6.4.2. Institutional Support

Ultimately it also depends on political and societal conditions that shape the extent to which people can invest in HWB. Given current societal challenges, it could pay off to invest in people’s well-being, as it is associated with a number of outcomes that benefit society as a whole: For example, well-being is typically associated with prosociality, which could be beneficial in times of crisis by facilitating cooperative behaviors, voluntary work, and support of those in need (Hui et al., 2020; Kushlev et al., 2020; Son & Wilson, 2012). Additionally, associations between well-being and several health outcomes suggest that happier people might relieve the healthcare system, which should be especially thought of in light of the current financial and staffing problems in the care system in Germany (Lyubomirsky, King, et al., 2005; Radtke, 2022; Tov et al., 2022). Higher well-being is also associated with several outcomes that benefit employers and organizations like higher productivity, proactivity, and task performance (Fisher, 2010; Oswald et al., 2015). But also less absenteeism, greater organizational citizenship, a positive evaluation of the work environment, and fewer intentions to quit are associated with higher well-being, which is

especially relevant in light of the current shortage of skilled workforce in Germany (Fisher, 2010; Statistik der Bundesagentur für Arbeit, 2022). In the following, I will outline some conditions that can support people's pursuit of HWB through institutions such as policy, education, and organizations, as well as traditional and social media.

The pursuit of HWB can be supported by assigning a higher priority to well-being of people, for example by communicating and demonstrating corresponding cultures through institutions like education or organizations. A high(er) priority of well-being could also be reflected by a national index of happiness, which has been proposed by several scientists in recent years as a needed addition to traditional economic indicators (Alexandrova & Fabian, 2022; Diener & Seligman, 2004; Kesebir & Diener, 2008). Some governments have already addressed this claim (e.g., New Zealand, Bhutan, Canada, United Arab Emirates; Alexandrova & Fabian, 2022).

Psychoeducation through establishments like schools or (social) media can provide knowledge on the successful pursuit of HWB. For example, psychoeducation could aim to communicate that there is more to happiness than just feeling happy by promoting the acceptance of negative emotions and experiences. However, psychoeducation could also be facilitated through the availability of psychotherapy for those in need, as relevant topics to promote well-being are also part of therapy. It would be a great benefit for people's health and well-being if urgently needed psychotherapy could be provided timely and waiting times are reduced (Wissenschaftliche Dienste des Deutschen Bundestags, 2022).

Conditions can be adjusted to contribute to various HWB facets by providing opportunities to fulfill needs for belonging, personal development, and purpose (e.g., at work or in education). Conditions can also be shaped to contribute to the pursuit of HWB in leisure time through flexible working hours and adequate vacation arrangements. On a local level, the availability of many diverse leisure activities and green and public spaces that can be used for several leisure activities such as sports or social gatherings may contribute to people's (multifaceted) pursuit of HWB. Adequate financial resources may also affect the extent to which people can participate socially and invest in their pursuit of HWB (Achdut & Sarid, 2020; Lindström et al., 2001).

6.5. General Conclusion

Can the pursuit of HWB generally be successful and, if so, under what conditions? According to the results of this dissertation, endorsing the goal of being happy can be both beneficial and detrimental to well-being. People who actively invested in the pursuit of HWB reported higher

levels of well-being, whereas people who focused on the possibility of not being happy enough did not invest in their HWB and reported lower levels of well-being. Further, it was also investigated whether it matters how people define and pursue HWB for actual levels of well-being. Overall, people defined HWB in terms of hedonic and eudaimonic HWB definitions that are prominent in the academic literature, but also in terms of positive attitude, tranquility, and luck. Further, many people did not focus on one specific HWB facet but defined and pursued HWB in a multifaceted manner, which was related to higher well-being than focusing on one specific HWB facet only. The benefit of a multifaceted approach to HWB for actual levels of well-being could in part be explained by the fact that people with such multifaceted HWB definitions engaged more frequently in activities that positively affected multiple facets of HWB simultaneously.

This dissertation provides novel tools and operationalizations to study the definition and pursuit of HWB in a more differentiated and methodologically appropriate manner than was previously possible with existing tools. These novel tools will hopefully contribute to a deeper understanding of the pursuit of HWB in the future. The most important implications for future research are:

- (1) Well-being researchers should expand the investigation of a multifaceted definition and pursuit of HWB instead of focusing on specific isolated paths to HWB.
- (2) Besides hedonia and eudaimonia, other HWB facets like tranquility and luck should also be taken into account, as they are important for how lay people view and approach HWB.
- (3) HWB-enhancing activities should no longer be assigned to broad categories of different HWB facets (e.g., hedonic vs. eudaimonic activities) as this operationalization does not appropriately represent how people conduct and experience such activities.
- (4) The endorsement and pursuit of happiness should be assessed with multidimensional measures that cover adaptive and maladaptive aspects of this constructs.
- (5) Different processes of the pursuit of HWB (e.g., HWB definitions vs. HWB-related intentions) need to be clearly distinguished and, ideally, be assessed together in one study.

The most important questions for future research concern why some people develop maladaptive Happiness-Related Concerns and why HWB definitions do not always translate into corresponding intentions and activities. Finally, a comprehensive research program involving interventions and longitudinal studies is needed to better understand causal mechanisms between the pursuit of HWB and actual levels of well-being.

6.6. References

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Appendix

A. Zusammenfassung in deutscher Sprache

Kann das Streben nach Glück und Wohlbefinden (GWB) erfolgreich sein und wenn ja, unter welchen Voraussetzungen? Ratgeber zum Glücklichsein suggerieren oft, dass Glück kontrollierbar ist, wenn man denn bereit ist, sich dafür anzustrengen. Frühere Studien liefern jedoch widersprüchliche Antworten auf diese Frage. Um diese Widersprüche aufzulösen, werden in dieser Dissertation verschiedene neue Messinstrumente und Operationalisierungen vorgestellt, um das Streben nach GWB auf eine differenziertere und methodisch angemessenere Weise zu untersuchen als in vorangegangenen Studien. Es wurde untersucht, ob Glücksstreben allgemein förderlich oder schädlich für das empfundene Wohlbefinden ist und ob erfolgreiches Glücksstreben davon abhängt, wie Menschen GWB für sich definieren und wie genau sie danach streben. Insbesondere wurde betrachtet, ob die gleichzeitige Befürwortung verschiedener Definitionen von GWB und das gleichzeitige Streben nach verschiedenen Facetten von GWB zu einem höheren Wohlbefinden beiträgt als die Konzentration auf wenige GWB-Facetten. Insgesamt wurden sieben Studien durchgeführt, um diese Forschungsziele zu erreichen, die in vier separaten Kapiteln vorgestellt werden.

In Kapitel 2 werden vier Querschnittsstudien vorgestellt (insgesamt $N = 1200$). Mit diesen Studien wurde untersucht, ob verschiedene Dimensionen des Ziels, glücklich sein zu wollen, unterschieden werden müssen, um widersprüchliche Ergebnisse früherer Studien erklären zu können. Die Ergebnisse zeigten, dass nur eine Dimension der neuen Skala *Happiness Goal Orientations* – das aktive Streben nach Glück – mit höherem Wohlbefinden zusammenhing, während eine andere Dimension – die Sorgen über Unglück – mit geringerem Wohlbefinden zusammenhing.

In Kapitel 3 werden verschiedene GWB-Definitionen vorgestellt, die in der philosophischen und psychologischen Fachliteratur diskutiert wurden. Diese GWB-Definitionen dienten als Grundlage für die Untersuchung von Laiendefinitionen von GWB in den nachfolgenden Studien. Mit einem neuen dimensional Klassifizierungssystem für GWB-Definitionen wurde gezeigt, dass (a) es keine allgemein anerkannte GWB-Definition gibt, (b) die meisten GWB-Definitionen entweder stabile kognitive oder dynamische affektive Konzepte beschreiben und (c) philosophische und psychologische GWB-Definitionen insgesamt ähnliche Phänomene beschreiben.

In Kapitel 4 werden zwei Querschnittsstudien vorgestellt (insgesamt $N = 542$), mit denen untersucht wurde, wie Laien GWB definieren und danach streben und ob dies mit ihrem empfundenen Wohlbefinden zusammenhängt. Die neuen *Complexity of Definitions and Intentions (CoDI)* Skalen unterscheiden acht Facetten für die Definition von und das Streben nach GWB: Abwesenheit von Negativem, positive Einstellung, innere Ruhe, persönliche Entwicklung, Zufallsglück, Freude und Gelüste, Sinn, und Zugehörigkeit. Die Ergebnisse zeigten, dass eine vielfältige Definition von GWB sowie das Streben nach vielen verschiedenen GWB-Facetten mit einem höheren Wohlbefinden einherging als die Konzentration auf wenige GWB-Facetten.

In Kapitel 5 wird ein theoretisches Modell vorgestellt, das GWB-Definitionen, Alltagsabsichten zum Streben nach GWB, und verschiedene Merkmale von GWB-steigernden Aktivitäten als Prädiktoren für das tägliche Wohlbefinden kombiniert. Das Modell wurde mit Daten aus einer Experience Sampling Studie ($N = 474$; 11.285 Datenpunkte) getestet. Die Ergebnisse zeigten, dass Personen, die mehrere GWB-Definitionen gleichzeitig befürworteten, in ihrem Alltag nach mehreren GWB-Facetten strebten und ein höheres tägliches Wohlbefinden berichteten als Personen, die sich auf wenige GWB-Facetten konzentrierten. Darüber hinaus wurde die Breite (d. h. wie viele GWB-Facetten von einer einzelnen Aktivität positiv beeinflusst werden) und die Häufigkeit von GWB-fördernden Aktivitäten als Prädiktoren für das tägliche Wohlbefinden identifiziert.

Diese Dissertation zeigt insgesamt, dass Personen, die aktiv in das Streben nach Glück investieren, tendenziell ein höheres Wohlbefinden haben als Personen, die dies nicht tun. Manche Personen fokussieren sich auf die Befürchtung, nicht glücklich genug zu sein. Solche Personen neigen dazu, nicht in ihr Glück zu investieren und berichten ein geringes Wohlbefinden. Die Ergebnisse zeigen auch, dass viele Personen GWB auf eine vielseitige Weise definieren und verfolgen, was mit einem höheren Wohlbefinden einhergeht als die Konzentration auf wenige GWB-Facetten. Mehrere wichtige Implikationen für zukünftige Forschung wurden identifiziert, beispielsweise (a) sollte zukünftige Forschung sich intensiver damit beschäftigen, inwiefern die gleichzeitige Befürwortung verschiedener Definitionen von GWB und das gleichzeitige Streben nach verschiedenen Facetten von GWB für das Wohlbefinden förderlich sind, (b) sollte das Ziel, Glücklich sein zu wollen, mit multidimensionalen Maßen erfasst werden, die adaptive und maladaptive Aspekte unterscheiden, und (c) verschiedene für das Glücksstreben relevante Prozesse (z. B. GWB-Definitionen, Alltagsabsichten zum Streben nach GWB, GWB-steigernde Aktivitäten) sollten unterschieden werden.

B. Curriculum Vitae

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RESEARCH INTERESTS

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- Attachment and social relationships
- Personality

ACADEMIC POSITIONS

Since 11/2016	Research Associate, Psychological Methods lab (Prof. Dr. Maike Luhmann) Ruhr University Bochum, Germany
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11/2014 - 06/2016	Research Assistant, Methods in Personality Psychology lab (Prof. Dr. Maike Luhmann) University of Cologne, Germany
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EDUCATION

- Since 12/2016 PhD student in Psychology
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Supervisor: Prof. Dr. Maïke Luhmann
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University of Cologne, Germany

Thesis: Bindungsverhalten und subjektives Wohlbefinden – Eine Meta-Analyse. [Attachment and subjective well-being - A meta-analysis.]
Supervisor: Prof. Dr. Maïke Luhmann
- 10/2011 - 09/2014 Bachelor of Science Psychology
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Supervisor: Prof. Dr. Dr. Jürgen Hennig
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PUBLICATION: PEER-REVIEWED ARTICLES

- Krasko, J.** & Kaiser, T. (2023). Die Dunkle Triade in einer deutschen repräsentativen Stichprobe: Faktorstruktur, Messinvarianz und Normwerte der Niederträchtigen Neun. [The Dark Triad in a German representative sample: Factor structure, measurement invariance and reference values of the Naughty Nine.] *Diagnostica*, 69(1), 1-13.
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- Horstmann, K. T., Buecker, S., **Krasko, J.**, Kritzler, S., & Terwiel, S. (2021). Who does or does not use the “Corona-Warn-App” and why?. *European Journal of Public Health*, 31(1), 49-51.
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<https://doi.org/10.1007/s41543-020-00029-x> PsyArXiv: <https://doi.org/10.31234/osf.io/an89h>
- Buecker, S., Horstmann, K. T., **Krasko, J.**, Kritzler, S., Terwiel, S., Kaiser, T., & Luhmann, M. (2020). Changes in daily loneliness for German residents during the first four weeks of the COVID-19 pandemic. *Social Science & Medicine*, 265, 113541.
<https://doi.org/10.1016/j.socscimed.2020.113541> PsyArXiv: <https://psyarxiv.com/ytkx9/>
- Kritzler, S., **Krasko, J.**, & Luhmann, M. (2020). Inside the Happy Personality: Personality States, Situation Experience, and Affective States Mediate the Relation Between Personality and Affect. *Journal of Research in Personality*, 85, 103929.
<https://doi.org/10.1016/j.jrp.2020.103929> PsyArXiv: <https://doi.org/10.31234/osf.io/nrydp>
- Intelisano, S., **Krasko, J.**, & Luhmann, M. (2020) Integrating Philosophical and Psychological Accounts of Happiness and Well-Being. *Journal of Happiness Studies*, 21, 161-200.
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PUBLICATIONS: PREPRINTS AND SUBMITTED MANUSCRIPTS

- Kritzler, S., Haehner, P., **Krasko, J.**, & Buecker, S. (accepted for publication in Personality Science). *What Happens When You Add a ‘Not Relevant’ Response Option to the Unipolar Response Scales of Personality State Items?* PsyArXiv: <https://psyarxiv.com/v3e7n/>
- Krasko, J.**, Intelisano, S., & Luhmann, M. (submitted for publication). *The complexity of happiness conceptualizations is associated with the success of well-being related intentions and behaviors in everyday life.* PsyArXiv: <https://psyarxiv.com/nvga4/>

PUBLICATION: OTHERS

- Luhmann, M., **Krasko, J.** & Terwiel, S. (2021). Subjective Well-Being as a Dynamic Construct, In J. F. Rauthmann, *The handbook of personality dynamics and processes*. 1231-1249. Academic Press. <https://doi.org/10.1016/B978-0-12-813995-0.00048-0>
- Krasko, J.**, Aldalati, M., Chehadi, O., & Jdid, A. (2020). Arabic translation of the Positive Mental Health Scale. Unpublished manuscript. Department of Psychology, Ruhr University Bochum. https://www.kli.psy.ruhr-uni-bochum.de/dips-interv/klipsy/download/pmh/PMH_Scale_arabisch.pdf

Krasko, J., & Kirchdörfer, A. (2019). Konsequenzen von Einsamkeit und sozialer Isolation im hohen Alter. In M. Luhmann & S. Bückner (Eds.), *Einsamkeit und soziale Isolation im hohen Alter* (pp. 35-42). Bochum: Ruhr-Universität Bochum. <https://doi.org/10.13154/294-6398>

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Training, Bachelor level, Ruhr University Bochum, Germany
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CONFERENCE CONTRIUTIONS AND INVITED TALKS (SELECTION)

- Krasko, J., Kazianis, N., & Buecker, S.** (2022, September). *Loneliness and attachment orientations: A meta-analysis*. Poster presented at the 52nd Congress of the German Society for Psychology (DGPs), Hildesheim, Germany, September 10-15, 2022.
- Krasko, J., Kazianis, N., & Buecker, S.** (2022, July). *Loneliness and attachment orientations: A meta-analysis*. Talk presented at the 20th European Conference on Personality, Madrid, Spain, July 12-15, 2022.
- Krasko, J., Kazianis, N., & Buecker, S.** (2022, February). *Loneliness and attachment orientations: A meta-analysis*. Poster presented at the annual convention of the Society for Personality and Social Psychology, San Francisco/Online, USA, February 17-19, 2022.
- Krasko, J.** (2020, June). *Correlates and predictors of the successful pursuit of happiness: Happiness Goal Orientations, happiness conceptualizations, and well-being related intentions and behaviors in everyday life*. Invited online talk, Self-Regulation Emotion & Attention Lab, University of Reading, School of Psychology and CLS, Reading, UK, June 24, 2020
- Krasko, J. & Kaiser, T.** (2020, February). *How could dark personality be described best? Factor structure and measurement invariance of the Dark Triad using a representative sample*. Poster presented at the annual convention of the Society for Personality and Social Psychology, New Orleans, USA, February 27-29, 2020.
- Krasko, J., Intelisano, S., & Luhmann, M.** (2020, February). *The Complexity of Happiness Conceptualizations are Associated with Success of Well-Being Related Intentions and Behaviors in Everyday Life*. Data Blitz presented at the annual convention of the Society for Personality and Social Psychology, Happiness and Well-Being preconference, New Orleans, USA, February 27-29, 2020.
- Krasko, J., Intelisano, S., & Luhmann, M.** (2019, September). *Many paths lead to happiness: The complexity of happiness conceptualizations affect the success of well-being related intentions and behaviors in everyday life*. Talk presented at the 15th Conference on Personality and Psychological Assessment (DPPD), Dresden, Germany, September 16-18, 2019.
- Krasko, J., Intelisano, S., & Luhmann, M.** (2019, February). *Testing a Theoretical Model of the Pursuit of Happiness and Well-Being*. Talk presented at the annual convention of the Society

for Personality and Social Psychology, Portland, USA, February 7-9, 2019.

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Krasko, J., Intelisano, S., & Luhmann, M. (2018, July). *A novel measure of lay definitions of happiness*. Talk presented at the 19th European Conference on Personality, Zadar, Croatia, July 17-21, 2018.

Krasko, J., Intelisano, S., & Luhmann, M. (2018, May). *Assessment of concepts of Happiness: Lay definitions and intentions for everyday life*. Poster presented at the 30th annual convention of the Association for Psychological Science, San Francisco, USA, May 24-27, 2018.

Krasko, J., Intelisano, S., & Luhmann, M. (2018, May). *Die Erhebung von Glückskonzepten: Laien-Definitionen und Intentionen für den Alltag*. [Assessment of concepts of happiness: Lay definitions and intentions for everyday life.] Talk presented at the 3rd meeting of the German Association of Positive Psychological Research, Bochum, Germany, May 3-5, 2018.

Krasko, J., Intelisano, S., & Luhmann, M. (2018, March). *A novel measure of lay definitions of happiness*. Poster presented at the annual convention of the Society for Personality and Social Psychology, Atlanta, USA, March 1-3, 2018.

Krasko, J., & Luhmann, M. (2018, March). *Attachment and subjective well-being: A meta-analysis*. Poster presented at the annual convention of the Society for Personality and Social Psychology, Happiness and Well-Being preconference, Atlanta, USA, March 1-3, 2018. osf.io/w73kd.

Krasko, J. & Luhmann, M. (2017, September). *Wie wichtig ist Ihnen Ihr Glück? Konstruktion einer zweidimensionalen Skala zur Messung der Wertschätzung von Glück*. [How important is happiness for you? Construction of a two-dimensional measure of the value of happiness.] Talk presented at the 14th Conference on Personality and Psychological Assessment (DPPD), Munich, Germany, September 4-6, 2017.

Krasko, J. (2017, June). *Subjektives Wohlbefinden und Bindungsverhalten: Eine Meta-Analyse*. [Subjective well-being and attachment: A meta-analysis.] Talk presented at the 2nd meeting of the German Association of Positive Psychological Research, Trier, Germany, June 8-10, 2017.

FELLOWSHIPS, GRANTS, AND AWARDS

2019	Travel Grant, Deutscher Akademischer Austauschdienst (DAAD) (~1600€)
2018	Travel Award, Society for Personality and Social Psychology (\$500)

ADHOC REVIEWER

- Assessment
- Children and Youth Services Review
- Cognition & Emotion
- Current Opinion in Behavioral Sciences
- European Journal of Personality
- European Journal of Psychological Assessment
- European Journal of Social Psychology
- Emotion
- GeroPsych: The Journal of Gerontopsychology and Geriatric Psychiatry
- Journal of Happiness Studies
- Journal of Population Ageing
- Personality and Individual Differences
- Personality and Social Psychology Bulletin
- PLOS One
- Psychological Reports
- SAGE Open
- Scientific Reports
- Social Psychology
- The Social Science Journal

RESEARCH COMMUNICATION (SELECTION)

- | | |
|---------|---|
| 08/2021 | <p>Was ist Glück? Erkenntnisse aus der Glücksforschung
 [What is happiness? Insights from research on happiness]
 Article; Magazine of the Caritasverband Leverkusen e.V.
 https://www.caritas-leverkusen.de/assets/wir/wir-2-21.pdf</p> |
| 06/2021 | <p>Glücksdefinitionen und ihre Bedeutung für unser Wohlbefinden [Happiness definitions and their relevance for our well-being]
 Invited talk for a virtual summer party; Landesgruppe NRW</p> |
| 01/2021 | <p>Was uns glücklich macht [What makes us happy]
 Interview; Stuttgarter Zeitung/Stuttgarter Nachrichten
 https://www.stuttgarter-zeitung.de/inhalt.zufriedenheit-lernen-was-uns-im-leben-gluecklich-macht.87befc19-8b99-44e6-ab6f-6558ae6900a2.html?reduced=true</p> |
| 01/2021 | <p>Identität im digitalen Wandel: Was macht mich glücklich in der digitalen und analogen Welt? [Identity in digital times: What makes me happy in the digital and analog world?]</p> |

- Podcast interview; Global Young Faculty
- 11/2020 Das Leben mit Corona – Wie sich Wohlbefinden, Einsamkeit und psychische Belastung in den ersten Monaten der Pandemie verändert haben [Life with Corona - How well-being, loneliness, and psychological distress changed in the first months of the pandemic]
Blog article; In-Mind Germany
<https://de.in-mind.org/blog/post/das-leben-mit-corona-wie-sich-wohlbefinden-einsamkeit-und-psychische-belastung-in-den>
- 09/2020 Glücksdefinitionen und ihre Bedeutung für unser Wohlbefinden [Happiness definitions and their relevance for our well-being]
Invited talk within the lecture series ‘Glück – Eine Wissenschaft?’
St. Gallische Naturwissenschaftliche Gesellschaft; Switzerland
- 04/2020 Themenwoche “Allein mit sich sein” [Being alone with yourself]
Radio interview; egoFM, München
- 03/2020 Glücklich in Zeiten von Corona – Welche Aktivitäten uns besonders jetzt gut tun können [Happy in times of Corona – Which activities might be good for us particularly now]
Blog article; In-Mind Germany
<https://de.in-mind.org/blog/post/gluecklich-in-zeiten-von-corona-welche-aktivitaeten-uns-besonders-jetzt-gut-tun-koennen>
- 03/2020 Zwangsentschleunigung: Wie die Corona-Krise uns dazu bringt, einen Gang runterzuschalten [How the corona crisis is causing us to slow down]
Interview; Vogue.de
<https://www.vogue.de/beauty/artikel/entschleunigung>
- 03/2020 Soziale Beziehungen in Zeiten von Corona
[Social relationships in times of Corona]
Interview; Glamour Germany
- 03/2020 Glück in Zeiten von Corona
[Happiness in times of Corona]
Radio interview; Radio Arabella
- 11/2019 Der Glücksatlas [The Happiness Atlas]
Interview; dpa (German press agency); picked up by various media, e.g., <https://www.sueddeutsche.de/leben/gesellschaft-kein-land-der-miese-peter-deutsche-auf-zufriedenheitshoch-dpa.urn-newsml-dpa-com-20090101-191105-99-585344>

05/2019	Was ist Glück und was macht uns glücklich? [What is happiness and what makes us happy?] Radio Interview; Hochschulradio KölnCampus
11/2018	Was ist Glück? [What is Happiness?] Interview; Apotheken Umschau Elixier
12/2017	Neujahrsvorsätze [New Year's Resolutions] Radio Interview; Radio Bochum
12/2017	Von Glück und Neujahrsvorsätzen [Happiness and New Year's Resolutions] Talk within the event series 'Christmas at the Blue Square'; Ruhr University Bochum

PROFESSIONAL AFFILIATIONS

- Deutsche Gesellschaft für Psychologie (DGPs); Fachgruppe Differentielle Psychologie, Persönlichkeitspsychologie und Psychologische Diagnostik (DPPD)
- Society for Personality and Social Psychology (SPSP)
- European Association of Personality Psychology (EAPP)

PARTICIPATION IN ADVANCED TRAINING AND WORKSHOPS

07/2022	Social Desirability and Acquiescence Control David Navarro-González 20th European Conference on Personality, Madrid, Spain
05/2021	Introduction to Measurement Invariance Analysis with R Michael Friedrich, Antje Schönfelder & Heide Glaesmer Online Workshop, Germany
09/2019	An Introduction to Machine Learning in R Clemens Stachl & Ramona Schödel 15th Meeting of the Personality and Diagnostics Section of the Deutsche Gesellschaft für Psychologie, Dresden, Germany
02/2019	Psychological Measurement. From Conceptualization to Confirmation John Kitchener Sakalut & Stephen D. Short Annual convention of the Society for Personality and Social Psychology, Portland, USA
12/2018	Loneliness and Social Isolation in Old Age Organized by Maike Luhmann & Susanne Buecker,

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- Ruhr University Bochum, Germany
- 07/2018 Mining Big Data to Extract Patterns and Predict Real-Life Outcomes
Michal Kosinski
19th European Conference on Personality, Zadar, Croatia
- 03/2018 15. DoktorandInnenworkshop der Fachgruppe Differentielle Psychologie,
Persönlichkeitspsychologie und psychologische Diagnostik [15th workshop for
doctoral students of the Personality and Diagnostics Section of the Deutsche
Gesellschaft für Psychologie], Landau, Germany
- 03/2018 Practical Multilevel Modeling for intermediate users
Amie Gordon
Annual convention of the Society for Personality and Social Psychology,
Atlanta, USA
- 09/2017 Bayesian Multilevel Models in R
Paul Bürkner
14th Meeting of the Personality and Diagnostics Section of the Deutsche
Gesellschaft für Psychologie, Munich, Germany
- 05/2017 Ecological Momentary Assessment in Psychology
Wolff Schlotz
Ruhr University Bochum, Germany
- 05/2017 Tertiary didactics: Difficult situations in classes
Klaus Hellermann
Ruhr University Bochum, Germany
- 03/2017 Tertiary didactics: Interaction and guidance in classes
Harald Groß
Ruhr University Bochum, Germany

C. Eidesstattliche Erklärung

Ich versichere an Eides statt, dass ich die eingereichte Dissertation selbstständig und ohne unzulässige fremde Hilfe verfasst habe, keine andere als die in ihr angegebene Literatur benutzt habe und dass ich alle ganz oder annähernd übernommenen Textstellen sowie verwendete Grafiken, Tabellen und Auswertungsprogramme kenntlich gemacht habe. Außerdem versichere ich, dass ich keine kommerzielle Vermittlung oder Beratung in Anspruch genommen habe. Die Dissertation wurde in dieser oder ähnlicher Form nicht anderweitig als Promotionsleistung vorgelegt und bewertet. Ich erkläre außerdem, dass die vorgelegte elektronische mit der gedruckten Version der Dissertation übereinstimmt und dass es sich bei der eingereichten Dissertation um vier in Wort und Bild völlig übereinstimmende Exemplare handelt.

Bochum, 28.02.2023

Julia Krasko