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How to measure happiness?

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Abstract

Happiness is and always has been a primary life aim for many individuals. Therefore, it has been the subject of much research, which has resulted in a variety of diverse definitions and theories. One of the main objectives of previous research has been to find ways to measure happiness. The aim of this thesis is thus to provide an overview of happiness theories and measures and, moreover, to refine and validate a recently developed measure, namely the zentor Purpose Score. For this purpose, the measure's items, its factor structure, reliability, and convergent validity were examined, using data from a sample of 297 participants. Three diverse models were compared by means of confirmatory factor analyses and other criteria. The Three-Factor Model without overlap items turned out to be the most appropriate statistical model to describe the collected data. The results of this model revealed moderate model fit, acceptable internal consistency and test-retest reliability, and good convergent validity. By using the selected model, significant differences in happiness levels between groups formed according to age, profession, life phases, and attitudes towards purpose in life could be identified. In summary, the zentor Purpose Score can be recommended as a valid happiness measure.

Keywords: Happiness, well-being, happiness measure, purpose, engagement, appreciation, validation

Zusammenfassung

Eines der größten Ziele der Menschheit ist und war schon immer das Erreichen und Erfahren von Glück im Leben. Deswegen stellte Glück den Gegenstand vieler Forschungen dar, woraus eine Vielzahl verschiedenster Definitionen und Theorien resultierten. Eine der Hauptfragestellungen dabei beschäftigte sich damit, wie man Glück messen kann. Diese Masterarbeit macht es sich zum Ziel, einen Überblick über die verschiedenen Glückstheorien und deren Messinstrumente zu geben und darüber hinaus ein kürzlich entwickeltes Messinstrument, den zentor Purpose Score, zu präzisieren und zu validieren. Zu diesem Zweck wurden die Bestandteile des Instruments, seine Faktorenstruktur, seine Reliabilität und seine konvergente Validität anhand einer Stichprobe bestehend aus 297 Teilnehmern untersucht. Drei verschiedene Modellversionen wurden anhand von Faktorenanalysen und anderen Kriterien miteinander verglichen. Dabei stellte sich heraus, dass das Drei-Faktoren-Modell die gesammelten Daten am besten abbildete. Diese Modellvariante wies außerdem moderate Modellgütekriterien, akzeptable interne Konsistenz und Test-Retest Reliabilität, sowie gute konvergente Validität vor. Durch die Anwendung dieses Modells konnten zudem signifikante Unterschiede hinsichtlich persönlicher Glückslevels zwischen verschiedenen Gruppen identifiziert werden. Diese Unterschiede zeigten sich zwischen Alters- und Berufsgruppen, sowie zwischen Gruppen, deren Mitglieder anhand ihrer Lebenssituation oder ihrer Einstellung gegenüber Sinn im Leben unterschieden wurden. Im Allgemeinen konnte die Validität des zentor Purpose Scores bestätigt werden, wodurch sein Einsatz als Messinstrument für Glück empfohlen werden kann.

Schlagwörter: Erfüllung, Wohlbefinden, Glückseligkeit, Sinn, Engagement, Wertschätzung, Glücksforschung, Validierung, Glücksmessinstrument

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3 List of Abbreviations

ANOVA ..... Analysis of Variance
DSM-IV ..... Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition
GAD-7..... Generalized Anxiety Disorder Module of the Patient Health Questionnaire
KMO.....Kaiser-Meyer-Olkin
PANAS..... Positive and Negative Affect Schedule
PHQ .....Patient Health Questionnaire
PHQ-10.....Stress Module of the Patient Health Questionnaire
PHQ-9.....Depressive Disorder Module of the Patient Health Questionnaire
PRIME-MD..... Primary Care Evaluation of Mental Disorders
PWB.....Psychological Well-Being
SWB.....Subjective Well-Being
ZPS..... zentor Purpose Score

4 Introduction

"Life, liberty and the pursuit of happiness" (Jefferson, 1950, xi).

These are the three alienable rights that were defined by the American Declaration of Independence of 1760, one of which is the pursuit of happiness. This underscores not only the importance of happiness, but it also indicates that happiness is one of the major topics humankind has been grappling with ever since, as it affects each and every one of us to a high degree. More precisely, it determines individual success in many important life domains, including physical health, work performance, income, friendships and marriage (Boehm & Lyubomirsky, 2008, pp. 110–112; Diener & Chan, 2011, pp. 32–33; Lyubomirsky, King, & Diener, 2005, pp. 822–846). Moreover, happy people have stronger bodies and immune systems, and are more active, social, altruistic and even more creative (Larsen & Eid, 2008, pp. 8–11). Considering these desirable outcomes, happiness has very positive direct effects on the society and the economy.

Furthermore, there are indirect effects as well, as happiness is directly linked to mental health (Bieda, Hirschfeld, Schönfeld, Brailovskaia, Lin, Margraf, 2019, pp. 206–207). More specifically, the promotion of happiness and thus positive mental health can be considered a prevention measure for developing mental disorders, which are accountable for enormous costs. By 2030, worldwide expenditure on mental illness is expected to exceed US$6.0 trillion, of which only one third is direct costs, while the remainder results from indirect costs. This reveals mental health to be the main culprit for the costs of lost output (Bloom et al., 2011, pp. 27–35). Consequently, it is apparent that individuals should aspire to happiness not only for their own personal benefit, but also to ensure a functioning social system.

In order to support the individual pursuit of happiness, effective interventions should be provided. However, to establish helpful and effective programmes, factors that can influence happiness and measures to track possible improvements in happiness levels have to be identified. As a great deal of research in various fields has already been conducted, there are many different definitions of happiness and many diverse models and methods for assessing happiness. Even though a great deal of information can be derived from these models, it remains unclear whether they measure distinct kinds of well-being and therefore may be more or less suitable for specific kinds of purposes (Goodman, Disabato, Kashdan, & Kauffman, 2017, p. 321).

This master's thesis provides an overview of the various definitions of happiness and examines selected measures which are already in use to gauge the well-being of individuals. Furthermore, the research study scrutinizes a recently developed measuring instrument, namely the *zentor Purpose Score* (ZPS). This new metric was created by a start-up called zentor GmbH, which was founded in 2019. The business concept of zentor is to provide a personalized digital mentor for customers that supports their individual pursuit of happiness (zentor, 2020a). However, to monitor the effectiveness of possible interventions, it is crucial to have a valid measuring instrument to capture the happiness levels of the company's clients. According to zentor's underlying happiness theory, the three sources of happiness are *purpose*, *engagement*, and *appreciation*. Furthermore, the founders of zentor assume that people will be happier if these three dimensions are addressed all at once, opposed to addressing them separately (zentor, 2019). Therefore, this master's thesis also tests this as well as other assumptions of the happiness model, to refine the ZPS and subsequently to validate it.

One measuring instrument investigated for validating purposes is the *PERMA-Profiler* created by Butler and Kern (2016). The PERMA-Profiler is a measure of the PERMA dimensions defined in the PERMA Model of flourishing by Seligman (2011). 'PERMA' is an acronym of the domains of *positive emotion* (P), *engagement* (E), *positive relationships* (R), *meaning* (M) and *accomplishment* (A). According to Seligman these are the five elements that well-being is based upon (Seligman, 2011, p. 16).

The other metrics that are used for testing the validity of the ZPS only determine the negative dimensions of the mental health spectrum, as they are modules of the *Patient Health Questionnaire* (PHQ). The PHQ serves as a practicable and self-administered method to screen for specific psychological disorders, namely somatic, anxiety and depressive disorders. In addition, the PHQ can capture the level of perceived stress, which affects the psychosocial functioning of individuals (Gräfe, Zipfel, Herzog, & Löwe, 2004, p. 173). The reason for assessing mental diseases in the context of happiness is that they often have a significant impact on happiness (Bieda et al., 2019, pp. 206–207; World Health Organization: WHO, 2019). However, the research study is limited to capturing *depressive disorders*, *generalized anxiety disorders* and *perceived stress*, as for the assessment of somatic disorders clinical judgment is needed (Kroenke, Spitzer, & Williams, 2002, p. 262).

Apart from refining the construct and testing the validity and the reliability of the ZPS, influences of diverse factors, for example demographic factors on happiness levels are tested.

5 Theoretical Background

5.1 Definitions of Happiness

The ambiguity of the term ‘happiness’ already becomes clear when looking at the way it is used in everyday speech. On the one hand, happiness refers to a certain state of mind, a positive emotional condition, which in turn is a vague expression (Haybron, 2019). More specifically, the emotion behind happiness comprises a wide range of states and emotions, including feelings of pleasure, joy, contentment, excitement and awe (Smith, 2008, p. 563). Even though the definition of happiness in this sense remains imprecise, it is clear that it describes an experience lived in a specific moment or at least in a particular time frame. On the other hand, happiness represents a more comprehensive meaning, describing a life of value or life satisfaction. In this sense, it captures everything that is subjectively good for a person, everything a person can benefit from. In terms of this meaning, happiness is a synonym for psychological well-being (Haybron, 2019). Hence, throughout this master’s thesis the terms ‘well-being’ and ‘happiness’ are used interchangeably.

The latter intangible conceptualization of happiness has been the subject of a host of discussions and research questions, as it has many and severe effects, not only on people’s individual lives but at a societal level as well (European Social Survey, n.d., p. 5). By defining what is good and desirable, individuals, social groups, and even societies may build strong characteristics and values. In addition to the many opinions on what happiness is and how it can be achieved that already exist amongst individuals and societies within one life period, these conceptions are also subject to change over time (Delle Fave, Massimi, & Bassi, 2011, p. 4). The following sections therefore provide an outline of the development of diverse understandings, models, determinants and measures of happiness in various contexts.

5.1.1 Philosophical Definitions of Happiness

In the field of philosophy, two diverse approaches have emerged: The hedonic and the eudaimonic (Delle Fave et al., 2011, p. 5). These concepts evolved from ancient philosophical schools of thought and have evolved into contemporary psychological constructs (Henderson & Knight, 2012, pp. 196–197; Ryan & Deci, 2001, pp. 143–145). Roughly speaking, philosophers adopting the hedonic tradition believe that well-being increases with the maximization of pleasure and the minimization of pain, while eudaimonic philosophers believe that the pathway to happiness lies in leading a life full of virtue, meaning and self-actualization (Ryan & Deci, 2001, pp. 143–147; Henderson & Knight, 2012, pp. 197–198). However, a more

detailed view on these ways of thinking is necessary to create the basis for a better understanding of the derived models.

Development of the Hedonic Approach. Semantically, hedonism is derived from the Greek word '*hēdonē*', which means pleasure (Oxford University Press (OUP), n.d.-b). Consequently, striving for the greatest possible amount of pleasure is the most important maxim of the hedonic way of thinking, while the subordinate maxim is the avoidance of pain. This philosophical orientation can be traced back to a Greek philosopher named Aristippus of Cyrene, who lived during the fourth century B.C. (Grinde, 2012, p. 2). According to him, bodily pleasure is the real purpose of life (Ryan & Deci, 2001, pp. 143–144). In the following decades and centuries many others adopted this concept and modified it. The philosopher Epicurus, for example, also declared pleasure as the supreme good, but only while keeping self-control, prudence and reason in mind (The Editors of Encyclopaedia Britannica, 2017). For him also the concept of *ataraxia*, which refers to living without worries or anxiety, was extremely important. Following a rather balanced view on hedonic happiness, his body of thought can also be found in completely different views of happiness, for instance Asian concepts of well-being (Delle Fave et al., 2011, p. 5).

Another philosopher who took up the notion of Aristippus was Thomas Hobbes. According to him, human nature is determined by '*natural appetite*', which distinguishes itself from animal appetite, especially through human reason. Furthermore, he considered human appetite to be infinite, as humans do not only feel momentary needs, like animals do, but also future needs (Strauss & Sinclair, 1963, pp. 8–11). Indeed, he affirmed that happiness can be achieved through the satisfaction of these infinite human appetites (Delle Fave et al., 2011, p. 5).

Although they did not share the same opinion on all consequences resulting from these assumptions, some of Hobbes' views can be found in the works of Jeremy Bentham (Crimmins, 2002, p. 696). Bentham's perspective is without doubt recognizable as a clearly hedonic view, since he began one of his most important theoretical works as follows: 'Nature has placed mankind under the governance of two sovereign masters, pain and pleasure. It is for them alone to point out what we ought to do, as well as to determine what we shall do.' (Bentham, 1781, p. 14). Bentham complemented this hedonic perspective by adding several quantitative and thus measurable aspects. In this manner, he defined that the value of a single sensation of pleasure or pain, affecting only one individual, should be evaluated on the basis of: (1) its *intensity*, (2) its *duration*, (3) its *certainty* or *uncertainty* and (4) its *propinquity* or *remoteness*. When

assessing several sensations, the parameters of (5) *fecundity* (probability that following sensations are of the same kind) and (6) *purity* (probability that following sensations are not of the opposite kind) should be taken into account as well. In addition, the last variable, (7) *extent* (number of affected persons), should also be considered when other persons are included in these considerations. Taken together, these seven variables, which define the value of pleasure and pain and thus happiness in a hedonistic understanding, build the *hedonic calculus,* also known as the *utility calculus.* Overall, the total value of an individual hedonic calculus is determined by contrasting good and bad tendencies. Based on this calculus, an individual can decide how to act, because actions promising the highest total values are to be preferred (Bentham, 1781, pp. 31–34).

Moreover, Bentham argued that if every individual maximizes his or her pleasure and minimizes his or her pain accordingly, a good society will be built (Ryan & Deci, 2001, p. 144). This thought constitutes a fundamental axiom, called the *greatest happiness principle*, which states: 'It is the greatest happiness of the greatest number that is the measure of right and wrong' (Bentham, 2001, p. 93). At this point, it is important to mention that also according to this principle all of the determining variables have to considered, not only the number of affected people (Bentham, 2001, p. 34; Crisp, 2017). In summary, this principle, in combination with the hedonic calculus and the associated hedonistic considerations of Bentham, can be regarded as the basis of utilitarianism.

Over the following years, this utilitarian concept was developed further, mainly because the concept itself and also hedonism in general were often criticized. One of the primary reasons for such criticism was that there was no distinction between different kinds of pleasures. For instance, John Stuart Mill argued that humans differ from animals by their more advanced faculties and as result they have additional pleasures, not only physical ones (Mill, 2016, VII, p. 9–10). Consequently, a human life full of pleasures and free of pain cannot be a happy life without specific human, for example intellectual, pleasures (Hauskeller, 2011, p. 429). By adding a *qualitative dimension* to the hedonic calculus, distinguishing between different kinds of pleasures, Mill claimed that human pleasures are more valuable than animal ones (Mill, 2016, VII, pp. 12–13). Although this extension of utilitarianism might still be considered as a hedonistic concept (Crisp, 2017), other points of view of Mill may not. Particularly his view of the importance of happiness differs fundamentally from that of typical hedonists. While hedonic philosophers declared happiness as the supreme good (Bentham, 2001, p. 34; The Editors of Encyclopaedia Britannica, 2017), Mill stated that happiness was not the ultimate goal of life but rather a good that comes along while pursuing another object, for example the improvement

of humankind (Mill, 2009, p. 142; Ryff & Singer, 2008, p. 19). On the basis of this attitude, Mill can rather be classified as a philosopher in eudaimonistic tradition, which will be presented in the following section.

In conclusion, hedonism as a conception of well-being comprises different viewpoints, ranging from a very restricted view on only physical pleasures to a more extended view on appetites and self-interests as well (Ryan & Deci, 2001, p. 144). Many diverse concepts and models of well-being have arisen from this school of thought.

Development of the Eudaimonic Approach. One of the semantic origins of eudaimonism can be traced back to the Greek word '*eudaimonismos',* which can be translated as 'system of happiness' (Oxford University Press (OUP), n.d.-a). This already indicates that the eudaimonic definition of happiness is broader than the hedonic one. Just like hedonism, eudaimonism is linked to ancient Greek philosophy, with Aristotle as the first to thoroughly explicate this concept in the fourth century B.C. (Henderson & Knight, 2012, p. 197; Kashdan, Biswas-Diener, & King, 2008, p. 219). According to him '[happiness] is the highest of all goods achievable by action' (Aristotle, 1925, p. 4).

A problem resulting from the translation of Aristotle's eudaimonia as happiness purports that hedonia and eudaimonia are equal. Therefore, it is pivotal to mention that happiness after Aristotle comprised not only a distinction between right and wrong pleasures, but also the notion of self-actualization (Ryff & Singer, 2008, p. 14). As opposed to hedonistic views, which assumed experiencing the greatest pleasure was the pathway to a good life and thus happiness, Aristotle distinguished pleasure from the good life (Henderson & Knight, 2012, p. 198; Kashdan et al., 2008, p. 219, Ryff & Singer, 2008, p. 17). He denigrated seeking pleasure solely for pleasure's sake as vulgar (Aristotle, 1925, p. 6), and proclaimed that humans always ought to have a more intricate and meaningful aim in life in order to develop their full potential (Delle Fave et al., 2011, p. 5; Kashdan et al., 2008, p. 220).

Consequently, Aristotle (1925, p. 6) distinguished between three different types of life: the enjoyment-seeking, the political, and the contemplative life. While individuals living a life seeking bodily enjoyment identify happiness as pleasure, those living political and contemplative lives identify happiness as virtue (Aristotle, 1925, p. 6; p. 263). Aristotle thus extended the definition of happiness by stating that happiness as the highest human good was the 'activity of soul in accordance with virtue, and if there are more than one virtue, in accordance with the best and most complete' (Aristotle, 1925, p. 14). Overall, Aristotle considered *virtues* as character traits which allow for taking deliberated actions to ensure a

moderate and considerate outcome (Ryff & Singer, 2008, p. 16). Examples of such virtues include moral virtues such as courage, moderation, justice, generosity, mildness of temper and friendliness and intellectual virtues such as perceptiveness, knowledge and wisdom (Nussbaum, 1988, pp. 35–36). Although Aristotle (1925, p. 268) frowned upon seeking short-term enjoyment, he recognized the importance of fulfilling physical needs in order to live in accordance with one's virtues.

Norton (1977, p. 5) revived the Aristotelian view of eudaimonia by distinguishing between eudaimonic and hedonic happiness. The main difference for him was also that eudaimonia is only reachable by striving exclusively for the right desires, not for all types of desires. Therefore, the concept of self-actualization also played a major role in his studies. According to Norton a *daimon*, which reflects the ideal possibility or excellence of the own self, resides in every human being. He stated that it is every person's duty to discover his personal daimon – congruent to Aristotle's virtues – and live in accordance with it (Norton, 1977, p. 16). In doing so, one can reach happiness in the sense of eudaimonia (Waterman, 1993, p. 678).

Summary of the Differences between the Hedonic and Eudaimonic Approaches. Although both the eudaimonic and hedonic traditions try to describe a pathway to reach happiness, they build on significantly diverse definitions of what happiness consists of and thus follow different approaches on how to attain it. Delle Fave et al. (2011, pp. 5–6) recognized three major distinctions which are summarized briefly below to highlight the gist of these two approaches.

First, hedonia can be found in the fulfilment of short-term pleasures and the satisfaction of appetites, which lead to reaching or maintaining a state of well-being, whereas eudaimonia is a by-product of a continuous process of self-actualization and growth resulting from the aspiration to a higher good. Closely linked to this difference is the second distinction, namely the almost effortless opportunity to feel hedonic happiness simply by inducing positive affect while avoiding negative affect. By contrast, in order to experience eudaimonia, one must be engaged in activities and make efforts to foster psychological functioning. More precisely, while the eudaimonic tradition distinguishes between the causes of pleasure, the hedonic vision does not; it only matters whether someone is happy, not how this psychological state is reached. This even opens up the possibility for hedonists to attain well-being by behaving reprehensibly (e.g. drug abuse). On the contrary, the eudaimonic tradition emphasizes especially how

happiness is achieved, as happiness is also regarded as the reward for taking the right actions (Henderson & Knight, 2012, p. 198; Kashdan et al., 2008, p. 220).

The last difference examined by Delle Fave et al. (2011, pp. 5–6) reflects on how important happiness is on an individual level compared to a societal level. In contrast to hedonia, which allows for the pursuit of personal happiness even if it may affect the society negatively (Veenhoven, 2003, p. 438), eudaimonia holds that virtues and vices such as altruism and generosity help in the process of achieving happiness and hence reconcile the individual with the societal well-being (Kashdan et. al., 2008, p. 221; Nussbaum, 1988, pp. 42–43).

Even if the presented comparison gives a good impression of the hedonic and eudaimonic approaches, one essential difference is missing: As virtues and vices can be observed and judged from the outside, the eudaimonic approach is more objective than the subjective hedonic approach, which only enables the individual to judge his or her pursuit of happiness (Kashdan et. al., 2008, p. 220). However, both approaches form the foundation of many models and theories in a variety of domains.

5.1.2 Psychological Definitions of Happiness

Similar to the ancient philosophers, modern psychologists are at least equally interested in defining well-being, identifying its determinants, developing possible measures and assessing its consequences (Kashdan et al., 2008, p. 221). Especially since the late 20th century, happiness research has gained more attention (Deci & Ryan, 2008, p. 1). A considerable share of this research has been inspired by the hedonic and eudaimonic traditions, which has resulted in a plurality of visions on happiness.

Hedonic Models and Definitions. With the adoption of the hedonic, philosophical construct by psychologists, the formerly predominant rather limited focus on bodily pleasures shifted, as the pleasures and preferences of the mind also became the centre of attention (Kubovy, 1999, p. 135; Waterman, 1993, pp. 678–679). Kahneman, Diener and Schwarz (1999, p. ix) have proclaimed hedonic psychology as a new psychological subject area and have defined it as the exploration of what makes one's life pleasant or unpleasant. Accordingly, the aim of hedonic psychology is the optimization of the ratio between inputs that cause pleasure and inputs that cause displeasure. Just like the ancient philosophers, psychologists consider the attribution of experiences to the triggered sensations as an internal process which puts individuals themselves in the best position to decide how happy they are. (Delle Fave et al., 2011, p. 6; Henderson & Knight, 2012, p. 197).

The Positive and Negative Affect Schedule. Two main dimensions which determine the affective part of this subjective happiness are the factors *positive* and *negative affect*. Thoroughly assessed, they have been incorporated in the well-known, brief mood scale called the *Positive and Negative Affect Schedule* (PANAS) developed by Watson, Clark and Tellegen (1988). While positive affect demonstrates 'one's level of pleasurable engagement with the environment' (Watson, 1988, p. 128), indicating how 'enthusiastic, active, and alert' (Watson et al., 1988, p. 1063) a person feels, negative affect reflects the extent of psychological distress and unpleasurable engagement comprising many 'aversive mood states, including anger, contempt, disgust, guilt, fear, and nervousness' (Watson et al., 1988, p. 1063). The mood spectrum of positive affect ranges from low positive affect – identifiable through lethargy, sadness or depression – to high positive affect, describing states of 'high energy, full concentration and pleasurable engagement' (Watson et al., 1988, p. 1063). Low negative affect, by comparison, is characterized by feelings of calmness and relaxation, whereas high negative affect is evident in states of one or more of the aforementioned aversive moods. Consequently, low levels of both dimensions indicate a lack of emotional involvement, while high levels represent the experience of affects (Watson, 1988, p. 128). Furthermore, even though positive and negative affects sound as if they have a highly negative correlation, it became evident that they are completely independent or have at most a nonsignificant correlation (Clark, Watson, & Leeka, 1989, p. 212; Crawford & Henry, 2004, pp. 262–263; Watson & et al., 1988, p. 1063).

The measurement of these factors is performed by the means of a self-administered mood questionnaire (see Appendix 1), consisting of 20 different PANAS mood descriptors, of which ten assess positive affect and the other ten examine negative affect. Originally, these items consisted of a selection of the 60 mood descriptors used by Zevon and Tellegen (1982, p. 115). Individuals completing this questionnaire have to indicate to which extent they have experienced each emotional state within a certain time frame. The PANAS uses a five-point Likert scale, ranging from 1 (very slightly or not at all) to 5 (extremely) (Watson & et al., 1988, p. 1070). By calculating average values for both the positive and the negative affects, a statement about the emotional condition of the respective respondent can be made (Breyer & Bluemke, 2016, p. 3). Tested in a variety of languages and with a variety of samples, the scale has proven its validity and reliability (Terracciano, McCrae, & Costa, 2003, p. 138; Watson & et al., 1988, pp. 1064–1069). In summary, it offers the possibility to measure not only current but also habitual affectivity and thus the affective, hedonic part of well-being in a highly efficient way for various purposes (Crawford & Henry, 2004, p. 250; Krohne, Egloff, Kohlmann, & Tausch, 1996, p. 153).

However, to measure a person's happiness comprehensively, an important component is missing. Even if the affectivity includes evaluative appraisals of experiences, there is evidence that a more cognitive dimension also contributes significantly to the overall well-being of an individual. According to Pavot and Diener (1993, p. 165) there are three considerations which prove this necessity. The first argument builds on the possible behaviour of individuals to approve undesirable incidents in their lives although they refuse to respond to them on an affective, emotional level. Second, affectivity represents almost exclusively an immediate response to external events, which thus will not last too long (Suh, Diener, & Fujita, 1996, p. 1098). However, a comprehensive assessment of happiness demands a long-term perspective of well-being (Diener, Suh, & Oishi, 1997, p. 26). Lastly, the affective dimension captures mostly unconscious motives and physical needs, whereas a more global concept could put this into perspective by covering also conscious life values and goals.

Subjective Well-Being and the Satisfaction with Life Scale. Consequently, Diener's (1984) concept of *Subjective Well-Being* (SWB) also comprises a cognitive dimension, establishing the measurement of happiness as a more global framework compared to the PANAS (Larsen, Diener, & Emmons, 1985, p. 16). The term SWB has been defined as 'a person's cognitive and affective evaluations of his or her life' (Diener, Lucas, & Oishi, 2001, p. 63). After its first introduction in 1984, the concept was investigated further and is today widely known as a model consisting of three components, namely *life satisfaction*, *positive affect* and *negative affect*. While life satisfaction can be seen as an internal, cognitive judgment about an individual's life as a whole, positive and negative affect constitute the same hedonic dimensions as in the PANAS (Larsen & Eid, 2008, p. 4). Larsen et al. (1985, pp. 10–11) assessed the influence of the affective components on the overall SWB and found that not the intensity but the frequency of experiences is pivotal. Accordingly, SWB is high if individuals experience life satisfaction, frequent positive affect and infrequent negative affect, and low if they are dissatisfied with life and experience infrequent positive and frequent negative emotions (Proctor, 2014, p. 6437).

To measure especially the cognitive, judgemental component, Diener, Emmons, Larsen and Griffin (1985) developed and validated the *Satisfaction with Life Scale* (see Appendix 2), which received a great deal of recognition and became the standard measure in the field (Larsen & Eid, 2008, p. 5). Participants who complete the self-administered questionnaire have to indicate the degree to which they agree with five statements which solely query how satisfied an individual is with his or her own life. In this process – in contrast to comparing the circumstances of one's life with an objective externally imposed standard – individuals create

their own subjective standard as a reference value (Diener et al., 1997, p. 26; Pavot & Diener, 1993, p. 164; Pavot, Diener, Colvin, & Sandvik, 1991, p. 150). The questionnaire provides a seven-point Likert-scale rating, varying from 1 (strongly disagree) to 7 (strongly agree). In order to interpret the results, the values of all answers have to be added up to provide information about the overall life satisfaction of the respective participant (Diener et al., 2001, p. 70). It is very important to highlight, that the scale does not assess single life domains, for example health or relationships, but the life of an individual as a whole (Diener et al., 1985, p. 71; Tatarkiewicz, 1976, p. 8). This is accompanied by the opportunity to freely evaluate the importance of specific life domains contributing to the overall satisfaction and thus happiness (Pavot & Diener, 1993, pp. 164–165). While this comprehensive measuring method has the advantage of comparative stability over time (Diener et al., 1997, p. 28; Headey & Wearing, 1989, pp. 734–737), specific conclusions about the influential factors of happiness are not possible. Nevertheless, it can be considered a useful starting point for further investigations. For example, although the scale already assesses also undesirable states of experience (Diener et al., 1997, p. 26), it could be a helpful instrument when used as a complement to scales focusing on psychopathology in clinical or research environments (Pavot & Diener, 2009, pp. 169–170). To conclude, the Satisfaction with Life Scale has proven its validity and reliability (Diener et al., 1985, pp. 73–74; Pavot et al., 1991, p. 158), and beyond that has excelled as 'the most widely used assessment instrument in SWB research' (Larsen & Eid, 2008, p. 3).

Factors Influencing Subjective Well-Being. Although there are other concepts to capture the 'pleasure/pain continuum in human experience' (Ryan & Deci, 2001, p. 144), most hedonic psychologists use the construct of SWB for their research (Delle Fave et al., 2011, p. 8). Therefore, both presented scales, but especially the Satisfaction with Life Scale, have been used in various studies to identify the determinants of SWB. The reason for this lies in the inherent stability of SWB, even though everyone's mood, emotions and self-evaluative judgments change over time (Diener & Lucas, 1999, pp. 213–215).

Heritability and Personality. This stability can at least partly be explained by heritability. In a well-known study of separated twins, Tellegen, Lykken, Bouchard, Wilcox, Segal and Rich (1988, pp. 1035–1036) ascertained that approximately 50% of the variability in positive and negative affects can be accounted for by genetic variance. Therefore, people seem to have a biological predisposition to experience specific emotions (Diener, 1996, pp. 390–391; Diener & Lucas, 1999, pp. 214–217). In addition, certain character traits have a remarkable influence on the affective experience and the life satisfaction of an individual. Especially the

trait neuroticism of the five factor model (see Costa & McCrae, 1992; Digman, 1990) contributes significantly to SWB, as it affects the extent of perceived life satisfaction as well as negative affect (DeNeve & Cooper, 1998, p. 220; Diener & Seligman, 2002, p. 83; Larsen & Eid, 2008, p. 6). Furthermore, the trait extraversion determines SWB to some extent, because it influences the experience of positive emotion in a favourable way (Costa & McCrae, 1980, p. 673; Diener et al., 1997, p. 31; Diener & Seligman, 2002, p. 83; Larsen & Eid, 2008, p. 6). DeNeve and Cooper (1998, pp. 220–221) considered not only extraversion as responsible for the quantity of relationships and thus for SWB, but also agreeableness, as this characteristic is linked to the quality of relationships. Moreover, DeNeve and Cooper (1998, p. 221) found that the personality trait that predicts life satisfaction most is consciousness. Therefore, they proposed, that engaging in activities which require self-discipline and striving for achievements can improve the quality of one's life. This might be true for two reasons: First, this behaviour can trigger internal rewards, such as feeling proud, and second, conscious people also tend to obtain external rewards such as better grades or jobs (Diener et al., 1997, pp. 31–32).

Demographic Factors. Factors such as income, educational level, marital status, ethnic status and age were also assessed in terms of their influence on SWB, but it has been demonstrated that these only contribute to SWB to a limited extent (Diener, Oishi, & Lucas, 2003, p. 406; Diener et al., 1997, p. 32). One reason might be that initial strong reactions to new life events are followed by a return to the original level of SWB (Brickman & Campbell, 1971, pp. 287–300; Diener & Diener, 1996, pp. 181–185). Evidence for this theory can be found, for instance, by looking at the dramatic increase in income in the United States since World War II, which was followed by higher rates of divorce, suicide and depression (Myers, 2000, p. 61). Another example is provided by Suh et al. (1996, pp. 1094–1098), who examined the long-term effect on SWB of average life experiences, such as job promotions or getting married. The study demonstrated that most events had an impact lasting only three months or less.

Wealth. Although income does not exhibit high correlations with SWB, wealth at the national level does, proved by higher levels on the SWB scales of wealthier nations (Diener & Biswas-Diener, 2002, pp. 159–162). These observations might be traced back to higher scores on human rights, equality, and democratic governance that are rather predominant in wealthier nations (Diener et al., 2003, pp. 410–41). However, this effect diminishes the wealthier a nation gets (Diener, 1984, p. 553), as in poor countries additional available money is likely to be spent on the satisfaction of basic human needs, whereas in richer countries increments rather lead to the purchasing of more luxury items (Veenhoven, 1993, pp. 71–72).

Culture. Aside from the economic aspect, there are cultural differences between the mean levels of SWB as well. Wirtz, Chiu, Diener, and Oishi (2009, pp. 1188–1191) found that while Eastern individuals tend to focus on the minimization of negative affectivity, Western people rather emphasize the maximization of positive affect. Furthermore, Westerners recall past events in a more positive light. Moreover, Diener and Diener (1995, pp. 660–661) identified self-esteem as an influential factor on SWB, with this aspect being stronger in individualistic countries.

Health. Beside the aforementioned influential factors, hedonic psychologists have also examined the relationship between health and SWB, which turned out to be quite complex. In the first place, health has a direct influence on SWB (Røysamb, Tambs, Reichborn-Kjennerud, Neale and Harris, 2003, pp. 1142–1144) and vice versa: SWB has direct and indirect effects on health as well. Second, using the hedonic measure *Index of Psychological Well-Being* by Berkman (1971, p. 110), it could be demonstrated, that physical health affects mental health. Aside from that, a paradox arose, as individuals with an objectively poor physical condition indicate high levels of SWB, whereas people in good health report low SWB (Delle Fave et al., 2011, p. 7). Since this paradox cannot be fully explained with the help of hedonistic measures, it is further assessed by the means of eudaimonic concepts (Ryan & Deci, 2001, pp. 146–147).

Other Influential Factors. Another factor that influences SWB is the *cognition* of people. It has been proven that persons who have a positive mindset experience positive events more frequently and, moreover, tend to interpret even neutral events as good (Diener et al., 1997, p. 29; Lyubomirsky & Ross, 1999, pp. 1003–1004; Lyubomirsky & Tucker, 1998, pp. 179–181). In addition, setting personal *goals* for oneself has been found to have positive effects on SWB as well. Especially goal commitment and attainability, and the perceived progress in goal achievement, play an important role here (Brunstein, 1993, pp. 1067–1068). By contrast, studies investigating whether *social comparison* with geographically proximate others has an influence on SWB did not find evidence to support this assumption (Diener et al., 1997, p. 35).

Of course, there are several other more or less influential factors of SWB which have been assessed in the past. However, this brief outline was intended to give an impression on the ones which may first spring to mind. Furthermore, it should become clear that well-being in the field of hedonic psychology led to remarkable insights and can be considered as a good starting point for diverse theories and further investigation.

Eudaimonic Models and Definitions. As previously implied, eudaimonic psychology pays far more attention to health in general and positive psychological functioning in particular (Ryff, 1989, p. 1069; Waterman, 1993, p. 678). Although mental health has already tried to be captured by hedonic approaches by means of investigating negative and positive emotions, for example the Index of Psychological Well-Being by Berkman (1971), eudaimonic psychology digs much deeper.

Six Criteria for Mental Health. One of the first conceptual definitions of mental health was published by Marie Jahoda (1958), an Austrian social psychologist. Most importantly, she pointed out that the criterion – amongst other existing criteria – of absence of mental disorder or distress is an insufficient indication for the presence of positive mental well-being (Jahoda, 1958, pp. 10–15; Peterson & Seligman, 2004, p. 65). Therefore, she created her own version of positive functioning, based on scientific and clinical data. This concept comprises the following six criteria for mental health: (1) *attitudes of an individual toward his or her own self*, (2) *growth, development or self-actualization*, (3) *integration*, (4) *autonomy*, (5) *perception of reality* and (6) *environmental mastery* (Jahoda, 1958, p. 23). These dimensions are intended to help examine mental health (Wright, 1971, p. 280), although the criteria are hard to assess or observe (Peterson & Seligman, 2004, p. 66).

Psychological Well-Being and the Psychological Well-Being Scale. Therefore, over the following years, these criteria were adopted and developed further by many researchers, which resulted in diverse theories and conceptualizations. One of these is the framework of psychological well-being (PWB) of Ryff and Keyes (1995), consisting of six dimensions as well, namely: (1) *autonomy*, (2) *environmental mastery*, (3) *personal growth*, (4) *positive relationships*, (5) *purpose in life* and (6) *self-acceptance*.

Based on this framework, self-report scales for the measurement of PWB within each of these six dimensions were created, refined and validated in recent years (Ryff, 1989, p. 1072; Ryff, 1995, pp. 100–102; Ryff & Essex, 1991, pp. 150–152; Ryff & Keyes, 1995, pp. 720–721; Ryff, Lee, Essex, & Schmutte, 1994, p. 197) Currently, there are three different versions of the *Psychological Well-Being Scale*, containing three to twelve items per scale (Positive Psychology Center, n.d.). To complete one of these questionnaires (see Appendix 3), individuals must indicate, how much they agree with each statement item (Ryff & Keyes, 1995, p. 720). The PWB can then be evaluated by looking at the scores on each dimension scale; the higher the score, the greater the PWB in the respective domain (Positive Psychology Center, n.d.). By scrutinising these dimensions and the criteria of Jahoda (1958), it becomes obvious that eudaimonic approaches – aside from focusing on mental health – emphasize the importance

of purpose, meaning and personal growth in contrast to hedonic theories which stress the maximization of pleasure and enjoyment. In general, unlike hedonistic researchers, who predominantly pay attention to SWB, eudaimonistic psychologists developed a variety of theories and constructs (Delle Fave et al., 2011, p. 8).

Sense of Coherence and the Orientation to Life Scale. For example, Antonovsky followed a completely distinct method compared to the above-mentioned, by capturing the similarities of the dimensions which apparently promote happiness. According to him, PWB depends on a *sense of coherence* – a feeling that the stimuli of the environment and therefore life itself are seen as *comprehensible, manageable* and *meaningful* (Antonovsky, 1993, p. 725). To measure these three aspects and thus the perceived sense of coherence in one's life, he also created a scale, the *Orientation to Life Scale* (see Appendix 4). The original scale comprises 29 questions, with response alternatives from 1 (never have this feeling) to 7 (always have this feeling). Many different versions of this scale, translated into a variety of languages, have emerged (Eriksson & Mittelmark, 2016, pp. 97–100). Although pursuing a different strategy, this approach also highlights the relevance of not only meaning in life, but also mental health, as special attention is paid to the possible feeling of overpowering by the environment.

The Values in Action Inventory of Strengths. Another completely different approach was followed by Peterson and Seligman (2004), who took up the notion of Aristotle and thus emphasized the enhancement of virtues and personal strengths. By researching the seven main philosophical and spiritual traditions, Peterson and Seligman (2004, p. 34) tried to identify 'strengths and virtues valued in all contemporary cultures around the world' (Peterson & Seligman, 2004, p. 33). Based on their findings, they named the following six virtues or values as universal ones: (1) *wisdom*, (2) *courage*, (3) *humanity*, (4) *justice*, (5) *temperance*, and (6) *transcendence* (Peterson & Seligman, 2004, pp. 93–621). They furthermore classified 24 character strengths by using these six virtues as root categories (Peterson & Seligman, 2004, pp. 53–89). Subsequently, they designed a self-report survey, the *Values in Action Inventory of Strengths* which is a tool to assess character traits (see Appendix 5). Participants in the survey have to reflect on a five-point continuum how much they identify themselves with the ten items of each of the 24 strengths (Peterson & Seligman, 2004, p. 628). Because of the correlation between character strengths and happiness (Goodman, et al., 2017, pp. 7–8; Wagner, Gander, Proyer, & Ruch, 2019, pp. 17–19), this questionnaire has direct practical implications in terms of personal coaching and training (Peterson and Seligman, 2004, p. 642).

Self-Determination Theory and the Basic Psychological Need Satisfaction and Frustration Scale. Ryan and Deci (2000) also developed an approach that centres around

personality development and self-motivation. More precisely, their *self-determination theory* focuses on favourable conditions and necessary psychological needs which have to be fulfilled for psychological growth, integrity, as well as social development and individual well-being (Ryan & Deci, 2000, p. 68). In fact, they have identified three such needs: (1) *competence* (Harter, 1978, pp. 56–59), (2) *relatedness* (Baumeister & Leary, 1995, pp. 520–521) and (3) *autonomy* (Ryan & Powelson, 1991, p. 52). The satisfaction of these needs is considered a natural aim of human life or a minimum requirement for psychological health, and thus a determinant of several purposes of a person's life (Ryan & Deci, 2000, pp. 75–76; Ryan & Deci, 2001, p. 147).

Based on this widely recognised theory, many scales to measure these three dimensions of psychological functioning have been developed. One of them, validated by many samples in diverse countries and translated into various languages, is the *Basic Psychological Need Satisfaction and Frustration Scale* by Chen et al. (2014) (see Nishimura & Suzuki, 2016, pp. 327–328; Rodrigues, Hair, Neiva, Teixeira, Cid, & Monteiro, 2019, p. 967; Heissel, Pietrek, Flunger, Fydrich, Rapp, Heinzel, & Vansteenkiste, 2018, p. 129). This scale (see Appendix 6) consists of 12 need satisfaction and 12 need frustration items, which participants must rate on a five-point Likert scale, ranging from 1 (completely disagree) to 5 (completely agree) (Nishimura & Suzuki, 2016, p. 323). By using this scale, not only judgments about PWB but also about psychological ill-being can be made (Chen et al., 2014, p. 231).

In summary, all the eudaimonic models emphasize that living according to the principles of human actualization leads to the promotion of psychological health. In addition, physical health is also enhanced by following the eudaimonic pursuit of happiness (Ryff & Singer, 1998, pp. 20–22). Since this aspect was completely disregarded by hedonic psychologists, eudaimonic psychologists, just like eudaimonic philosophers, have criticize hedonic theories of well-being for focusing only on maximizing pleasure and not providing a beneficial guide for the pursuit of a healthy life.

Factors Influencing Psychological Functioning. The presented as well as other models which try to capture psychological functioning have been used to derive the factors influencing eudaimonic happiness. Although some of the identified factors correspond to the ones influencing SWB, distinctions could be detected as well.

Personality. Of course, the Values in Action Inventory of Strengths by Peterson and Seligman (2004) was used to examine the relationship between character strengths and well-being. A study by Brdar and Kashdan (2009, p. 153) has demonstrated that the traits zest, hope,

curiosity and humour had the greatest influence on psychological needs, while judgment, modesty, fairness and prudence had the least effect. One of these needs, relatedness, played a major role in the findings of Ryan and Deci (2000). As mentioned previously, they examined environmental factors which foster positive psychological functioning by fulfilling basic psychological needs. They detected that warm and trusting relationships are crucial for basic need fulfilment and thus for activating natural growth processes (Ryan & Deci, 2000, pp. 75–76). Since positive relationships are not only crucial for positive psychological functioning but also for SWB, as stated above, their importance for general happiness seems undeniable. Moreover, the character traits extraversion, conscientiousness, and low neuroticism were found to influence the eudaimonic dimensions of self-acceptance, mastery and life purpose of Ryff and Keyes' PWB construct (1995). Furthermore, agreeableness and extraversion were linked to positive relationships, low neuroticism to autonomy and openness to experiences affecting personal growth (Schmutte & Ryff, 1997, pp. 553–555).

Demographic Factors. Even though age is not important for the attainment of SWB, it can determine the effects on PWB. Ryff and Keyes (1995, pp. 724–725) found that age has two distinct impacts on PWB. On the one hand, autonomy and environmental mastery increase over the course of a person's life, while on the other hand, purpose and personal growth decline from young adulthood to old age. On the basis of these insigths, Keyes and Ryff (1999, pp. 170–172) found that middle age represents the peak of PWB. In contrast, according to the sense of coherence theory of Antonovsky (1993), psychological functioning increases over the entire life cycle (Eriksson & Mittelmark, 2016, p. 102), or at least until the age of 80 (Nilsson, Leppert, Simonsson, & Starrin, 2009, p. 351). Moreover, the effect of gender on psychological functioning has also led to contradictory findings. While women report higher scores on positive relations and personal growth compared to men when using the Psychological Well-Being Scale (Keyes & Ryff, 1999, p. 173; Ryff & Keyes, 1995, p. 724), the results when using the Orientation to Life scale suggest the opposite, namely that males have a higher PWB compared to females (Nilsson et al., 2009, p. 351). This means that not only the influence of gender but also the impact of age on PWB remain unclear.

Wealth. Similar to the non-existent effect of high incomes on SWB in rich nations, wealth does not make one's life happier in terms of psychological functioning (Kasser & Ryan, pp. 285–286; Nilsson et al., 2009, p. 351). Ryan, Chirkov, Little, Sheldon, Timoshina, and Deci (1999, p. 1520) even found evidence for a rather contrary relationship: The more individuals engage in the pursuit of financial aspirations, the lower they report on well-being. This finding holds true for both developed countries such as the United States, as well as for less-developed

countries such as Russia. An explanation for this might be that individuals focusing on materialistic goals are distracted from aiming for personal growth which would bring them more need fulfilment and thus happiness (Delle Fave et al., 2011, p. 10).

Culture. Culture is a factor that has a relatively complex impact on psychological functioning and its dimensions. Although basic psychological needs are considered universal (Chen et al., 2014, p. 231), the ways of fulfilling them are not (Ryan & Deci, 2000, p. 75). While for example in East Asian cultures the satisfaction of the need for autonomy is achieved by behaving in a way that is consistent with the values of the perceived peer group, the same need of Americans is met by making one's own decisions consistent with one's own culture's values (Delle Fave et al., 2011, p. 10). Even though in both cultures autonomy is an important value and need, the modes of expression may vary. Therefore, the favourable environments for satisfying the dimensions of psychological functioning differ from culture to culture (Iyengar & Lepper, 1999, pp. 362–364). The reason for this lies in the diverse cultural subvalues and practices that result either in individualistic societies that are mainly predominant in the West, or in collectivistic societies that are primarily present in the Eastern parts of the world. Because of these distinctions, some cultures seem to reach some dimensions of PWB quite easily, while others are harder to attain. For example, collectivistic cultures score highest on positive relations while scoring lowest on self-acceptance, whereas individualistic cultures report the highest scores in terms of personal growth (Keyes & Ryff, 1999, p. 173).

Other Influential Factors. Another determinant which was also assessed by diverse eudaimonic models is *health.* Results from the Orientation to Life Scale led to the finding that better health does not result in improved psychological functioning (Eriksson & Mittelmark, 2016, p. 102). It is rather the other way around, as high levels of PWB promote enhanced mental and physical health, as mentioned above (Eriksson & Lindström, 2006, p. 379; Ryff & Singer, 1998, pp. 20–22). The factor of *social comparison* does affect psychological functioning, in contrast to the non-existent effects on SWB. Especially if the socioeconomic status seems to be better, social comparisons promote PWB (Ryff, Magee, Kling, & Wing, 1999, p. 274). This positive influence on PWB can also be reached by maintaining a *goal-oriented* mindset (Kaplan & Maehr, 1999, p. 350).

Taken together, in the field of eudaimonic psychology ambiguity of theories and models is apparently predominant, which partly even leads to contradictory findings. However, components such as growth, self-actualization, meaning, fulfilment and mental health have been accepted and adopted by most eudaimonic psychologists in order to comprehend and

measure eudaimonistic happiness (Delle Fave et al., 2011, pp. 8–11; Henderson & Knight, 2012, pp. 198–199).

Models Comprising Hedonic and Eudaimonic Elements. Although the hedonic and eudaimonic approaches have been treated as mutually exclusive concepts for a long time, researchers have found that they are highly correlated, yet distinct concepts (Delle Fave et al., 2011, p. 11; Henderson & Knight, 2012, pp. 203–204). Considering this and the variety of advantages both theories exhibit, a combination or mutual integration seems expedient in order to improve the understanding and implications of happiness more comprehensively (Henderson & Knight, 2012, pp. 199–202). The term 'flourishing' was established to describe a state when both hedonic and eudaimonic elements are activated simultaneously. Hence, flourishing describes a condition in which high degrees of SWB and positive psychological functioning coincide (Huppert & So, 2011, p. 838; Ryff & Singer, 1998, p. 3).

The Complete Mental Health Model. One construct that sharpened the concept of flourishing and thus integrates hedonia and eudaimonia, is Keyes' *Complete Mental Health Model*. The central idea behind it is that mental health is considered a syndrome of well-being, comprising symptoms such as positive feelings and positive functioning. Moreover, Keyes defined *flourishing* as the presence of mental health and *languishing* as the absence of it (Keyes, 2002, p. 208). Therefore, the so-called mental health continuum ranges from flourishing to languishing (Keyes & Annas, 2009, p. 199). Analogous to Jahoda (1958, pp. 10–15), Keyes thus emphasized that the absence of mental disease does not equal the presence of mental health (Keyes, 2007, p. 210). For the measurement of mental health, Keyes combined different self-administered measures of hedonic/emotional well-being, PWB and social well-being (Delle Fave et al., 2011, p. 12; Keyes, 2002, 211–212). Based on this investigation, he found that the risk of developing a mental disease is about six times greater for languishing persons compared to flourishing ones (Keyes, 2007, p. 213). In addition, by analysing individuals who reported moderate mental health, that constitutes either moderate levels of both eudaimonic and hedonic well-being or combinations of each (high eudaimonic and low hedonic well-being or low eudaimonic and high hedonic well-being), another interesting finding emerged. Apart from confirming that hedonic and eudaimonic constructs of happiness are not redundant, it was demonstrated that individuals with moderate mental health and high hedonic well-being have higher rates of mental illness than individuals who are flourishing, which means exhibiting moderate mental health and high eudaimonic well-being (Keyes & Annas, 2009, pp. 199–200).

The Flourishing Scale. Likewise, Diener, who defined the concept of SWB and developed the Satisfaction with Life Scale, included eudaimonic elements in his studies. This resulted, inter alia, in a measure named the *Flourishing Scale* (see Appendix 7), created to measure 'social-psychological prosperity, to complement existing measures of subjective well-being' (Diener, Wirtz, Tov, Kim-Prieto, Choi, Oishi, & Biswas-Diener, 2009, p. 144). More specifically, it contains the following eight items: (1) *purpose and meaning*, (2) *positive relationships*, (3) *engagement*, (4) *contribution towards the well-being of others*, (5) *competence*, (6) *self-esteem*, (7) *optimism* and (8) *respect from others* (Huppert & So, 2011, p. 839). Each item has to be answered on a seven-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Based on the sum of responses to all items, a participant's flourishing across various domains can be evaluated (Diener et al., 2009, p. 146).

The PERMA Model. Another psychologist who shaped the understanding of flourishing is Martin Seligman, who worked intensively on concepts of happiness and had already established some of his theories and models. One of them, the *PERMA Model* (Seligman, 2011), is one of the main research objects of this master's thesis and will therefore be presented in more detail below.

This far from complete outline of the history of happiness research and its resulting approaches and models already makes apparent that there is a very wide range of diverse definitions and measures of well-being. Aside from their differences, the presented constructs revel one important similarity – the characteristic of multi-dimensionality. This questions the long-standing hypothesis that a single-item scale can measure happiness (Huppert & So, 2011, p. 839). One typical example of such a scale is the European Social Survey, which includes the following item: 'Taking all things together, how happy would you say you are?' (European Social Survey, 2018, card 19), ranging from 0 (extremely unhappy) to 10 (extremely happy). Although the brevity and simplicity of scales akin to this are tempting, a great deal of potentially worthwhile information cannot be captured (Huppert & So, 2011, pp. 839–840). However, not only the dimensionality is a criterion on which the measures of happiness may differ: Another distinction can be made by assessing whether the construct aims at measuring well-being on a global basis or on the basis of single life domains. In any case, when choosing a measure for a certain project, it is essential to weigh the advantages and disadvantages of eligible scales based on the purpose of the project and its area of application.

Influential Factors for Flourishing / Happiness. Like the concepts of eudaimonic and hedonic well-being led to certain insights about what drives the respective kind of happiness, the measures capturing flourishing also proposed certain findings. Aside from this, the following illustrates some aspects which have been neglected thus far, as eudaimonic and hedonic perceptions are often closely intertwined and cannot be distinguished sometimes.

Personality. Unlike SWB, not neuroticism but extraversion is the character trait that influences happiness the most (DeNeve & Cooper, 1998, p. 220, Hayes & Joseph, 2003, p. 726). This may partly be explained by the higher number of relationships extroverts build (DeNeve & Cooper, 1998, pp. 220–221, Myers & Diener, 1995, pp. 14–17). Although social relationships cannot guarantee high levels of happiness, they are found to be a necessary condition (Diener & Seligman, 2002, p. 83). This is not surprising, as positive relationships have been found to be important for both SWB as well as psychological functioning. Furthermore, like hedonic and eudaimonic happiness, also flourishing is affected by the character trait neuroticism (DeNeve & Cooper, 1998, p. 220).

Demographic Factors. As demonstrated previously, making statements about gender-specific differences with regard to happiness is a difficult task, because results are dependent on the respective measures used. However, it has been proven that women are more likely to suffer from depressive symptoms or major depression than men, and as depression is reflected on the opposite site of happiness on the mental health continuum, one can draw the conclusion that women are, generally speaking, less happy than men. Investigations have demonstrated that – to a large extent – this results from gender inequality. This effect even strengthens with age, as the experienced inequality accumulates over females' lifetimes (European Social Survey, n.d., pp. 14–15). In terms of age, studies have demonstrated a U-shaped relationship between age and happiness: younger and older individuals tend to report higher levels of happiness than middle-aged individuals. This might occur because the peak of mental distress is reached between the late 30s and the early 50s in an individual's life (Blanchflower & Oswald, 2008, p. 1746).

Wealth. According to the European Social Survey (n.d., p. 9), household income has a positive relationship with all dimensions of well-being. However, there are other interesting findings on happiness related to wealth as well. For instance, unemployment is an antecedent to the presence of mental health problems and lower life satisfaction (Evans & Repper, 2000, pp. 16–17; Winkelmann & Winkelmann, 1998, p. 15). Admittedly, work can serve other positive purposes beyond financial income, such as providing one with an identity, a network of supportive relationships, recognition for achievements and efforts, and even a sense of

purpose (Evans & Repper, 2000, pp. 15–16; Myers & Diener, 1995, p. 15). Another factor that is associated with the relationship between happiness and wealth is income inequality. This factor causes a higher prevalence not only of mental disease but also of lower levels of well-being (Alesina, Di Tella, MacCulloch, p. 2035; Lucas, Clark, Georgellis, & Diener, 2004, pp. 11–12; Pickett, James, & Wilkinson, 2006, pp. 646–646).

Culture. Certainly, this relationship can also be linked to cultural aspects, because the most unequal countries seem to have the highest materialistic aspirations and individualistic values, which in turn are linked to lower levels of some dimensions of well-being (Domagalski & Kasser, 2004, pp. 135–137). Apart from this, happiness can also be influenced by the performance of the political regime. In democratic nations, research has demonstrated that the better the performance of the democracy, the higher the level of individuals' well-being. Furthermore, also the perceived legitimacy of the political regime is positively correlated with happiness (European Social Survey, n.d., pp. 18–19).

Health. One of the most important correlates to well-being is health. High levels of happiness can even be considered as a predictor of better health outcomes (Dolan, Peasgood, & White, 2008, pp. 100–101). Interestingly, this relationship is also valid the other way around, because healthier individuals are also happier (Graham, 2008, p. 79). This relation is stronger for psychological health than for physical health (Dolan & et al., 2008, pp. 100–101). One reason for that might be that individuals tend to adapt more easily to new physical standards. More precisely, people suffering from serious illnesses or disability adapt better to their health status compared to individuals suffering from mental diseases such as depression (Graham, 2008, p. 79–80).

Other Influential Factors. Although *social comparison* does not affect SWB, it does affect psychological functioning and happiness in general. This conclusion is derived from different findings. For example, Clark (2003, pp. 338–343) found that the individual impact of unemployment is less severe in areas with high unemployment rates. Furthermore, according to the European Social Survey (n.d., p. 17), migrants are often disappointed after migrating to their adopted country because – despite objective improvements of life circumstances – they feel worse off compared to others. Also, *goal* setting influences the happiness of individuals, as the achievement of set goals fulfils one's needs and values as well (Locke, 2001, p. 304).

Lastly, it is worth mentioning that the European Social Survey (n.d., pp. 8–9) distinguished between different dimensions of happiness and found that most of the time when people report high levels on one dimension of well-being, they do so on the other dimensions as well. However, some exceptions can be detected, from which the importance of the

distinction between different kinds of happiness can be derived. The level of detail is often decisive in terms of the practical implications. For instance, the more detailed an analysis of the happiness of the population is, the better policymakers can take specific measures to improve it.

5.2 Main Measures of this Research Study

5.2.1 The PERMA-Profiler

The PERMA Profiler is an instrument to measure the dimensions of Martin E. P. Seligman's PERMA Model (Butler & Kern, 2016, p. 4), which was first introduced as the centrepiece of his new theory of well-being (Seligman, 2011, p. 16).

Origins and Development of the PERMA Model. This theory arose from the relatively new direction of psychology, namely 'positive psychology', which in turn can be traced back to humanistic psychology (Froh, 2004, p. 18). In contrast to the formerly predominant deficit-oriented approach focusing on mental diseases, humanistic psychologists focus on the human tendency to strive for personal growth and on subjects such as 'love, creativity, growth, self-actualization, peak experience, courage and related topics' (Misiak & Sexton, 1966, p. 454). Reflecting this notion, Abraham Maslow was the first to use the term 'positive psychology', to call for more attention on the positive aspects of humankind – its potentials, virtues and aspirations (Maslow, 1954, p. 354). However, it was Seligman, in the late 1990s, who made this term widely known by introducing it to the American Psychological Association in his position as president of this institution (Froh, 2004, p. 18). He and Csikszentmihalyi (2000) defined the field of positive psychology on three levels: 'at the subjective level [it] is about valued subjective experiences […]. At the individual level, it is about positive individual traits […]. At the group level, it is about the civic virtues and the institutions that move individuals toward better citizenship' (Seligman & Csikszentmihalyi, 2000, p. 5).

Two years after this joint publication with Csikszentmihalyi, Seligman declared positive psychology as a discipline that deals with what people choose for its own sake, as opposed to what they choose for getting a certain kind of feeling (Seligman, 2002, p. 137). According to him, happiness consists of three both eudaimonic and hedonic elements which are chosen for their own sake, namely *positive emotion*, *engagement* and *meaning*. In his theory outlined in *Authentic Happiness,* he states that happiness can be measured in terms of life satisfaction and

that the goal of human beings should be to increase this satisfaction. Over the following years, he extended this model and refined his theory.

In his more recent *Well-Being Theory,* he dismisses the term 'happiness' as a superficial expression that, above all, reflects positive emotions, and instead makes well-being his centre of attention (Seligman, 2011, pp. 11–14). He claims that, contrary to happiness, well-being is not a thing but a construct which 'has several measurable elements, each a real thing, each contributing to well-being but none defining well-being' (Seligman, 2011, p. 15). Moreover, he replaces the goal of increasing life satisfaction by the aspiration of increasing flourishing which in turn can be achieved by the enhancement of the elements of well-being (Seligman, 2011, p. 12).

The Elements of the PERMA Model. Each of these elements is characterized by the ability to fulfil three specific criteria: First, the element 'contributes to well-being. [Second,] many people pursue it for its own sake, not merely to get any of the other elements. [Lastly,] it is defined and measured independently of the other elements' (Seligman, 2011, p. 16). Well-being consists of five such elements. Aside from the three elements that were already part of the theory of authentic happiness, well-being includes the elements *accomplishment* and *positive relationships* (Seligman, 2011, p. 16). Taken together, these elements build a model called the PERMA Model. The acronym 'PERMA' stands for the single elements and can thus serve as a mnemonic.

Positive Emotions. As already comprehensively illustrated in the section about hedonic approaches, positive emotions are crucial for the promotion of several favourable life outcomes such as sociability, altruism, liking of self and others, health, conflict resolution skills and original thinking (Lyubomirsky et al., 2005, p. 840; Howell, Kern, Lyubomirsky, 2007, pp. 119–120). Although positive emotions were – as a result of major impacts on life – the central element of the authentic happiness theory, within the PERMA Model they represent only one of five factors contributing to well-being. It is important to emphasize (again) that the state of positive emotions can only be evaluated on a subjective level and is perceived in the present (Seligman, 2011, pp. 16–17).

Engagement. Like positive emotions, the element engagement can only be assessed subjectively. However, the state of engagement, which is characterized by losing a sense of time, can only be reported in retrospect (Csikszentmihalyi, 2014, pp. 215–216; Seligman, 2011, p. 17). In the field of positive psychology, this state refers especially to the term 'flow', a 'state in which people are so involved in an activity that nothing else seems to matter; the experience

itself is so enjoyable that people will do it even at great cost, for the sheer sake of doing it' (Csikszentmihalyi, 1990, p. 4). Episodes of such flow lead to more individual uniqueness, rarer skills and a more integrated self and thus promote well-being (Csikszentmihalyi, 1990, pp. 41–42).

Meaning. The element meaning describes a feeling of having direction and purpose in life, of connecting with something larger than oneself and of perceiving one's own life as valuable and important. This is clearly an eudaimonic element, which promotes well-being by enhancing psychological functioning (Steger, 2012, pp. 167–174). In order to experience meaning, often connections to the environment or relationships are necessary. As a result, meaning – contrary to the previous elements – does not only have a subjective component but also an objective one: While an individual might evaluate his or her own life as meaningful, others might perceive it as meaningless and vice versa (Seligman, 2011, p. 17).

Accomplishment. The same is true for the fourth element of PERMA. While accomplishments can be observed, acknowledged and rewarded from the outside and hence be aspired to, pursuing accomplishments for their own sake on a subjective level is possible as well (Seligman, 2011, pp. 18–20). In the latter case, accomplishment centres around goal setting and achievement, mastery, and competence (Butler & Kern, 2016, pp. 3–4). The importance of pursuing these domains in order to realize personal growth and individual well-being is also supported by self-determination theory, which identifies competence as a core basic human need (Ryan & Deci, 2000, p. 68).

Positive Relationships. The last element of PERMA, positive relationships, is fundamental to human life and for the attainment and maintenance of well-being (Berscheid & Reis, 1998, pp. 243–248). Although every PERMA element is defined as being independent of the other elements, most situations which are characterized by positive emotions, meaning, and accomplishment take place around other people. As such, the high correlation between the elements becomes obvious at a content level. Seligman furthermore considered other people to be 'the best antidote to the downs of life and the single most reliable up' (Seligman, 2011, p. 20). Especially through performing actions of kindness, a momentary increase in well-being can be experienced (Seligman, 2011, p. 20).

Characteristics of the PERMA-Profiler. For the purpose of measuring the single items and thereby overall well-being, the PERMA-Profiler was developed and validated by Butler and Kern (2016). This profiler consists of three items per PERMA element, as well as three items capturing sadness, anger, and anxiety, one item assessing loneliness, three items

measuring self-perceived health and one item assessing overall well-being. Hence, the PERMA-Profiler contains 23 items in total (see Appendix 8). There are two reasons for including the negative emotions and loneliness items (Butler & Kern, 2016, p. 16). First, they disrupt response tendencies and thereby prevent response biases because the 15 items of the PERMA elements are all positively worded (Marsh, 1996, p. 810). Second, these items capture extra information that might be useful for assessing the well-being of participants. Furthermore, by including both negative and positive elements, the PERMA-Profiler points out the importance of considering the full mental health spectrum (Butler & Kern, 2016, p. 16). In particular the single loneliness item is a predictor for many severe negative life outcomes, such as a worse physical condition, poorer sleep quality and diminished capacity for self-regulation (Hawkley & Caccioppo, 2010, pp. 219–221). The three items of self-perceived health were incorporated as physical health can be seen as a core component of flourishing and is also moderately to strongly correlated with each of the PERMA factors (Norrish, 2015, p. 33). The last item, which measures overall well-being, serves not only as juncture to other happiness measures, but also allows for a subsequent overall assessment after reflecting on certain single domains (Butler & Kern, 2016, p. 18).

5.2.2 The Patient Health Questionnaire

In contrast to the previously presented constructs, the PHQ does not try to capture mental health or positive psychological functioning but rather mental diseases. This measure was selected to be included in this thesis and the main survey because happiness or PWB is closely intertwined with mental health (Bieda et al., 2019, p. 206; World Health Organization: WHO, 2019). Particularly, happiness can even be considered as a predictive factor for positive mental health (Perneger, Hudelson, & Bovier, 2004, pp. 175–177). This is the reason why a measure for happiness and simultaneously a guidance on how to achieve or increase well-being is exceedingly important. When looking at different figures on mental illness, this importance becomes obvious, as mental health issues affect more than one in ten persons, more precisely 13% of the world's population (Statista, 2019b). As mentioned previously, these diseases do not only affect individuals themselves but also the society and the economy as a whole. More specifically, mental disorders, including drug use disorders, amount to 10% of the global burden of disease (World Health Organization: WHO, 2019). In order to improve this figure and treat mental disorders successfully, identifying them and making an accurate diagnosis comprise the first step.

Development and Purpose of the Patient Health Questionnaire. The PHQ is an instrument which was developed solely for this diagnostic purpose by Spitzer et al. (1994) and stems from the established screening procedure for psychological disorders, namely the *Primary Care Evaluation of Mental Disorders* (PRIME-MD) (Gräfe et al., 2004, p. 172). The reason for developing this tool was that many of mental disorders occurring in primary care patients had been missed in the past (Tamburrino, Lynch, Nagel, & Smith, 2009, p. 339). According to Toft, Fink, Oernobel, Christensen, Frostholm, and Olesen (2005, p. 1178), even half of the total number of adult patients consulting physicians regarding a new disease meet the criteria for one or more mental disorders, which may cause subjective suffering and somatic symptoms (Sharpe, Peveler, & Mayou, 1992, pp. 515–516) and therefore may impact disability, recovery and productivity (Broadhead, Blazer, George, & Tse, 1990, p. 2527).

Consisting of a two-stage process – a self-reported questionnaire followed by a semi-structured interview form – the PRIME-MD evaluates four groups of mental disorders most usually occurring in the general American population and primary care settings, namely mood, anxiety, somatoform and alcohol disorders (Schurman, Kramer, & Mitchell, 1985, pp. 91–93); the evaluation also tries to identify eating disorders as they appear increasingly within the population (Spitzer et al., 1994; Statista, 2019c; Statista, 2019d). However, the usefulness of the PRIME-MD in clinical settings is limited, as visits are rather short compared to the average administration times, resulting from processing the second stage of the procedure (Spitzer, Kroenke, Williams, & the Patient Health Questionnaire Primary Care Study Group, 1999, p. 1741; Statista, 2020).

Therefore, Spitzer et al. (1999) modified the PRIME-MD in a way that transformed the two-step process into a complete self-reported questionnaire, which reduced the time for an evaluation by the physician by about 75% (Gräfe et al., 2004, p. 172). Due to this timewise advantage, its favourable response format, its simple evaluation, its good diagnostic properties and its international availability and applicability (Gilbody, Richards, Brealey, & Hewitt, 2007, pp. 1600–1601; Kroenke et al., 2002, p. 264; Spitzer, Williams, Kroenke, Hornyak, & McMurray, 2000, pp. 763–768), the modified questionnaire, the PHQ, has been recognized as one of the best simple confirmatory tests for diverse disorders (Löwe et al., 2008, pp. 270–273; Williams, Hitchcock Noël, Cordes, Ramirez, & Pignone, 2002, p. 1165).

The PHQ is based on the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV) of the American Psychiatric Association. It captures a total of eight diagnoses, divided into two groups: threshold disorders and subthreshold disorders. Threshold disorders correspond to specific diagnoses in the DSM-IV, while subthreshold disorders'

criteria comprise fewer symptoms than are necessary for a specific diagnosis (Spitzer et al., 1999, p. 1738). The group of threshold disorders includes major depressive disorder, panic disorder and bulimia nervosa; other depressive disorders, other anxiety disorders, somatoform disorders, alcohol abuse syndrome and binge eating disorder belong to the group of subthreshold disorders (Gräfe et al., 2004, p. 173). According to the possible diagnoses, the PHQ consists of individual modules which can be assembled flexibly and comprise a total of 89 items (Löwe, Spitzer, Zipfel, & Herzog, 2002, pp. 4–6). For the purpose of this master's thesis, the focus lies on the three modules for diagnosing depressive disorders (PHQ-9) and generalized anxiety disorders (GAD-7) as well as for capturing perceived stress levels (PHQ-10).

The Depressive Disorder Module. The reason for selecting the depression module to be part of this study is that the presence of depression and happiness are interconnected in a way that indicates mutual exclusiveness (Kishore & Pal, 2003, pp. 40–41; McGreal & Joseph, 1993, p. 1282). In addition, depression is the second most frequent mental illness worldwide and affects 3.4% of the population (Statista, 2019b). The pathology may vary from patient to patient but can comprise, inter alia, the following symptoms: continuous low mood or sadness, loss of interest and enjoyment, feelings of guilt, low self-esteem, disturbed sleep, changes in appetite, lack of energy, poor concentration, and even suicidal thoughts and self-harm. According to the number and severity of occurring symptoms, the disease can be classified as mild, moderate or severe (World Health Organization: WHO, 2020). However, making an accurate diagnosis remains a difficult task, which the PHQ-9 tries to solve (see Appendix 9). The validity and reliability of this questionnaire has been proven in several studies, which makes the PHQ-9 – especially when also taking into account its brevity – a very useful research and clinical instrument (Cameron, Crawford, Lawton, & Reid, 2008, p. 35; Kroenke, Spitzer, & Williams, 2001, pp. 611–612; Spitzer et al., 1999, p. 1743).

The Generalized Anxiety Disorder Module. A common attendant symptom of depressive disorders is an anxiety disorder (Huppert & So, 2011, p. 841). Moreover, as happiness and mental health are immediately linked and anxiety disorders are the most frequent forms of mental illnesses, affecting 3,8% of the world's population (Statista, 2019b), assessing anxiety disorders in this context is important. The GAD-7 tries to identify generalized anxiety disorders, one of the most common types of anxiety disorders appearing in the population, often accompanied by high ratios of co-morbidity with affective and other anxiety disorders (Hunt,

Issakidis, & Andrews, 2002, p. 658; Spitzer, Kroenke, Williams, & Löwe, 2006, p. 1096). The main symptoms of a generalized anxiety disorder are excessive, uncontrollable anxiety and worries about a number of matters, which occur more days than they do not for at least half a year (American Psychiatric Association, 2013, pp. 222–223). As a result of these symptoms, persons having such a disorder might be pessimistic, distracted, incapable of making decisions, restless, fatigued or irritable, and may suffer from muscle tension, sleep disturbance and outbursts of rage (Newman & Erickson, 2010, pp. 235–236). For the purpose of identifying these symptoms and thus a generalized anxiety disorder, the GAD-7 uses criteria in accordance with the DSM-IV (see Appendix 10). The GAD-7's validity and reliability could be confirmed as well, so that it has become a recognised and helpful tool for diagnosing generalized anxiety disorders in the field of research as well as in clinical environments (Spitzer et al., 1999, pp. 1741–1744; Spitzer et al., 2006, pp. 1094–1096).

The Stress Module. Analogous to depressive and anxiety disorders, stress has also an inverse relationship with happiness and therefore can impact one's PWB negatively as well (Schiffrin & Nelson, 2008, p. 37). Although stress is not a mental disorder per se, it clearly favours the development of one (Cohen, Janicki-Deverts, & Miller, 2007, pp. 1686–1687; Heizomi, Allahverdipour, Asghari Jafarabadi, & Safaian, 2015, pp. 57–59). Furthermore, it is considered the fourth leading health problem worldwide, right behind mental health, obesity and cancer, in ascending order (Statista, 2018). Considering these facts, the last measure that is consulted in the course of this thesis and the main survey, is the stress module (see Appendix 11). Per definition, psychological stress occurs when an individual feels overtaxed by environmental demands (Cohen, Kessler, & Underwood Gordon, 1997, p. 121). Whenever these excessive demands are perceived, they are called 'stressors'. Unlike the two previously presented modules, the PHQ-10 does not assess symptoms and thus is not able to diagnose an illness itself, but rather it evaluates the perceived overload and thereby the psychosocial functioning of patients (Gräfe et al., 2004, p. 173). The missing diagnostic function is probably the reason why this module has not been examined so thoroughly and used so frequently in research settings as the other modules of the PHQ (see Kroenke, Spitzer, Williams, & Löwe, 2010, pp. 346–354). Nevertheless, it is accepted as a valid and useful tool in diverse settings (Gräfe et al., 2004, pp. 175–178; Haftgoli, Favrat, Verdon, Vaucher, Bischoff, Burnand, & Herzig, 2010, pp. 3–7; Klapow, Kroenke, Horton, Schmidt, Spitzer, & Williams, 2002, p. 635).

5.2.3 The zentor Purpose Score

In this study, the presented and utilized questionnaires of the PHQ modules as well as the PERMA-Profiler serve the sole purpose of validating a recently created measure, namely the zentor Purpose Score. The ZPS has been developed on the basis of scientifically sound findings by a start-up called zentor GmbH. Founded in 2018, zentor pursues the vision of helping people find happiness in their lives by providing personalized guidance. This business idea evolved from the assumption that individuals tend to unlearn how to be happy as they grow older (Blanchflower & Oswald, 2008, p. 1746). As mentioned before, by looking at the statistical rates of suicides and mental health issues, it becomes clear that this is a problem that affects a significant proportion of society (see Statista, 2018; Statista, 2019b; Statista, 2019c; Statista, 2019f). However, instead of combating unhappiness, zentor GmbH tries to intervene before unhappiness occurs.

For this purpose, zentor provides courses and workshops, bookable for private individuals and companies. On the one hand, these trainings focus on the prevention of mental disorders, while on the other hand, they aim at promoting personal growth (zentor, 2020b). Apart from this, zentor offers a digital mentor which combines knowledge and inspiration with a so-called purpose platform. This platform captures the personality characteristics of entering customers in order to be able to provide personalized advice on how to find a deeper sense of meaning in life. Inspired by these suggestions, individuals might not only engage in projects they are passionate about, but they might also meet people with the same interests along the way to a meaningful life (zentor, 2020a). In principle, by offering this wide range of services, any private person and any company can become one of the start-up's customers. However, one of the focus target groups constitutes individuals who are looking for a new orientation or meaning in life.

In order to be able to effectively support customers in their pursuit of happiness, it is essential to understand the determinants of happiness and to have an opportunity to track changes in happiness levels. To this end, zentor created the ZPS, based on its happiness model, which in turn is based on three main sources of well-being: *purpose, engagement* and *appreciation* (zentor, 2019). According to the viewpoint of zentor's founders, *purpose* describes valuable and important things in life and is experienced when an individual applies his or her best capabilities to anything that is greater and more meaningful than the actual self. The zentor element *engagement* stands for a certain level of enjoyment in being involved in certain activities through which individuals can reach a state of flow and thereby experience a rise in energy. The last dimension, *appreciation*, describes social bonding and connection

between humans and is characterized by mutual valuing. These three elements contribute verifiably to happiness and are thus elements of various other well-being models and definitions.

For Russell (2015, pp. 122–129), for example, happiness was mostly determined by affection, which he understood as experiencing meaningful connections with important others, and zest (Russell, 2015, pp. 110–121), which he defined as having engagement and interest in life. Therefore, besides reflecting the dimensions of appreciation and engagement, this view on happiness also emphasizes the element of purpose, because zest comprises also a contemplative attitude towards life (Ryff & Singer, 2008, p. 22).

Also, in many of the presented models, these three dimensions play a major role. One of these that resembles zentor's model to some extent is the PERMA Model, as it includes – amongst its other dimensions – the elements of engagement, positive relationships and meaning. These factors might correspond to the elements of the zentor happiness model which will be tested below. However, as the other PERMA dimensions and thus also the factor of positive emotions are not explicitly included in the zentor model, the ZPS constitutes a rather eudaimonic approach. Instead, another underlying theory relates to this model: According to zentor's founders, there might be an overlap factor between the three dimensions which result from the assumption that if an individual experiences *engagement, appreciation,* and *purpose* in the same place, for instance by joining a certain activity, it would make him or her happier than experiencing the three elements in different places. This notion as well as the three dimensions are reflected by the items of the ZPS (see Appendix 12).

5.3 Hypotheses and Group Comparisons

As indicated, individuals seeking support or a new direction in life constitute a special target group for zentor. This support might be needed especially by individuals who are in a transitional phase of life, as major life changes are usually accompanied by adaptation processes, which in turn result in psychological distress and thus alterations in personal well-being (Lucas, 2007, p. 77). As such, it is important to mention that transitional phases are not exclusively caused by changes in external circumstances (e.g. marriage, retirement), but they can also be triggered by a shift in individual perception. By recognizing their own aging process, for example, individuals might fall into a midlife crisis (Wethington, E., 2000, p. 68). However, not only negative but also supposed positive events, such as marriage, can cause psychic distress (Mellinger, 1978, p. 1046). According to the adaptation theory of Brickman and Campbell (1971, pp. 287–300), this distress is only of short-term duration, as individuals

react only briefly to good and bad events, but rapidly after they return to their previous happiness level (Diener & Diener, 1996, pp. 181–185). If this holds true, the influence of changes in life circumstances on happiness might be less severe than the effects on individuals' moods. In order to test if transitions in life influence both the happiness as well as the sentiment of individuals to the same extent, the following two hypotheses have been formulated:

H1a: Individuals who indicate to be currently in a transitional phase of life score lower on the overall happiness item than individuals in stable life circumstances.

H1b: Individuals who indicate to be currently in a transitional phase of life score lower on the sentiment items than individuals in stable life circumstances.

As according to adaptation theory, reactions to life-changing events are only temporary, it can be derived, that happiness levels do not change in the long term. This consideration leads again to the ancient question to what extent happiness is even defined by eudaimonic elements such as purpose, engagement and appreciation with their rather long-term nature. On the contrary, happiness might have a stronger relation to near-term hedonic elements like positive affect and mood. Alternatively, happiness might best be captured by a combination of hedonic and eudaimonic elements as proposed by Henderson and Knight (2012, pp. 199–202). These considerations are summarized by the following hypotheses:

H2a: The correlation between the two sentiment items and the overall happiness item is greater than the correlation between the ZPS and the overall happiness item.

H2b: A combination of the sentiment items and the ZPS correlates more closely with the overall happiness item than with the sentiment items or the ZPS alone.

Although not only adaptation theory but also other scientific findings (e.g. on the influence of heritability and personality traits on happiness) suggest that happiness tends to remain at the same level over the course of one's life, or can only be changed to a certain degree, many individuals seem to believe that they can improve their level of happiness with effort (Fisher, 2010, p. 393). According to the previously illustrated diverse models and theories this might be accomplished by putting effort into the improvement of one or more elements that constitute happiness. One – and according to positive psychology the ultimate – effort that can

be undertaken with regard to enhance happiness is seeking meaning and purpose (Seligman, 2002, p.xii). In order to assess this assumption, the third hypothesis reads as follows:

H3: Individuals who indicate to be currently in search of purpose, score higher on the overall happiness item than individuals who are currently not searching for purpose.

Pursuing this thought, another notion that might come to mind is that not only the search for purpose itself might be decisive for attaining happiness, but also the tendency where to look for it. Since individuals work many hours a day for 30 to 40 years of their lives (Statista, 2019a; Statista, 2019e), the workplace is very important to employed people. As previously mentioned, work does not only provide financial security, but can also be beneficial in terms of the search for connection, identity and purpose (Evans & Repper, 2000, pp. 15–16; Myers & Diener, 1995, p. 15). Therefore, it is not surprising that there are people who generally search for purpose at work rather than outside of work. This raises the question as to whether this approach is more promising in terms of attaining happiness than searching for purpose in other domains of life. This consideration is examined by the last hypothesis:

H4: Individuals who indicate searching for purpose at work score higher on the overall happiness item than individuals who indicate searching for purpose outside of work.

How specific professions and other demographic variables influence happiness can be examined by conducting group comparisons. As previously illustrated, there have been different findings on the correlation between demographic factors and the aspects of happiness. While it has not been found that these factors influence SWB, age and gender have been found to be influential for PWB and overall happiness. However, these findings were quite ambiguous and dependent on the scales that were used. In order to shed light on this matter, group comparisons of the study sample will be conducted using the overall happiness item and the ZPS.

6 Method

6.1 Study Design and Participants

As the major aim of this study is the validation of the ZPS as a universal measure of happiness, the participants did not have to meet certain criteria. In general, the study mainly consisted of three parts: An offline, paper-based pre-test (see Appendix 13) and two rounds of data collection, conducted by means of online questionnaires. While the first online questionnaire (see Appendix 14) can be considered the main survey, the second one functioned as a retest (see Appendix 15). This resulted in a combined cross-sectional and longitudinal research design.

6.2 Procedure and Participants

In a first step the current version of the ZPS, which at the time was called General Engagement Score, consisted of ten items and used an 11-point Likert scale, was assessed. After three additional items were added and some modifications of wordings were made, a pre-test was initiated. This pre-test was conducted in the form of a paper-based questionnaire, now containing 13 items and an additional three questions on demographic data. A total of 21 German-speaking individuals participated in this test, of whom 11 were female and ten were male (for more details see Appendix 16). As the aim of the pre-test was to determine whether the participants comprehended the questions without difficulties, the completion of the questionnaire was done under observation. The participants therefore did not only have the opportunity to ask questions in case of uncertainties, but attention could be paid to delayed responses as observable behaviour indicating possible confusion. As the items of the ZPS should be answered spontaneously, there was mostly no direct conversation with most of the participants about the meaning of the items. Admittedly, there was direct questioning of three individuals on how respective items were interpreted, but this led them into a certain way of thinking or even into contemplating too much. However, the comments of participants were noted and, based on these, some further wording modifications were made, the 11-point Likert scale was changed to a seven-point Likert scale and one question on demographic data was added.

During the pre-test phase, research was also conducted on diverse models and measures of happiness and selected measures were checked for their suitability of validating the ZPS. After the PERMA-Profiler and the PHQ were selected, the preparation for the main study started. For this purpose, the ZPS, the PERMA-Profiler, the depression, generalized anxiety

and stress module of the PHQ and some items capturing demographic data were entered in an online survey tool provided by the experience management software Qualtrics. During this step, all items – except for two demographic data items – were set to force responses in order to prevent missing values and thus unusable data.

Following the preparations, the actual survey started. Before completing the survey, participants were informed of the anonymity and confidentiality of their responses and of the purposes of each measure. In order to recruit participants, the link to the online questionnaire was distributed via the newsletter of zentor GmbH, personal social media accounts and the online platform SurveyCircle over a period of two weeks. SurveyCircle is an online platform that facilitates the recruitment of participants for surveys. It works by means of a system of points: By completing the surveys of other users, one can collect points and thus make the completion of one's own questionnaire more appealing to others. To benefit from this system, the link to the survey was placed on the platform and a code was given at the end of the questionnaire to serve as incentive for SurveyCircle users. At the end of the questionnaire, participants were also asked to enter their email addresses to create the opportunity to take part in a retest. To motivate the survey participants to do so and also participate in the retest, a prize draw in which participants could win vouchers for the online retailer amazon acted as stimulus. Besides the SurveyCircle code, this incentive was intended to increase the participation rate in general. Since the validation process of the ZPS envisaged a factor analysis, the goal was to recruit at least 300 participants. This minimum requirement resulted from the very few items per factor the ZPS exhibits (Bühner, 2011, p. 345). After two weeks had passed, this requirement was not only met but exceeded, because the total number of participants amounted to 332, of whom 194 had entered a valid and unique email address. One dataset had to be excluded immediately because a participant had most probably completed the survey twice, which could be detected by the almost exact same answers on each scale and the duplication of the same email address.[1]

Approximately one month after the main survey had started, the retest was created to prove the test-retest reliability of the ZPS. Therefore, the retest contained solely the items of the ZPS. This time the link to the retest was distributed via email over a timespan of two weeks. As at least two weeks had to have passed between the completion of the main survey and participation in the retest, the link could be sent to a total of 188 email accounts, of which only 185 emails could be delivered successfully. After the foreseen period of two weeks, altogether 152 participants took part in the retest.

[1] The dataset with the responseId R_ZIuNxl9UQ9dqPUR was excluded.

The next obvious step was to migrate the survey data to a statistics program, namely IBM SPSS, Version 26. As a result, a more detailed overview of the collected data was possible and specific requirements of the data could be assessed. Some data had to be excluded from the analysis due to lacking credibility: Some participants had answered the items within such a short time that a genuine completion of the questionnaire seems unimaginable. This might be a result of the applied incentives (the amazon vouchers and the SurveyCircle code). In total, 34 datasets were eliminated because the respective participants took less than 296 seconds to complete the whole survey. The limit of 296 seconds was set, as this was exactly how long it took a particular participant who already knew the items of the survey. Consequently, these datasets were eliminated from the analysis, because it seems unlikely that an uninformed participant would be capable of answering the items faster than an informed one. For this reason, 13 corresponding retest datasets also had to be excluded from the analysis. From the remaining 138 retest participants, the winners of the vouchers were drawn as a final step. Details of the descriptive statistics of the retest participants can be found in Appendix 17.

6.3 Measures and Variables

6.3.1 The zentor Purpose Score

Obviously, the first measure of the study was the ZPS. After the pre-test and its resulting modifications were concluded, the ZPS comprised a total of 13 items. However, as two of the items only assessed the momentary sentiment of the participants, they are not part of the main construct, which strives to measure happiness on a more general and long-term basis. Ten of the remaining 11 items measure the main elements of the zentor happiness model, purpose, engagement and appreciation, as well as an overlap factor between these. The last item is a single item that captures overall happiness. All items were assessed using a seven-point bipolar Likert scale, but as every item constitutes a standalone question, each requires an adjusted answer scale. Therefore, the scales are anchored by 1 (low) to 7 (high), 1 (negative) to 7 (positive), 1 (never) to 7 (always), 1 (at work) to 7 (outside of work), 1 (not at all) to 7 (completely), 1 (none) to 7 (all), or 1 (completely unhappy) to 7 (completely happy). The mathematical method for combining the main elements and the overlap factor will be presented in the next chapter, as one of the aims of this study is to identify the best way to do so. Since zentor GmbH operates predominantly in German-speaking areas, the complete study was conducted in German and thus German versions of all measures were used.

6.3.2 The PERMA-Profiler

In order to prove the ZPS's convergent validity, the PERMA-Profiler was selected as the second measure. This seemed reasonable because of the similarities between the ZPS and the PERMA-Profiler. The most important similarity results from the fact that both measures assess various elements, in contrast to other measures that allow only for calculating one overall score, such as for instance the Satisfaction with Life Scale. In addition, the three main elements of the ZPS are similar to the ones of the PERMA-Profiler. In total, the PERMA-Profiler contains 23 items, which capture eight dimensions. Five of these are the basic elements positive emotion, engagement, positive relationships, meaning, and accomplishment. Furthermore, negative emotion, physical health and loneliness are assessed. While the first seven dimensions are measured by means of three items each, loneliness is assessed by a single item. In addition to these items, the Profiler contains a question to grasp overall well-being.

All of the items are answered on an 11-point bipolar Likert scale. However, analogous to the ZPS, each item of the Profiler is a standalone question and thus requires an adjusted answer scale. Therefore, the scale ranges from 0 (never) to 10 (always), from 0 (terrible) to 10 (excellent), or from 0 (not at all) to 10 (completely). In order to evaluate a completed questionnaire, one has to calculate the average of the elements consisting of three items, which in turn can range from 0 to 10. By displaying the computed averages as well as the score for the loneliness item, a PERMA-Profile can be created (Butler & Kern, 2016, p. 16). Furthermore, a PERMA score can be calculated by summarizing the scores for the 15 PERMA items (Wammerl, Jaunig, Mairuntereger, & Streit, 2019, p. 80). In the in-depth and comprehensive studies by Butler and Kern (2016, pp. 10–20), the Profiler exhibited an admissible model fit, internal (Cronbach's α of all subscales between .60 and .92) and cross-time consistency, and evidence for content as well as convergent validity. For this study, the recently published German version of the Profiler by Wammerl et al. (2019, p. 90) was used.

6.3.3 The Patient Health Questionnaire

As the third and last measure of the survey, the PHQ was chosen or, more specifically, the depression, anxiety and stress modules of the PHQ. The reason for selecting the depression and anxiety modules is that both of these disorders have a polar opposite. This means that there is not only a neutral point where the symptoms are absent, but also a positive pole representing feelings such as happiness and hopefulness as the counterpart of depression or calmness and resilience as the opposite of anxiety (Huppert & So, 2011, p. 841). This allows for another approach to prove the validity of the ZPS. In addition, the stress module was included in the

main study as well, because research has indicated, that stress is closely negatively correlated with happiness measures (Schiffrin & Nelson, 2008, p. 37). Therefore, it can also be applied to examine the usefulness of the ZPS.

The Depressive Disorder Module. By means of nine items, namely the criteria of the DSM-IV, the depression module of the PHQ expects patients to indicate how often they suffered from symptoms of depressiveness during the previous two weeks. The frequency of occurring symptoms is reflected on a four-point scale, ranging from 0 (not at all) to 1 (several days) to 2 (more than half the days) to 3 (nearly every day). For a diagnosis of major depression or other depression, the participant has to select at least 2 (more than half the days) for a certain number of symptoms, where one of the symptoms has to be depressed mood or anhedonia; the criteria 'thoughts that you would be better off dead, or of hurting yourself in some way' adds to the number of symptoms if the patient indicates that this symptom occured at least 'several days' during the previous two weeks (Kroenke et al., 2001, p. 607). Furthermore, by summarizing a total score, the severity of a present depression can be categorized. With a Cronbach's α of at least .84, the PHQ-9 exhibits excellent internal reliability. Moreover, Kroenke et al. (2001, pp. 608–611) demonstrated acceptable construct, criterion and external validity.

The Generalized Anxiety Disorder Module. The generalized anxiety disorder module utilizes identical scales and time frames as the depression module and thus the answering process of the GAD-7 takes place in exactly the same way. However, the GAD-7 uses only seven items for diagnosing a generalized anxiety disorder. When summarizing the indicated frequencies of single symptoms to build a total score, the totals of 5, 10 and 15 may be interpreted as the limits for mild, moderate and severe levels of anxiety. (Löwe et al., 2008, p. 267). Just as the PHQ-9, the GAD-7 possesses excellent internal reliability ($\alpha = .89$) as well as validity (Löwe et al., 2008, pp. 268–280).

The Stress Module. The stress module differs from the PHQ-9 and the GAD-7 in many ways. One distinction that can be recognised is that the stress module does not capture symptoms and therefore does not offer a diagnosis, but it assesses the level of exposure to stress. By the means of ten items, participants are asked to indicate how much they have been bothered during the previous four weeks by several different stressors. The level of disturbance is declared on a three-point scale, anchored by 0 (not bothered) and ranging to 1 (bothered a little)

to 2 (bothered a lot). The resulting summarized score gives an impression of the perceived severity of psychosocial stressors (Klapow et al., 2002, p. 636). As part of the PHQ, the usefulness and validity of the PHQ-10 are proven and acknowledged (Spitzer et al., 1999, pp. 1738–1743).

For the evaluation of the completed questionnaires of the individual modules, the values of the single items have to be summarized to calculate a total score. The complete PHQ has been translated into German and thus validated German versions of the three modules were available to be used in this study (Gräfe et al., 2004, pp. 174–178; Löwe et al., 2002).

6.3.4 Sociodemographic Variables

Following the items of the diverse scales, four items to collect certain sociodemographic data were integrated into the survey as well. Participants had to indicate their gender, their age group, their job, their profession and whether they are currently in a transition phase of life. The latter two items did not force responses, in case they were perceived as too invasive by some persons. To indicate gender, the answer options were (1) female, (2) male, and (3) diverse. The age groups were divided into intervals of ten, so the participants had to classify themselves into (1) < 21, (2) 21–30, (3) 31–40 and so on, until the last class of (7) > 70. In this way the privacy of the participants was kind of protected, while the collected data were still usable for the identification of some age-related tendencies. In order to collect data regarding the job position of participants, the response options were presented as (1) managing director / board member, (2) head of department, (3) team leader, (4) professional, (5) self-employed person / freelancer, (6) pensioner, (7) student and, for indicating another position, (8) other, as an open answer. For the last demographic item, transitional phases of life were classified as follows: (1) Career start / occupational change, (2) change of residence, (3) change of family circumstances, (4) general life changes (e.g. midlife crisis), (5) transition to retirement, and again one open answer, (6) other.

6.4 Data Analysis

The complete analysis of the collected data was conducted by means of IBM SPSS Statistics, Version 26, except from the confirmatory factor analyses, for which IBM SPSS AMOS 26, Version 26, was used.

6.4.1 Validation of the zentor Purpose Score

The first part of the analysis revolved around the validation of the ZPS. In a first step, the normality of the ZPS was tested and therefore the means, standard deviations, skewness and kurtosis values were computed. In a normal distribution skewness and kurtosis values are close to zero (Field, 2009, p. 19). Furthermore, boxplots and histograms were created to check for statistical outliers. Next, the prerequisites for factor analyses were tested, which included a Kaiser-Meyer-Olkin (KMO) test and a Bartlett's test. The KMO measure of sampling adequacy tests whether it is possible that a factor analysis could even yield distinct and reliable factors (Field, 2009, p. 647). Values of this measure between .5 and .7 are considered mediocre, values between .7 and .8 are good and values above that are extremely good (Hutcheson & Sofroniou, 1999, pp. 224–225). Bartlett's test of sphericity examines whether a variance-covariance matrix resembles an identity matrix, which would result in items' correlations close to zero. If Bartlett's test is significant, it means that the correlations are significantly different from zero (Field, 2009, p. 648).

Subsequent to these tests, analyses using Spearman's correlation, Pearson's correlation and Cronbach's alpha were performed. For Cronbach's alpha, there are rules of thumb claiming that values below .5 are unacceptable and that the more the values converge to one, the more desirable they are (George & Mallery, 2003, p. 231). However, the number of items contributing to one factor has to be taken into account as well when interpreting Cronbach's alpha values (see Field, 2009, p. 675). By means of the correlation matrices and reliability values, unsuitable items could be identified and excluded.

After the items for the main construct were thus determined, diverse ways to combine the items and factors mathematically were tested in order to find the most appropriate one. More specifically, three diverse models were created and tested. For this purpose, confirmatory factor analyses were used to evaluate the proposed factor structure of the models. Based on this, the maximum likelihood estimation was chosen. To assess the goodness-of-fit of the suggested models, the chi-square ratio (χ^2/degrees of freedom), as well as three other goodness-of-fit measures with their respective cut-off values were used, as suggested by Hu and Bentler (1998, p. 447). The upper limit for chi-square ratio values equates five (Kline, 2005, p. 137); however,

chi-square tests are highly dependent on sample sizes (Bentler & Bonett, 1980, p. 588). For this reason, three other goodness-of-fit indices were applied during this data analysis, namely the standardized root mean-square residual (SRMR) with a fit index below .10 (Kline, 2005, p. 141), the comparative fit index (CFI) with acceptable values close to .95, and the root mean-square error of approximation (RMSEA) with an upper limit of .10 (Browne & Cudeck, 1993, p. 144; Hu & Bentler, 1998, p. 449). For model comparisons, the Akaike information criterion (AIC) and the Bayes information criterion (BIC) were also consulted. Since the models differ in their complexity, it seemed reasonable to choose the criterion with the lowest penalty for complexity, the AIC, and the one with the highest penalty, the BIC (Baltes-Götz, 2010, p. 80). Evaluating these criteria, the lower values represent a better fit and a simpler model (Arbuckle, 2016, p. 645).

However, these indices are not the only decision criteria to determine which model is the most appropriate one. Another criterion was the strength of the correlation between the models and the overall happiness item. To identify the model with the strongest correlation, diverse types of calculations were taken into consideration. More specifically, addition, subtraction and multiplication methods were tested, as the content of the items allowed for several assumptions about how the individual items might interact with each other. The assumption behind the addition of items is that items might query diverse facets of one's life which add up and thus determine happiness. Conversely, the content-related consideration behind the subtraction method is that the difference between items that capture expectations and items that assess reality predicts happiness. The last possible method of combining the items mathematically, the multiplication method, relies either on the idea that one part of a factor can be considered as a weighting factor that stands for the importance of another part of the construct, or on the notion that items influence each other. These preliminary considerations were tested by means of correlation matrices. In turn, Spearman's and Pearson's correlations were utilized.

After the most appropriate model version was selected and all items and factors of this study were thus set, distributional indices and the internal consistency of all utilized scales and subscales were calculated. In addition, the test-retest reliability was assessed by correlating the ZPSs of the main study with the ones of the retest. To test the convergent validity, a correlation matrix was created, demonstrating all correlations between the ZPS dimensions and the PERMA-Profiler and the modules of the PHQ. Before that, the PERMA items and the PHQ items were recoded.

6.4.2 Hypotheses Tests and Group Comparisons

The last part of the data analysis deals with the testing of the hypotheses and group comparisons. While the proposed hypotheses **H1a**, **H1b**, **H3**, **H4** and the analysis of the influence of demographic factors on happiness aim at comparing specific groups, hypotheses **H2a** and **H2b** investigate correlations. For the group comparisons, t-tests, Mann-Whitney tests and analyses of variance (ANOVA) were conducted. The effect ranges of the tests were calculated according to Field (p. 341; p. 389; p. 550). The other two hypotheses, **H2a** and **H2b**, were assessed by means of Spearman's and Pearson's correlation analyses. In order to test the significance of the differences in correlations, t-statistics were calculated according to the formula of Chen and Popovich (2002, pp. 23–25) and were checked against the critical values of the t-distribution (Field, 2009, pp. 191–192).

7 Results

7.1 Descriptive Statistics

In total the survey was completed 332 times, of which 297 datasets could be used for the data analysis, which is only slightly below the minimum requirement of 300 (Bühner, 2011, p. 345). Of the 297 participants 59.6% were female, 39.7% were male, and the remaining 0.7% classified themselves as diverse. The most represented age group was persons between 21 and 30 years old, with a share of 67.7%, followed by the group of 31- to 40-year-old individuals, accounting for 12.8%. With proportions of 7.4% each, the groups of below 21-year-old individuals and between 41- and 50-year-old participants were equally represented. The remainder of the age groups do not even make up 5% of the participants, namely 51- to 60-year-olds (2.7%), over 70-year-olds (1.3%), and 61- to 70-year-olds (0.7%). Consequently, the majority of the sample is female, and more than two thirds are between 21 and 30 years old.

Only one of the participants refused to indicate his job position. The majority of the sample were students accounting for a share of 43.9%, followed by 26.7% of professionals, 9.8% of team leaders, 4.1% of heads of department, 3.4% of self-employed persons or freelancers, 1.7% of managing directors or board members and 1.0% of pensioners. The other 9.5% responded with ‘other’, some of whom even specified their answers. For example, eight participants stated that they were pupils, three that they were unemployed, and others specified being a trainee, an intern, a person in parental leave and some other special cases.

With regard to the last question on demographics, 108 (36.4%) of the 297 participants indicated that they were in no transitional phase at all, whereas the others indicated at least one life-changing situation: 38% of the total sample were changing their jobs or starting their careers, 16.2% were about to move, for 10.8% familiar circumstances were altering, for 9.8% general life circumstances were changing, 1.0% declared to be in transition to retirement and another 9.8% stated they were in another transitional phase. Amongst this last group, graduating from school or university was named, as well as changes in the job environment and illness or imminent death.

7.2 Empirical Validation of the zentor Purpose Score

7.2.1 Distributional Indices

In order to evaluate the ZPS items' normality, their distributional properties were estimated and the results of two normality statistical tests were interpreted. The results indicate that all 13 items do not follow a normal distribution. More precisely, skewness values are between -1.24 and -.21 and kurtosis values range from -1.13 to 2.12 (see Appendix 18 for detailed results). Especially, the second item of both the engagement subscale and the appreciation subscale are negatively skewed, with frequent scores clustered at the lower end of the distributions. These two items are conspicuous, as they show high positive values in terms of kurtosis, which indicates that they have many scores in the tails of their distributions (Field, 2009, p. 19). This is also notable in the boxplots, because these are the only two items which indicate statistical outliers (see Appendix 19). However, there are in total only four 'extreme' statistical outliers and only a few 'normal' outliers; as the responses on other items given by the respective participants seemed unremarkable, there is no valid argumentation for excluding their datasets from the sample (see Field, 2009, p. 153). Another indication that the items are not normally distributed is that the results of the Kolmogorov-Smirnov and the Shapiro-Wilk tests of normality were found to be statistically significant for all items. Having said this, the Kolmogorov-Smirnov and the Shapiro-Wilk tests are limited in their statistical power, as the sample size of this study is quite large (Field, 2009, p. 144). By visualizing the data, it becomes clear that at least some of the items are nearly normally distributed. In Appendix 20 the visualization of the first item of the appreciation subscale is depicted as an example.

Apart from examining the data for normal distribution, the adequacy of the sample had to be scrutinized prior to analysing the factors of a construct. This was done by conducting a KMO test. For this sample (without the overall happiness item), the KMO coefficient value is .75, which gives an indication that factor analyses can be performed and should be able to capture distinct and reliable factors (Field, 2009, p. 647). Furthermore, Bartlett's test of sphericity was significant, which indicates that the items are not completely independent from one another ($\chi^2 = 842.15$ (66), $p = .00$). Consequently, according to these tests, factor analyses are appropriate.

7.2.2 Item Analyses

For the first item analysis, Spearman's correlation was selected, because of the detected non-normality of the data (Field, 2009, p. 186). The results of this item analysis are depicted in Table 1 and indicate that the correlation between the 11 ZPS items ranges from -.24 to .53. The items were first checked for too high correlations to prevent item redundancy, which was not the case. In a next step, the correlations between the items and the overall happiness factor were examined carefully. It is striking that the second, third and fourth items of the main construct of the ZPS indicate a negative correlation with the overall happiness item. Originally, the second item was envisaged to be part of the overlap factor, whereas the third and fourth items were pictured to be components of the purpose factor. Therefore, before excluding these three items prematurely, a second item analysis using the Pearson correlation was run. Although the data did not meet the condition of being normally distributed, they did meet the criterion of being interval scaled, and therefore Pearson's correlation can make a statement about the relationship between two items (Field, 2009, p. 177). The results also indicate negative correlations between the overall happiness items and the second and third item of the ZPS, but not between the overall happiness item and the fourth item (see Appendix 21).

To investigate this further, Cronbach's alpha was calculated for the diverse constellations. The purpose factor, comprising all three possible items, reveals an alpha of .48, whereas the factor containing only the first and third items exhibits a Cronbach's alpha value of -.15, and for the factor including only the first and fourth items the alpha totals .55. The same procedure was applied to the different constellations of the overlap factor. For the first option, comprising all three possible items, the alpha exhibits a value of .16, while the alpha without the second item totals .53.

Based on these results, the second and third items were excluded from the main construct, in consultation with the founders of zentor GmbH. Subsequently, in respect of their content and the originally envisaged measure model, the items were labelled to make the dimensions of the ZPS more obvious (see Table 1). According to Spearman's correlation, the inter-item correlations of the respective four factors indicate values of .32 (α = .55) for the purpose factor, .16 (α = 0.24) for the engagement factor, .26 (α = .41) for the appreciation factor and .34 (α = .53) for the overlap factor. Even though the engagement factor shows only limited correlation, there is evidence that all items load positively onto the respective factors (Shi, 2007, p. 371).

Table 1 ZPS Spearman's Correlation Matrix

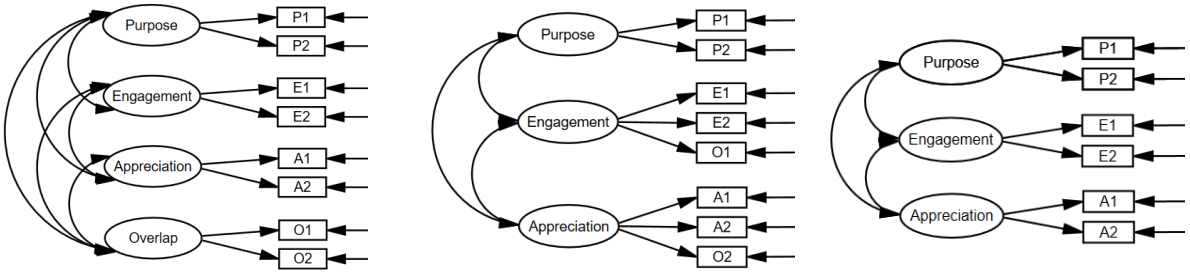
Item Label	P1	PAW	SFP	P2	E1	O1	E2	A1	O2	A2	OH
P1	1										
PAW	-.15**	1									
SFP	-.08	.03	1								
P2	.32**	-.08	.43**	1							
E1	.37**	-.12*	-.12*	.01	1						
O1	.44**	-.02	.04	.19**	.32**	1					
E2	.06	-.04	.03	.08	.16**	.18**	1				
A1	.32**	-.10	-.10	.04	.32**	.28**	.12*	1			
O2	.37**	-.08	.02	.10	.26**	.34**	.11	.45**	1		
A2	.22**	-.08	-.02	.11	.14*	.29**	.25**	.26**	.25**	1	
OH	.47**	-.05	-.24**	-.01	.45**	.33**	.14*	.53**	.35**	.25**	1

** $p < .01$; * $p < .05$; N = 297. *S,* Sentiment; *P,* Purpose; *PAW,* Purpose at Work; *SFP,* Search for Purpose; *E,* Engagement; *O,* Overlap; *A,* Appreciation; *OH*, Overall Happiness

7.2.3 Confirmatory Factor Analyses

After unsuitable items were excluded, the remaining items were used to create three different models (see Figure 1). While the first model consists of four factors, namely the purpose, engagement, appreciation and overlap factors which in turn contain two items each, the other two models are Three-Factor Models without an extra overlap factor. The difference between the second and the third model is that the second model includes two overlap items, whereas the third model only contains the purpose, engagement and appreciation items.

Figure 1 Structural Model of the Three Competing ZPS Models



1) M1: Four-Factor Model

2) M2: Three-Factor Model with Overlap Items

3) M3: Three-Factor Model

In order to test the models' goodness-of-fit, several indices as well as the AIC and the BIC were used, as depicted in Table 2. All model variations indicated a significant model test chi-square test, which can be explained by the rather large sample size (Bentler & Bonett, 1980, p. 588). Apart from that, the other values indicate that all three models met the cut-off criteria and demonstrated a good model fit, even though the CFI values are a little below .95 for all three models. While the first and second models present slightly better model fit indices, the third model, the Three-Factor Model without overlap items, should be preferred, according to the lower AIC and the BIC values. The standardized factor loadings of the Three-Factor Model are depicted in Table 3, while the standardized factor loadings of the competing models are presented in the Appendices 22 and 23. It is striking, that the first item of each main factor exhibits considerably higher factor loadings than the second item of each factor. Moreover, the factor loadings of the Three-Factor Model with overlap items revealed that the items labelled as overlap items load higher onto the factors engagement and appreciation than the other items.

Table 2 Fit Indices of the Competing Models

	χ^2	df	χ^2 / df	RMSEA	SRMR	CFI	AIC	BIC
M1	52.06**	14	3.72	.10	.05	.90	96.06	177.33
M2	47.77**	17	2.81	.08	.05	.92	85.77	155.95
M3	24.27**	6	4.05	.10	.06	.91	54.27	109.68

** $p < .01$; N = 297. *M1,* Four-Factor Model; *M2,* Three-Factor Model with Overlap Items; *M3,* Three-Factor Model; *χ2*, Chi-Square using maximum likelihood estimation; *df,* degrees of freedom; *RMSEA,* Root Mean Square Error of Approximation; *SRMR*, Standardized Root Mean Square Residual; *CFI,* Comparative Fit index; *AIC,* Akaike Information Criterion; *BIC,* Bayes Information Criterion

Table 3 Standardized Factor Loadings of the Three-Factor Model

	Item	Purpose	Engagement	Appreciation
Purpose	P1	1.87		
	P2	.20		
Engagement	E1		.66	
	E2		.22	
Appreciation	A1			.81
	A2			.33

N = 297. *P,* Purpose; *E,* Engagement; *A,* Appreciation*;*

The model fit was further assessed by scrutinizing the correlations between the different models and the overall happiness item. Therefore, different types of calculations were tested. The results of Spearman's as well as Pearson's correlations can be found in Table 3. It is

obvious that the multiplication method demonstrates the highest correlations in each model regardless of the type of correlation coefficient. Furthermore, using this method, the correlation coefficients of the competing models reveal no major difference in terms of absolute values. Considering this, the results of the AIC and the BIC, and the goal of keeping the ZPS as simple as possible, the Three-Factor Model using the multiplication method is declared to be the most appropriate model version in this study.

Table 4 Correlations for Diverse Calculation Methods of the Competing Models

	Calculation Method	Spearman Correlation	Pearson Correlation
M1	(P1+P2) + (E1+E2) + (A1+A2) + (O1+O2)	.54**	.57**
	(P2-P1) + (E2-E1) + (A2-A1) + (O2-O1)	-.47**	-.47**
	(P1*P2) + (E1*E2) + (A1*A2) + (O1*O2)	.57**	.60**
M2	(P2-P1) + (E2-(E1+O1)) + (A2-(A1+O2))	-.57**	-.57**
	(P1*P2) + (E1*E2*O1) + (A1*A2*O2)	.57**	.58**
M3	(P1+P2) + (E1+E2) + (A1+A2)	.53**	.58**
	(P2-P1) + (E2-E1) + (A2-A1)	-.49**	-.51**
	(P1*P2) + (E1*E2) + (A1*A2)	.56**	.61**

** $p < .01$; N = 297. *M1*, Four-Factor Model; *M2*, Three-Factor Model with Overlap Items; *M3*, Three-Factor Model; *P,* Purpose; *E,* Engagement; *O,* Overlap; *A,* Appreciation; *OH*, Overall Happiness

7.2.4 Distributional Indices, Reliability and Validity

As all the items and factors used for further analyses were thus determined, distributional indices and the internal consistency of all scales and subscales were assessed and are presented in Table 4. The skewness revealed that almost all positive (sub)scales are slightly to moderately negatively skewed, whereas the kurtosis values for positive (sub)scales do not indicate a clear direction of distribution. Also, the visualization of the data's distributions in the form of Q-Q plots indicate non-normality. After creating boxplots of all the scales and subscales, however, no extreme outliers were detected. Regarding the (sub)scales of the ZPS, it is important to highlight, that the data show only small deviations from normal distribution.

Compared to the high reliability coefficients of the other (sub)scales, the ZPS reveals rather low values of Cronbach's alpha. However, when interpreting these, the low number of items for each subscale of the ZPS should be considered. The lowest internal consistency was detected for the ZPS subscale engagement ($\alpha = .24$), while purpose indicated the highest reliability coefficient of the ZPS subscales ($\alpha = .55$). The overall ZPS (composed of six items) also exhibits rather low internal consistency ($\alpha = .59$). Moreover, the test-retest reliability assessed by means of Spearman's correlation also indicated only moderate significant reliability

(r = .61). This also holds true for the test-retest reliability of the subscales purpose (r = .62), engagement (r = .40), and appreciation (r = .59). The Pearson correlations showed slightly higher values for the overall ZPS (r = .65), the purpose factor (r = .67), the engagement factor (r = .43), and the appreciation factor (r = .65).

Table 5 Distributional Indices and Internal Consistencies of the ZPS, the PERMA-Profiler and the PHQ

	Items	Mean	SD	Min	Max	Skew	Kurt	α
ZPS-P	2	22.16	11.93	1.00	49.00	.26	-.54	.55
ZPS-E	2	28.98	9.87	4.00	49.00	-.17	-.36	.24
ZPS-A	2	29.39	10.09	4.00	49.00	-.24	-.57	.41
ZPS	6	80.52	23.40	18.00	147.00	-.06	-.19	.59
PERMA-P	3	6.57	2.07	0.00	10.00	-.96	.51	.91
PERMA-E	3	6.80	1.64	1.67	10.00	-.63	.13	.69
PERMA-R	3	7.29	2.02	1.33	10.00	-.98	.43	.79
PERMA-M	3	6.45	2.12	0.00	10.00	-.81	.10	.89
PERMA-A	3	6.79	1.67	0.67	9.67	-1.10	1.19	.78
PERMA-Sc	15	6.78	1.62	1.27	9.53	-1.05	.82	.94
PERMA-H	3	6.61	2.22	0.33	10.00	-.73	-.10	.85
PERMA-N	3	3.68	1.80	0.00	8.67	.37	-.37	.63
PERMA-Lon	1	3.83	2.79	0.00	10.00	.36	-1.13	-
PHQ-9	9	8.28	5.39	0.00	26.00	.85	.41	.84
GAD-7	7	7.01	4.98	0.00	21.00	.60	-.39	.88
PHQ-10	10	5.26	3.44	0.00	18.00	.89	.62	.69

N = 297. *Items,* Number of Items; *SD,* Standard Deviation; *Min,* Minimum; *Max,* Maximum; *Skew,* Skewness; *Kurt,* Kurtosis; *α*, Cronbach's alpha; *ZPS-P,* ZPS Purpose; *ZPS-E,* ZPS Engagement; *ZPS-A,* ZPS Appreciation; *PERMA-P,* PERMA Positive Emotions; *PERMA-E,* PERMA Engagement; *PERMA-R,* PERMA Relationships; *PERMA-M,* PERMA Meaning; *PERMA-A,* PERMA Accomplishment; *PERMA-Sc,* PERMA Score; *PERMA-H,* PERMA Physical Health; *PERMA-N,* PERMA Negative Emotions; *PERMA-Lon,* PERMA Loneliness Single Item; *PHQ-9,* PHQ Depression Module; *GAD-7,* PHQ Generalized Anxiety Disorder Module; *PHQ-10,* PHQ Stress Module

Regarding the convergent validity of the questionnaire, all subscales of the ZPS demonstrated consistently positive correlations with the main PERMA dimensions and the PERMA score itself (r = .24 to r = .60). Consequently, with the negative PERMA dimensions, negative emotions and loneliness, the ZPS subscales correlate negatively (r = -.16 to r = -.42). Negative correlations are also observable between the three modules of the PHQ and the individual factors of the ZPS (r = -.17 to r = -.45). For more details, all correlations between the ZPS dimensions and the PERMA-Profiler and the PHQ's modules are presented in Table 6.

Table 6 Spearman's Inter-Correlations between the ZPS and the Validation Scales

	ZPS					PERMA									PHQ		
	P	E	A	ZPS	OH	P	E	R	M	A	Sc	H	N	Lon	9	GAD	10
ZPS-P	1																
ZPS-E	.27**	1															
ZPS-A	.26**	.36**	1														
ZPS	.74**	.70**	.71**	1													
ZPS-OH	.32**	.45**	.53**	.56**	1												
PERMA-P	.27**	.52**	.50**	.57**	.79**	1											
PERMA-E	.25**	.53**	.34**	.49**	.40**	.53**	1										
PERMA-R	.24**	.39**	.60**	.55**	.60**	.66**	.46**	1									
PERMA-M	.49**	.46**	.56**	.69**	.68**	.71**	.51**	.66**	1								
PERMA-A	.26**	.43**	.47**	.51**	.56**	.66**	.54**	.56**	.69**	1							
PERMA-Sc	.37**	.55**	.60**	.68**	.75**	.86**	.70**	.82**	.88**	.81**	1						
PERMA-H	.17**	.30**	.27**	.32**	.50**	.58**	.34**	.49**	.50**	.51**	.58**	1					
PERMA-N	-.16**	-.31**	-.35**	-.36**	-.51**	-.60**	-.27**	-.42**	-.46**	-.44**	-.53**	-.45**	1				
PERMA-Lon	-.18**	-.31**	-.42**	-.40**	-.49**	-.48**	-.26**	-.51**	-.47**	-.36**	-.52**	-.26**	.47**	1			
PHQ-9	-.29**	-.45**	-.45**	-.52**	-.59**	-.64**	-.39**	-.50**	-.59**	-.54**	-.63**	-.50**	.65**	.48**	1		
GAD-7	-.17**	-.39**	-.32**	-.38**	-.50**	-.58**	-.32**	-.37**	-.47**	-.45**	-.52**	-.47**	.68**	.39**	.79**	1	
PHQ-10	-.13*	-.22**	-.36**	-.31**	-.43**	-.44**	-.24**	-.44**	-.38**	-.42**	-.46**	-.43**	.54**	.38**	.64**	.61**	1

** $p < .01$; * $p < .05$; N = 297. *ZPS-P,* ZPS Purpose; *ZPS-E,* ZPS Engagement; *ZPS-A,* ZPS Appreciation; *ZPS-OH,* ZPS Overall Happiness single item; *PERMA-P,* PERMA Positive Emotions; *PERMA-E,* PERMA Engagement; *PERMA-R,* PERMA Relationships; *PERMA-M,* PERMA Meaning; *PERMA-A,* PERMA Accomplishment; *PERMA-Sc,* PERMA Score; *PERMA-H,* PERMA Physical Health; *PERMA-N,* PERMA Negative Emotions; *PERMA-Lon,* PERMA Loneliness single item; *PHQ-9,* PHQ Depression Module; *GAD-7,* PHQ Generalized Anxiety Disorder Module; *PHQ-10,* PHQ Stress Module

7.3 Hypotheses Tests and Group Comparisons

For the second part of the data analysis, several hypotheses were tested. The first two hypotheses suggest that experiencing changes in significant life circumstances influences happiness and sentiment negatively. In order to evaluate this assumption, first a t-test was conducted. The results indicate that individuals who are currently in a transitional phase of life not only demonstrate significantly lower values in terms of overall happiness (M = 4.83; SD = 1.37) compared to individuals with stable life circumstances (M = 5.20; SD = 1.23), t (242.59) = -2.42, p < .0.5, r = .15, but they also score lower on the sentiment factor (M = 20.44; SD = 11.11) compared to the other participants (M = 23.39; SD = 11.62), t (214,73) = -2.13, p < .05, r = .14. The sentiment factor was calculated by multiplying the first item of the ZPS questionnaire with the second item. To further confirm these results, the non-parametric Mann-Whitney test was also conducted. This test indicated, that the participants in a transition phase are significantly less happy (Mdn = 5.00) than individuals not currently experiencing life-changing events (Mdn = 5.50), U = 8607.00, z = -2.34, p < .05, r = -.14. Also, they reported lower scores on perceived mood and energy levels (Mdn = 20) compared to the other group of individuals (Mdn = 25), U = 8705.00, z = -2.12, p < .05, r = -.12. Consequently, both hypotheses **H1a** and **H1b** are supported. Furthermore, at this point it should be emphasized that the effect size of the influences on both, the overall happiness and the sentiment factor are of equal magnitude.

To examine the importance of sentiment further, hypothesis **H2a** predicts that the correlation between the calculated sentiment factor and the overall happiness item is higher than the correlation between the ZPS and the overall happiness item. The results of Spearman's correlation support this hypothesis, as the correlation with the sentiment factor is significantly higher (r = .62, p < .01) than the one between the ZPS and overall happiness (r = .56, p < .01), $t_{\text{Difference}}$ = 1.39, p < .01. Pearson's correlation confirms these results, with similar values for the relation between the sentiment factor and overall happiness (r = .62, p < .01) and slightly higher values for the correlation between the ZPS and overall happiness (r = .61, p < .01), $t_{\text{Difference}}$ = .37, p < .01. Thus, hypothesis **H2a** is supported.

Hypothesis **H2b** moreover predicts that a combination of the ZPS with the sentiment factor leads to an even higher correlation with the overall happiness item than the sentiment factor or the ZPS alone. For this purpose, the sentiment factor was integrated into the ZPS, treated like one of the other factors. Spearman's correlations indeed indicate higher values for the combined construct (r = .67, p < .01), with highly significant differences for both the correlation of the overall happiness item with the sentiment factor, $t_{\text{Difference}}$ = -1.35, p < .01, and

the correlation with the ZPS, $t_{Difference} = -6.37$, $p < .01$. In turn, Spearman's correlation supports these results, exhibiting a higher correlation value for the combined construct ($r = .69$, $p < .01$), and also highly significant differences for the correlations with the sentiment factor, $t_{Difference} = -2.39$, $p < .01$, and the correlation with the ZPS, $t_{Difference} = -6.30$, $p < .01$. This means that a combination of the sentiment items and the ZPS indicates a higher correlation with happiness than the constructs alone. Hence, hypothesis **H2b** is also supported.

The third hypothesis **H3** suggests that individuals who are searching for purpose in their lives are happier than individuals who are not. This assumption was again tested by means of a t-test and a Mann-Whitney test. To be able to compare these groups, participants who selected values of 1, 2 or 3 on the seven-point scale of the ZPS questionnaire's fifth item were considered as individuals who are not searching for purpose, whereas participants who responded with 5, 6 or 7 constitute the group of individuals who are looking for meaning in life. Participants who selected the middle value of the scale, namely 4, were excluded from this analysis. The results from the t-test indicate the opposite of what the hypotheses proposed. Individuals searching for purpose ($M = 4.70$; $SD = 1.39$) are on average highly significantly unhappier than people who do not care about purpose ($M = 5.27$; $SD = 1.22$), $t\ (242.51) = -3.48$, $p < .01$, $r = .22$. This was also confirmed by the Mann-Whitney test, demonstrating that the purpose-seeking individuals ($Mdn = 4.70$) are less happy than the comparison group ($Mdn = 5.27$), $U = 6108.00$, $z = -3.44$, $p < .01$, $r = -.21$. Therefore, hypothesis **H3** is rejected.

The last hypothesis **H4** investigated whether participants searching for purpose at work are happier than participants searching for purpose outside of work. To test this hypothesis, the participants were again divided into two groups. The first group constitutes participants searching for purpose at work, namely all participants who responded with 1, 2 or 3 on the fourth item of the ZPS questionnaire. The second group consists of participants who answered with 5, 6 or 7 on the same item. Participants who responded with 4 were again excluded. The t-test indeed indicates, that people who search for purpose at work are on average happier ($M = 5.06$; $SD = 1.19$) than the other group ($M = 4.87$; $SD = 1.37$). However, these results are not significant, $t\ (200.96) = -1.12$, $p > .05$, $r = .08$. Similar results were provided by the Mann-Whitney test. The mean rank of individuals who are searching for purpose at work is only slightly higher and the median ($Mdn = 5.00$) is even as high as the median of individuals who are searching for purpose outside of work ($Mdn = 5.00$), $U = 6238.50$, $z = -.76$, $p > .05$, $r = -.05$. As neither test indicates significant results, hypothesis **H4** is rejected.

The last part of the data analysis dealt with the assessment as to whether age, gender or profession groups differ in terms of their happiness levels. For all three group comparisons, an ANOVAs were conducted. In addition, the influence of gender on happiness was tested by means of a t-test, assessing only the difference between females and males. The results of the one-way ANOVA for demographic characteristics on the ZPS are depicted in Table 7, whereas the results for overall happiness are presented in Appendix 24.

For the ZPS, all ANOVA results were significant and indicated a small to medium effect (Field, 2009, p. 390). Therefore, according to these results, demographic characteristics do have an influence on eudaimonic happiness. The results demonstrated that people are, generally speaking, happiest in their middle age and least happy when they are younger than 21 or older than 70. Furthermore, very successful people, such as board members or managing directors, reported being the happiest group, whereas pensioners were the unhappiest group. All other professions revealed only slight differences in well-being levels. Women and men revealed almost the same levels of happiness, but participants of diverse gender reported significant lower levels.

The same gender-related differences were found when investigating the influence of demographic characteristics on overall happiness. However, these results constituted the only significant result of the ANOVA for overall happiness; type of profession and age indicated no significant relation to overall happiness. In order to investigate whether the results of gender differences are also significant when comparing only females and males, t-tests were conducted. In this case, no significant result was achieved, neither for the ZPS nor for overall happiness.

Table 7 ANOVA Results for the ZPS

		Frequency	*Mean*	*SD*	df_M	df_R	*F*	*p*	ω^2
Gender		297	80.52	23.40	2	294	6.20	< .01	0.03
	Female	177	80.72	20.50					
	Male	118	81.19	26.38					
	Diverse	2	23.50	7.78					
Position		296	80.51	23.44	7	288	2.29	< .05	0.03
	Managing Director / Board Member	5	113.60	24.92					
	Head of Department	12	76.83	23.73					
	Team Leader	29	83.38	22.99					
	Self-Employed Person / Freelancer	10	84.30	24.88					
	Professional	79	82.06	22.41					
	Student	130	79.68	22.64					
	Pensioner	3	66.00	7.94					
	Other	28	72.89	26.53					
Age		297	80.52	23.40	6	290	2.14	< .05	0.02
	<21	22	67.95	25.68					
	21-30	201	80.67	21.56					
	31-40	38	82.50	27.60					
	41-50	22	91.55	23.85					
	51-60	8	77.25	33.67					
	61-70	2	80.50	6.36					
	>70	4	69.50	9.54					

N = 297. *SD,* Standard Deviation; df_M, degrees of freedom for the Effect of the Model; df_R, degrees of freedom for the Residuals of the Model; *F,* F-ratio; *p,* Significance Value; ω^2, Omega Squared

8 General Discussion

8.1 Summary and Interpretation of the Results

The main purpose of the present study was to evaluate the validity and reliability of the ZPS using a moderately large German-speaking sample. Because of the novelty of this measure, the study aimed to test which of three competing models best describes the collected data and whether the theory of an underlying overlap factor between the dimensions of happiness holds true. The ZPS, which was modified and extended before the main study was conducted, revealed moderate reliability and good convergent validity.

Before validating the ZPS and conducting confirmatory factor analyses, items that were not or negatively correlated with the overall happiness item and did not contribute to the improvement of the reliability of the ZPS happiness factors – purpose, engagement, appreciation, and the overlap factor – were excluded from the main construct. As a result, two items were removed. The first one (the fourth item of the ZPS questionnaire) captured whether participants search for purpose at work or outside of work. One reason that this item does not indicate an appreciable correlation with the overall happiness item might be that neither the search for purpose at work nor the search for purpose outside of work is more beneficial for the pursuit of happiness. This assumption is also supported by the results of the respective hypothesis test. An explanation might be provided by the finding that desires for identity, supportive relationships, personal achievements, and purpose cannot only be satisfied during leisure time, but also work can provide these desirable properties (Evans & Repper, 2000, pp. 15–16; Myers & Diener, 1995, p. 15).

The second excluded item assessed whether participants were currently searching for purpose in their lives at all. This item even indicated negative correlations with the overall happiness item. Although the element of purpose is included in many happiness models, it seems that the active search for purpose does not make people happier. The results of the corresponding hypothesis test revealed the same conclusion: People who are currently searching for purpose are significantly less happy than individuals who are not searching for purpose. An obvious explanation for this finding might reside in the general condition of being in search of something, namely the perception that something is missing. Evidently, experiencing a void in one's life and the need to fill it do not constitute a feeling that promotes happiness. Research has even indicated that people's thoughts are a better predictor of their happiness than their actual deeds (Killingsworth & Gilbert, 2010, p. 932). Thus, the very thought of the lack of purpose can trigger unhappiness. Another explanation might be provided

by the fact that the group that is not in search of purpose consists of two kinds of people, those that simply do not care about purpose and those that have already found purpose in their lives. So even if people who do not care about purpose at all are as happy as people who are in search of purpose, individuals who have already found a purpose would raise the average happiness of the group that is not searching for purpose.

The remaining eight items were used to conduct confirmatory factor analyses in order to identify the model with the best fit. All three competing models demonstrated acceptable model fit, even though the models including the overlap items revealed slightly better model-fit indices. However, according to the Bayes and Akaike information criteria, the Three-Factor Model excluding the overlap items is the most appropriate model, as it demonstrates the best trade-off between statistical model fit and model complexity. In order not to base this decision exclusively on the model-fit indices and the information criteria, the correlations between the competing models and the overall happiness item were calculated. For this purpose, diverse calculation types were applied. Multiplying the individual factors led to the strongest correlations with the overall happiness item, which indicates that the factors might influence each other. As the Three-Factor Model without overlap items and the Four-Factor Model revealed similar results, the final choice fell on the Three-Factor Model, for simplicity reasons. Consequently, the assumption that there is an overlap between the happiness factors of purpose, engagement, and appreciation is not rejected, but according to the results of this sample, its validity seems very unlikely.

After the definition of the factors, their reliability was assessed. Overall, the factors indicated rather low internal reliability coefficients. While the internal consistency of the overall ZPS and the purpose factor at least lay above the limit for acceptance, namely .5 (George & Mallery, 2003, p. 231), the appreciation and engagement factors revealed unacceptable internal reliability. However, it should not be overlooked that the individual factors consist of only two items each. Therefore, the relatively low values of Cronbach's alpha are not necessarily proof of poor reliability. Taking into account the very small number of items per factor, the internal reliability of the ZPS might in fact be classified as moderate (see Field, 2009, p. 675).

The test-retest results indicated very similar absolute values of the coefficients of stability; however, the rules for test-retest reliability are not as clearly defined as the ones for internal reliability. That is because many factors can influence the stability coefficients, such as the time period between the testing periods or the nature of the measure instrument (Crocker & Algina, 2006, pp. 133–134). Therefore, data of the initial PERMA-Profiler study by Butler and

Kern (2016) served as reference point, as the retest of this study was also conducted two weeks after the main survey. By using Pearson's correlation, the PERMA-Profiler revealed stability coefficients ranging from .61 to .88. (Butler & Kern, 2016, p. 11), while the ZPS indicated coefficients ranging from .43 to .67. Therefore – just like the internal reliability – the test-retest reliability of the ZPS can be evaluated as moderate.

The PERMA-Profiler was also used to evaluate the convergent validity of the ZPS. All ZPS subscales and the overall ZPS itself demonstrated positive correlations with the overall PERMA score. Except for the purpose factor, the correlations were as high as the correlations of the PERMA subscales for the Satisfaction with Life Scale in the original study (Butler & Kern, 2016, p. 20). Furthermore, the highest correlations between the ZPS subscales and the PERMA-Profiler subscales were found between the supposed corresponding ones. Therefore, there is evidence that the PERMA elements of meaning, engagement, and relationships capture the same dimensions as the ZPS factors of purpose, engagement, and appreciation.

In addition, all ZPS subscales indicated not only consistently negative correlations with the PERMA subscales negative emotions and loneliness, but also with all three modules of the PHQ. The highest negative correlation was found between the depression module of the PHQ and the overall ZPS. Most probably this occurred because depression lies on the opposite end of happiness on the mental health continuum (Huppert & So, 2011, p. 841). However, the negative correlations between the PERMA-Profiler and measures for negative sensations, including measures for anxiety, depression and stress, were somewhat higher than the correlations between the ZPS and tools that measure these negative sensations (Butler & Kern, 2016, p. 16; Wammerl et al., 2019, pp. 92–93). In summary, the ZPS proved moderate to good convergent validity.

An interesting finding that arose from investigating the convergent validity of the ZPS was that the overall ZPS indicated the highest correlation not with the overall PERMA score but with the Profiler's meaning subscale. This reflects the fact that the ZPS is a model that can be traced back to the eudaimonic tradition, which attaches particular importance to virtues, meaning and reason. Although the ZPS's main construct does not comprise hedonic elements, the full ZPS questionnaire does. The sentiment items, which capture the mood and energy levels of participants, can be considered an hedonic component. By testing the hypotheses, it was found that the correlation between the hedonic sentiment factor and the overall happiness item was higher than the correlation between the eudaimonic overall ZPS and the overall happiness item. As the theory suggests that a combination of hedonic and eudaimonic elements best captures happiness (Henderson & Knight, 2012, pp. 199–202), another hypothesis was tested.

It examined whether a combination of the ZPS and the sentiment items would lead to an even stronger correlation with overall happiness than the eudaimonic or hedonic elements alone. The results supported this hypothesis, which would make the inclusion of the sentiment items in the main construct reasonable.

By means of the sentiment factor and the overall ZPS also the last assumption was tested. It assessed whether individuals who are currently in a transitional phase of life – regardless of the type of transition – are unhappier than people in stable life circumstances. The results indicated that these people indeed scored significantly lower in terms of happiness, as well as regarding mood and energy levels. However, neither the overall happiness nor the sentiment factor was more strongly affected by life changes. This might be explained by the fact that even anticipated life changes, such as moving to another city, can lead to feelings of unpreparedness, stress and a loss of self-esteem (Coleman, Ivani-Chalian, & Robinson, 1993, p. 172). Stress and low self-esteem are both conducive to the development of psychological illnesses such as depression (McEwen, 2008, pp. 180–181; World Health Organization: WHO, 2020). Consequently, major changes in life do not only affect the current sentiment but also general happiness. Another explanation might be provided by the fact that fear of the unknown affects humankind in general and hinders individuals from being happy (Cao, Han, Hirshleifer, & Zhang, 2009, p. 191). In any case, a social support system has been found to be one of the most decisive factors to enable successful adaptation to life-changing events. This support system can either consist of members of one's social network or affiliated non-mental-health professionals (Hirsch, 1980, p. 160). Therefore, people undergoing major life changes constitute a special target group for zentor, as such a support system can be provided by the company's offered projects (zentor, 2020a).

The last part of the data analysis investigated whether gender-, job- or age-related differences influenced various kinds of happiness. While the effects on overall happiness were not significant, differences between age and profession groups revealed significant effects on eudaimonic happiness. The results indicate that especially successful people score far above average, whereas pensioners constitute the group that scored the lowest. Although managing directors / board members also indicated higher levels of overall happiness – even without significant results – the difference from the mean was notably greater in terms of eudaimonic happiness. At this point, it is only possible to speculate about the reasons for these results. An explanation might be provided by social comparisons: Socioeconomic status influences PWB positively if one seems better off than others in the social environment (Ryff et al., 1999,

p. 274). However, other side effects of professional success might also play a role, but to determine a definite explanation, further research is necessary.

The reason why pensioners scored so low on the ZPS might be closely related to age. In fact, the unhappiest age groups were those that consisted of participants above 70 years and below 21 years. By comparison, the happiest individuals were of middle age, more specifically, between 41 and 50 years old. An explanation for this might be provided by the study of Keyes and Ryff (1999, pp. 170–172), who also identified the middle-aged as the happiest in terms of PWB. They found that two of the elements of their PWB construct, namely purpose and personal growth, decline over the years, while two other elements, namely autonomy and environmental mastery, increase over the course of one's life (Ryff & Keyes, 1995, pp. 724–725). Since purpose is a factor of both the PWB and the ZPS, the PWB factor of positive relationships might correspond to the ZPS factor of appreciation, and the ZPS factor of engagement might be included in the PWB dimensions of autonomy and environmental mastery. Hence, the findings of Keyes and Ryff might also apply to the results of this study. However, to confirm this assumption, further research would also be necessary.

8.2 Limitations

Despite the promising results regarding the suitability of the ZPS as a measure of happiness in practice, this study does have certain limitations. First, there are limitations concerning the convenience sample. Even though the study achieved a comparatively large sample size, most probably the use of social media and the online platform SurveyCircle led to imbalances in terms of gender, age and profession. Females, young people and students were overrepresented in the sample, whereas people of diverse gender, individuals older than 50 and managing directors or board members were represented to a very limited extent. Future studies should work with more representative samples, which should include a balanced composition in terms of gender, age, and profession.

This imbalanced composition might also have biased the results of the item capturing where the search for purpose takes place, at work or outside of work. Since many of the participants were students, it is unclear whether they perceive their studies as work and answered accordingly, or whether they have student jobs which they perceive as work, or whether they interpreted the scale for this specific item in any other way. The same uncertainty applies to participants who are currently not working, regardless of the reason. Consequently, when looking at the average means of the compared groups, it should be considered that work

in this study can also stand for university or anything else which an individual perceives as work.

Furthermore, as previously indicated, there is a limitation affecting the item that captures whether people are currently in search of purpose: The group of people who indicated not to be searching for purpose at the moment can contain both people who do not care about purpose at all and people who have already found a purpose in their lives. When comparing the happiness levels of people who are in search of purpose with the levels of people who are not, it might be advantageous to exclude those who have already found a purpose, in order to enhance the informative value of such an assessment.

Another point that needs to be mentioned is that all the items of the ZPS were slightly to moderately deviant from normality, which can limit the informative value of the statistical results (Field, 2009, pp. 155–156). However, the negatively skewed distribution resembles the distributional indices of the PERMA-Profiler (Butler & Kern, 2016, pp. 43–48; Wammerl et al., 2019, p. 92). This could be explained by the phenomenon of social desirability, which occurs as individuals tend to present themselves in the best possible light (Fisher, 1993, p. 330). Even so, Diener (2009, p. 33) found that social desirability does not threaten the validity of well-being scales.

A limitation that may have affected especially the results of the test-retest reliability is the outbreak of the coronavirus pandemic. Although the spread of the virus had already started several months before, the impacts on the general population of Germany were first really noticeable at the time the retest was conducted. That might provide an obvious explanation for the fact that the ZPS and subscale scores of the retest were on average lower – except for the appreciation subscale – than the scores of the main study.

At this point, it is especially important to highlight that this was the first study which tested different model compositions and calculation types to combine the items and factors of the ZPS. Obviously, not all possible ways to combine the captured items could be tested. Furthermore, at the time of this study, six items had already been defined as fixed components of certain factors, although other item combinations to build factors were conceivable and perhaps even more promising, according to factor loadings.

8.3 Implications

8.3.1 Theoretical Implications

Future studies should not only reconsider certain items as belonging to specific factors, but should also focus on the ways to combine them. Here, the specific model solution of this study can serve as reference point for psychometric comparisons. Although the theory of an overlap factor existing between elements of the zentor happiness model could not be supported in this study by means of the selected competing models, it might find support by using other model variants in more representative samples.

Furthermore, future considerations should also include the underlying theory of the happiness model of zentor. As the model is comparatively parsimonious in terms of the number of factors compared to other well-being models, the integration of other happiness elements might be beneficial for the validity and explanatory power of the model. Because of the current eudaimonic character of the model, the inclusion of hedonic components – in the form of the sentiment factor or otherwise – seems especially promising. However, when adding more factors to the model, it should not be ignored that the brevity of the questionnaire should be maintained.

If the inclusion of hedonic elements for these or other reasons might not be desired by zentor, it could be tested if the current Three-Factor Model reveales higher correlations with other eudaimonic measuring instruments, such as the Psychological Well-Being Scale, compared to the correlations with the PERMA-Profiler and its subscales. At this comparison, the assumption that the Three-Factor Model measures an eudaimonic facet of happiness could be tested.

As differences in certain happiness levels between diverse groups (e.g. age groups, profession groups, groups determined by different life phases) could be identified in this study, it might be promising to further investigate these results. Especially the influence of transitional life phases on happiness might be of special interest for zentor, as individuals undergoing major life changes seem to need special support and thus constitute a main target group. By assessing the duration of adaptation processes and certain behaviour patterns, a better understanding of the demands of this group might be developed. In order to assess this or other causal relations between possible influential factors and happiness, a longitudinal study design is necessary. In this case, a representative sample should be aimed at for the specific investigation of the effect of demographic factors on well-being.

8.3.2 Practical Implications

Even though the ZPS captures only few dimensions of happiness, their correlation with overall happiness is substantial. Therefore, the stimulation of these factors might enhance happiness. An important focus here might be the work environment of individuals. Even if the results of this sample were not significant, participants searching for purpose at work were, on average happier compared to those searching for purpose outside of work. This is not surprising, as work is capable of promoting all three factors of the zentor happiness model: It can provide individuals with a sense of purpose, with appreciation in the form of recognition performance and with tasks to engage oneself. Therefore, the work conditions should be adjusted in a way which enables the fulfilment of these needs.

To enhance the perceived purpose, transparent communication of superordinate goals and the contribution of single tasks to the achievement of these goals can be beneficial. In this, action-taking and decision-making are crucial (Ducki, 2000, pp. 49–50; pp. 70–71). Also, the content of work might be perceived as more purposeful when the work structure is as holistic as possible, comprising all steps from planning to execution to evaluation (Ducki, 2000, pp. 56–63). Furthermore, open communication in terms of conflicts and evaluations can lead to the experience of purpose at work (Ducki, 2000, pp. 141–151). Engagement or even flow can be increased by challenging tasks that neither overstrain nor underchallenge the skills of employees. Therefore, the matching of qualifications and job requirements is a precondition for the experience of flow at work. In addition, analogous to purpose attainment, clear goals and immediate feedback are decisive for engagement at one's workplace (Nakamura & Csikszentmihalyi, 2001, p. 90). Lastly, appreciation can be fostered by the establishment of teamwork, as it promotes communication, cooperation and eventually mutual appreciation. Apart from formal communication, also informal communication in the form of teambuilding measures or other joint activities can contribute to the strengthening of social cohesion and the development of supportive relationships (Ducki, 2000, pp. 47–50).

However, the enhancement of factors contributing to happiness is not only possible at the work level but also at the individual level. While an individual can try to find meaningful hobbies to engage in and flourish, and to maintain old relationships or even establish new ones to fulfil the need for appreciation, there are also possibilities to get external help. This external help can take diverse forms. One approach that is followed by zentor is the provision of its purpose platform. The platform brings together people who share the same interests in order to realise joint projects. In this way, the aspects of purpose, engagement, and appreciation can all be enhanced at the same time. Another approach that is adopted by positive psychologists is

coaching. Coaching can include all kinds of practices and techniques, for example visualization, yoga, assertiveness training, meditation, and so on (Seligman, 2011, p. 70).

While these approaches promote especially positive mental health, there are also other measures which aim to prevent the development of mental disorders. However, most of the prevention measures are also beneficial for the promotion of positive mental health (Scanlon, Williams, & Raphael, 1998, p. 46). Examples of such intervention programmes include courses for behaviour management or for coping with stress, crisis hotlines and centres, media interventions and cognitive workshops (World Health Organisation et al., 2004, pp. 37–51). The prevention of mental illness is exceedingly important for the purpose of pursuing happiness, because states of well-being can hardly be reached in the presence of mental disorders (Seligman, 2011, p. 54). Furthermore, prevention programmes do not only promote (positive) mental health, but also result in better physical health, as well as social and economic benefits. Therefore, they should be made available as widely as possible (World Health Organisation et al., 2004, p. 13).

8.4 Conclusio

In summary, the ZPS is a new happiness measure which is captivating due to its briefness and its ability not only to measure overall happiness, but even single dimensions of happiness. Due to its newness, this is the first study which supports its good validity and moderate reliability. The results of this study gave no real indication of the existence of the assumed overlap factor between the three happiness dimensions of purpose, engagement and appreciation. Although the Three-Factor Model, consisting of only these dimensions, indicated fair model-fit indices and moderate correlations with overall happiness and the validation scales, it seems that happiness is too complex to be captured by only three factors.

However, the factors that are already included in the model are good starting points to enhance the happiness of individuals. To this end, there are many actions that can be taken. On an individual level, this could comprise actions such as spending time on preferred activities and with beloved others, doing something good for others, or making use of individualized coaching sessions. On a more societal level, this could include creating more meaningful tasks at work, providing stress prevention courses for employees, or establishing mindfulness programmes in schools. These kinds of interventions should not only lead to happier and healthier individuals, but also to a more social and successful society.

9 Appendix

Appendix 1 Positive and Negative Affect Schedule

Indicate the extent you have felt this way over the past (time frame)		Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
1	Interested	1	2	3	4	5
2	Distressed	1	2	3	4	5
3	Excited	1	2	3	4	5
4	Upset	1	2	3	4	5
5	Strong	1	2	3	4	5
6	Guilty	1	2	3	4	5
7	Scared	1	2	3	4	5
8	Hostile	1	2	3	4	5
9	Enthusiastic	1	2	3	4	5
10	Proud	1	2	3	4	5
11	Irritable	1	2	3	4	5
12	Alert	1	2	3	4	5
13	Ashamed	1	2	3	4	5
14	Inspired	1	2	3	4	5
15	Nervous	1	2	3	4	5
16	Determined	1	2	3	4	5
17	Attentive	1	2	3	4	5
18	Jittery	1	2	3	4	5
19	Active	1	2	3	4	5
20	Afraid	1	2	3	4	5

Appendix 2 Satisfaction with Life Scale

Below are five statements that you may agree or disagree with. Using the 1 – 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.		Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
1	In most ways my life is close to my ideal.	1	2	3	4	5	6	7
2	The conditions of my life are excellent.	1	2	3	4	5	6	7
3	I am satisfied with my life.	1	2	3	4	5	6	7
4	So far, I have gotten the important things I want in life.	1	2	3	4	5	6	7
5	If I could live my life over, I would change almost nothing.	1	2	3	4	5	6	7

Appendix 3 Psychological Well-Being Scale, 42 Item Version

Please indicate your degree of agreement to the following sentences.		Strongly disagree					Strongly agree
1	I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people.	1	2	3	4	5	6
2	In general, I feel I am in charge of the situation in which I live.	1	2	3	4	5	6
3	I am not interested in activities that will expand my horizons.	1	2	3	4	5	6
4	Most people see me as loving and affectionate.	1	2	3	4	5	6
5	I live life one day at a time and don't really think about the future.	1	2	3	4	5	6
6	When I look at the story of my life, I am pleased with how things have turned out.	1	2	3	4	5	6
7	My decisions are not usually influenced by what everyone else is doing.	1	2	3	4	5	6
8	The demands of everyday life often get me down.	1	2	3	4	5	6
9	I think it is important to have new experiences that challenge how you think about yourself and the world.	1	2	3	4	5	6
10	Maintaining close relationships has been difficult and frustrating for me.	1	2	3	4	5	6
11	I have a sense of direction and purpose in life.	1	2	3	4	5	6
12	In general, I feel confident and positive about myself.	1	2	3	4	5	6
13	I tend to worry about what other people think of me.	1	2	3	4	5	6
14	I do not fit very well with the people and the community around me.	1	2	3	4	5	6
15	When I think about it, I haven't really improved much as a person over the years.	1	2	3	4	5	6
16	I often feel lonely because I have few close friends with whom to share my concerns.	1	2	3	4	5	6

17	My daily activities often seem trivial and unimportant to me.	1	2	3	4	5	6
18	I feel like many of the people I know have gotten more out of life than I have.	1	2	3	4	5	6
19	I tend to be influenced by people with strong opinions.	1	2	3	4	5	6
20	I am quite good at managing the many responsibilities of my daily life.	1	2	3	4	5	6
21	I have the sense that I have developed a lot as a person over time.	1	2	3	4	5	6
22	I enjoy personal and mutual conversations with family members or friends.	1	2	3	4	5	6
23	I don't have a good sense of what it is I'm trying to accomplish in life.	1	2	3	4	5	6
24	I like most aspects of my personality.	1	2	3	4	5	6
25	I have confidence in my opinions, even if they are contrary to the general consensus.	1	2	3	4	5	6
26	I often feel overwhelmed by my responsibilities.	1	2	3	4	5	6
27	I do not enjoy being in new situations that require me to change my old familiar ways of doing things.	1	2	3	4	5	6
28	People would describe me as a giving person, willing to share my time with others.	1	2	3	4	5	6
29	I enjoy making plans for the future and working to make them a reality.	1	2	3	4	5	6
30	In many ways, I feel disappointed about my achievements in life.	1	2	3	4	5	6
31	It's difficult for me to voice my own opinions on controversial matters.	1	2	3	4	5	6
32	I have difficulty arranging my life in a way that is satisfying to me.	1	2	3	4	5	6
33	For me, life has been a continuous process of learning, changing, and growth.	1	2	3	4	5	6
34	I have not experienced many warm and trusting relationships with others.	1	2	3	4	5	6
35	Some people wander aimlessly through life, but I am not one of them.	1	2	3	4	5	6

36	My attitude about myself is probably not as positive as most people feel about themselves.	1	2	3	4	5	6
37	I judge myself by what I think is important, not by the values of what others think is important.	1	2	3	4	5	6
38	I have been able to build a home and a lifestyle for myself that is much to my liking.	1	2	3	4	5	6
39	I gave up trying to make big improvements or changes in my life a long time ago.	1	2	3	4	5	6
40	I know that I can trust my friends, and they know they can trust me.	1	2	3	4	5	6
41	I sometimes feel as if I've done all there is to do in life.	1	2	3	4	5	6
42	When I compare myself to friends and acquaintances, it makes me feel good about who I am.	1	2	3	4	5	6

Appendix 4 Orientation to Life Scale, 13 Item Version

		Strongly disagree						Strongly agree
1	Do you have the feeling that you don't really care about what goes on around you?	1	2	3	4	5	6	7
2	Has it happened in the past that you were surprised by the behavior of people whom you thought you knew well?	1	2	3	4	5	6	7
3	Has it happened that people whom you counted on disappointed you?	1	2	3	4	5	6	7
4	Until now your life has had: no clear goals or purpose at all—very clear goals and purpose	1	2	3	4	5	6	7
5	Do you have the feeling that you're being treated unfairly?	1	2	3	4	5	6	7
6	Do you have the feeling that you are in an unfamiliar situation and don't know what to do?	1	2	3	4	5	6	7
7	Doing the things you do every day is: a source of deep pleasure and satisfaction—a source of pain and boredom	1	2	3	4	5	6	7
8	Do you have very mixed-up feelings and ideas?	1	2	3	4	5	6	7
9	Does it happen that you have feelings inside you would rather not feel?	1	2	3	4	5	6	7
10	Many people—even those with strong character—sometimes feel like sad losers in a certain situation. How often have you felt this way in the past?	1	2	3	4	5	6	7
11	When something has happened have you generally found that: you overestimated or underestimated its importance—you saw things in the right proportion	1	2	3	4	5	6	7
12	How often do you have the feeling that there's little meaning in the things you do in your daily life?	1	2	3	4	5	6	7
13	How often do you have the feeling that you're not sure you can keep under control?	1	2	3	4	5	6	7

Appendix 5 Sample Items from the Values in Action Inventory of Strengths

All of the questions reflect statements that many people would find desirable, but we want you to answer only in terms of whether the statement describes what you are like. Please be honest and accurate! Because the questionnaire is long, work quickly, and trust your first response.		Very much like me	Like me	Neutral	Unlike me	Very much unlike me
Creativity	When someone tells me how to do something, I automatically think of alternative ways to get the same thing done.	1	2	3	4	5
	I do not have any special urge to do something original.	1	2	3	4	5
Curiosity	I am never bored.	1	2	3	4	5
	I have few interests.	1	2	3	4	5
Open-mindedness	I make decisions only when I have all of the facts.	1	2	3	4	5
	If I like one option, I don't think about other possibilities.	1	2	3	4	5
Love of learning	I always go out of my way to attend educational events.	1	2	3	4	5
	I rarely read nonfiction books for fun.	1	2	3	4	5
Perspective	People describe me as "wise beyond my years."	1	2	3	4	5
	Others rarely come to me for advice.	1	2	3	4	5
Bravery	I have taken frequent stands in the face of strong opposition.	1	2	3	4	5
	I do not always stand up for my beliefs.	1	2	3	4	5
Persistence	I finish things despite obstacles in the way.	1	2	3	4	5
	I do not always stick with what I decide to do.	1	2	3	4	5
Integrity	I always keep my promises.	1	2	3	4	5
	Sometimes I feel like an imposter.	1	2	3	4	5

Vitality	I want to fully participate in life, not just view it from the sidelines.	1	2	3	4	5
	I dread getting up in the morning.	1	2	3	4	5
Love	There are people in my life who care as much about my feelings and well-being as they do about their own.	1	2	3	4	5
	I have great difficulty accepting love from anyone.	1	2	3	4	5
Kindness	I am never too busy to help a friend.	1	2	3	4	5
	I rarely do favors for people.	1	2	3	4	5
Social intelligence	I always know what makes someone tick.	1	2	3	4	5
	I am often puzzled by my own thoughts and feelings.	1	2	3	4	5
Citizenship	I never miss group meetings or team practices.	1	2	3	4	5
	I work at my very best when I am alone and not in a group.	1	2	3	4	5
Fairness	I am strongly committed to principles of justice and equality.	1	2	3	4	5
	If I do not like someone, I cannot help treating him or her differently.	1	2	3	4	5
Leadership	In a group, I try to make sure everyone feels included.	1	2	3	4	5
	I am not good at planning group activities.	1	2	3	4	5
Forgiveness and mercy	I always allow others to leave their mistakes in the past and make a fresh start.	1	2	3	4	5
	I am unwilling to accept apologies.	1	2	3	4	5
Humility and modesty	I am proud that I am an ordinary person.	1	2	3	4	5
	I like to talk about myself.	1	2	3	4	5
Prudence	“Better safe than sorry” is one of my favorite mottoes.	1	2	3	4	5
	My friends believe that I am impulsive in my words and deeds.	1	2	3	4	5

Self-regulation	I am a highly disciplined person.	1	2	3	4	5
	I do not exercise on a regular basis.	1	2	3	4	5
Appreciation of beauty and excellence	I have often been left speechless by the beauty depicted in a movie.	1	2	3	4	5
	I often fail to notice beauty until others comment on it.	1	2	3	4	5
Gratitude	I always express my thanks to people who care about me.	1	2	3	4	5
	When I look at my life, I find few things to be grateful for.	1	2	3	4	5
Hope	I always look on the bright side.	1	2	3	4	5
	I do not have a plan for what I want to be doing 5 years from now.	1	2	3	4	5
Humor	Whenever my friends are in a gloomy mood, I try to tease them out of it.	1	2	3	4	5
	Few people would say I am fun to be with.	1	2	3	4	5
Spirituality	In the last 24 hours, I have spent 30 minutes in prayer, meditation, or contemplation.	1	2	3	4	5
	I do not believe in a universal power or a god.	1	2	3	4	5

Appendix 6 Basic Psychological Need Satisfaction and Frustration Scale

		Completely disagree				Completely agree
1	I feel a sense of choice and freedom in the things I undertake	1	2	3	4	5
2	Most of the things I do feel like “I have to”	1	2	3	4	5
3	I feel that people I care about also care about me	1	2	3	4	5
4	I feel excluded from the group I want to belong to	1	2	3	4	5
5	I feel confident I can do things well	1	2	3	4	5
6	I have serious doubts about whether I can do things well	1	2	3	4	5
7	I feel that my decisions reflect what I really want	1	2	3	4	5
8	I feel forced to do many things I wouldn’t choose to do	1	2	3	4	5
9	I feel connected with people who care for me, and for whom I care	1	2	3	4	5
10	I feel that people who are important to me are cold and distant toward me	1	2	3	4	5
11	I feel capable at what I do	1	2	3	4	5
12	I feel disappointed with many of my performance	1	2	3	4	5
13	I feel my choices express who I really am	1	2	3	4	5
14	I feel pressured to do too many things	1	2	3	4	5
15	I feel close and connected with other people who are important to me	1	2	3	4	5
16	I have the impression that people I spend time with dislike me	1	2	3	4	5
17	I feel competent to achieve my goals	1	2	3	4	5
18	I feel insecure about my abilities	1	2	3	4	5

19	I feel I have been doing what really interests me	1	2	3	4	5
20	My daily activities feel like a chain of obligations	1	2	3	4	5
21	I experience a warm feeling with the people I spend time with	1	2	3	4	5
22	I feel the relationships I have are just superficial	1	2	3	4	5
23	I feel I can successfully complete difficult tasks	1	2	3	4	5
24	I feel like a failure because of mistakes I make	1	2	3	4	5

Appendix 7 Flourishing Scale

This test is designed to measure your self-perceived success in important areas such as relationships, self-esteem, purpose, and optimism. Below are 8 statements with which you may agree or disagree. Using the scale below, indicate your agreement with each item.		Strongly disagree	Disagree	Slightly disagree	Mixed or neither agree nor disagree	Slightly agree	Agree	Strongly agree
1	I lead a purposeful and meaningful life.	1	2	3	4	5	6	7
2	My social relationships are supportive and rewarding.	1	2	3	4	5	6	7
3	I am engaged and interested in my daily activities.	1	2	3	4	5	6	7
4	I actively contribute to the happiness and well-being of others.	1	2	3	4	5	6	7
5	I am competent and capable in the activities that are important to me.	1	2	3	4	5	6	7
6	I am a good person and live a good life.	1	2	3	4	5	6	7
7	I am optimistic about my future.	1	2	3	4	5	6	7
8	People respect me.	1	2	3	4	5	6	7

Appendix 8 PERMA-Profiler

A1	How much of the time do you feel you are making progress towards accomplishing your goals?	0 = never	1	2	3	4	5	6	7	8	9	10 = always
E1	How often do you become absorbed in what you are doing?	0 = never	1	2	3	4	5	6	7	8	9	10 = always
P1	In general, how often do you feel joyful?	0 = never	1	2	3	4	5	6	7	8	9	10 = always
N1	In general, how often do you feel anxious?	0 = never	1	2	3	4	5	6	7	8	9	10 = always
A2	How often do you achieve the important goals you have set for yourself?	0 = never	1	2	3	4	5	6	7	8	9	10 = always
H1	In general, how would you say your health is?	0 = terrible	1	2	3	4	5	6	7	8	9	10 = excellent
M1	In general, to what extent do you lead a purposeful and meaningful life?	0 = not at all	1	2	3	4	5	6	7	8	9	10 = completely
R1	To what extent do you receive help and support from others when you need it?	0 = not at all	1	2	3	4	5	6	7	8	9	10 = completely
M2	In general, to what extent do you feel that what you do in your life is valuable and worthwile?	0 = not at all	1	2	3	4	5	6	7	8	9	10 = completely
E2	In general, to what extent do you feel excited and interested in things?	0 = not at all	1	2	3	4	5	6	7	8	9	10 = always
Lon	How lonely do you feel in your daily life?	0 = not at all	1	2	3	4	5	6	7	8	9	10 = completely
H2	How satisfied are you with your current physical health?	0 = not at all	1	2	3	4	5	6	7	8	9	10 = completely
P2	In general, how often do you feel positive?	0 = never	1	2	3	4	5	6	7	8	9	10 = always
N2	In general, how often do you feel angry?	0 = never	1	2	3	4	5	6	7	8	9	10 = always
A3	How often are you able to handle your responsibilities?	0 = never	1	2	3	4	5	6	7	8	9	10 = always
N3	In general, how often do you feel sad?	0 = never	1	2	3	4	5	6	7	8	9	10 = always

E3	How often do you lose track of time while doing something you enjoy?	0 = never	1	2	3	4	5	6	7	8	9	10 = always
H3	Compared to others of your same age and sex, how is your health?	0 = terrible	1	2	3	4	5	6	7	8	9	10 = excellent
R2	To what extent do you feel loved?	0 = not at all	1	2	3	4	5	6	7	8	9	10 = completely
M3	To what extent do you generally feel you have a sense of direction in your life?	0 = not at all	1	2	3	4	5	6	7	8	9	10 = completely
R3	How satisfied are you with your personal relationships?	0 = not at all	1	2	3	4	5	6	7	8	9	10 = completely
P3	In general, to what extent do you feel contented?	0 = not at all	1	2	3	4	5	6	7	8	9	10 = completely
Hap	Taking all things together, how happy would you say you are?	0 = not at all	1	2	3	4	5	6	7	8	9	10 = completely

Appendix 9 Depressive Disorder Module of the Patient Health Questionnaire

Over the last 2 weeks, how often have you been bothered by any of the following problems?		Not at all	Several days	More than half the days	Nearly every day
1	Little interest or pleasure in doing things?	0	1	2	3
2	Feeling down, depressed, or hopeless?	0	1	2	3
3	Trouble falling or staying asleep, or sleeping too much?	0	1	2	3
4	Feeling tired or having little energy?	0	1	2	3
5	Poor appetite or overeating?	0	1	2	3
6	Feeling bad about yourself – or that you are a failure or have let yourself or your family down?	0	1	2	3
7	Trouble concentrating on things, such as reading the newspaper or watching television?	0	1	2	3
8	Moving or speaking so slowly that other people could have noticed? Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual?	0	1	2	3
9	Thoughts that you would be better off dead, or of hurting yourself in some way?	0	1	2	3

Appendix 10 Generalized anxiety Disorder Module of the Patient Health Questionnaire

Over the last 2 weeks, how often have you been bothered by the following problems?		Not at all	Several days	Over half the days	Nearly every day
1	Feeling nervous, anxious, or on edge?	0	1	2	3
2	Not being able to stop or control worrying?	0	1	2	3
3	Worrying too much about different things?	0	1	2	3
4	Trouble relaxing?	0	1	2	3
5	Being so restless that it’s hard to sit still?	0	1	2	3
6	Become easily annoyed or irritable?	0	1	2	3
7	Feeling afraid as if something awful might happen?	0	1	2	3

Appendix 11 Stress Module of the Patient Health Questionnaire

	In the last 4 weeks, how much have you been bothered by any of the following problems?	Not bothered	Bothered a little	Bothered a lot
1	Worrying about your health?	0	1	2
2	Your weight or how you look?	0	1	2
3	Little or no sexual desire or pleasure during sex?	0	1	2
4	Difficulties with husband/wife, partner/lover or boyfriend/girlfriend?	0	1	2
5	The stress of taking care of children, parents, or other family members?	0	1	2
6	Stress at work outside of the home or at school?	0	1	2
7	Financial problems or worries?	0	1	2
8	Having no one to turn to when you have a problem?	0	1	2
9	Something bad that happened recently?	0	1	2
10	Thinking or dreaming about something terrible that happened to you in the past – like your house being destroyed, a severe accident, being hit or assaulted, or being forced to commit a sexual act?	0	1	2

Appendix 12 zentor Purpose Score

S1	Wie würden Sie Ihr Energieniveau der vergangenen zwei Wochen bewerten?	1 = niedrig	2	3	4	5	6	7 = hoch
S2	Wie würden Sie Ihre Stimmung der vergangenen zwei Wochen bewerten?	1 = negativ	2	3	4	5	6	7 = positiv
P1	Wie oft erkennen Sie derzeit einen tieferen Sinn in Ihrem Leben - wie etwa eine größere Aufgabe oder ein übergeordnetes Ziel?	1 = nie	2	3	4	5	6	7 = immer

PAW	Sehen Sie Ihren tieferen Sinn derzeit eher in der Arbeit oder außerhalb?	1 = in der Arbeit	2	3	4	5	6	7 = außerhalb
SFP	Inwiefern sind Sie derzeit auf der Suche nach tieferem Sinn in Ihrem Leben?	1 = überhaupt nicht	2	3	4	5	6	7 = vollkommen
P2	Wenn Sie sich ein ideales, erfülltes Leben vorstellen, wie sehr ist dieses Leben von tieferem Sinn geprägt?	1 = überhaupt nicht	2	3	4	5	6	7 = vollkommen
E1	Wie oft können Sie sich für Dinge, die Sie derzeit tun, begeistern bzw. sind vollkommen darin versunken?	1 = nie	2	3	4	5	6	7 = immer
O1	Wie viele der Dinge, für die Sie sich begeistern, empfinden Sie als sinnstiftend?	1 = keine	2	3	4	5	6	7 = alle
E2	Wenn Sie sich ein ideales, erfülltes Leben vorstellen, wie sehr ist dieses Leben von Dingen geprägt, für die Sie sich begeistern?	1 = überhaupt nicht	2	3	4	5	6	7 = vollkommen
A1	Wie oft haben Sie derzeit das Gefühl, dass Sie von anderen wertgeschätzt werden?	1 = nie	2	3	4	5	6	7 = immer
O2	Wie viele Ihrer Interaktionen mit anderen empfinden Sie als sinnstiftend?	1 = keine	2	3	4	5	6	7 = alle
A2	Wenn Sie sich ein ideales, erfülltes Leben vorstellen, wie sehr ist dieses Leben von gegenseitiger Wertschätzung geprägt?	1 = überhaupt nicht	2	3	4	5	6	7 = vollkommen
OH	Alles in allem betrachtet, wie glücklich sind Sie?	1 = äußerst unglücklich	2	3	4	5	6	7 = äußerst glücklich

Appendix 13 Pre-Test

Fragebogen zum Thema „How to measure happiness“

Im Rahmen meiner Masterarbeit mit dem Titel „How to measure happiness“ möchte ich untersuchen, wie man individuelle Erfüllung am besten messen kann. Zu diesem Zwecke wurde nachfolgender Fragebogen entwickelt, der darüber hinaus auch Anhaltspunkte liefern soll, woraus eben diese Erfüllung bezogen wird und wie sie gesteigert werden kann.

Die Betreuung der Masterarbeit erfolgt durch den Controlling Lehrstuhl der Technischen Universität München in Zusammenarbeit mit dem Unternehmen zentor GmbH.

Die Beantwortung des Fragebogens dauert etwa 3 Minuten, wobei Sie die Fragen möglichst ohne langes Nachdenken beantworten sollten – es gibt kein richtig oder falsch.

Energie & Stimmung

Studien haben gezeigt, dass unsere aktuelle Stimmung und unser Energieniveau beeinflussen, was wir gerne tun und was uns leichtfällt.

1. Wie würden Sie Ihr Energieniveau der vergangenen zwei Wochen bewerten?

niedrig ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ hoch

2. Wie würden Sie Ihre Stimmung der vergangenen zwei Wochen bewerten?

negativ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ positiv

Sinn, Engagement & Wertschätzung

In der Glücksforschung wurden drei Themen als Quellen für ein erfüllendes Leben identifiziert: Tieferer Sinn, Engagement und Wertschätzung.

3. Wie stark erkennen Sie derzeit einen tieferen Sinn in Ihrem Leben – wie etwa einen gewichtigen Beweggrund, eine größere Aufgabe oder ein übergeordnetes Ziel?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ vollkommen

4. Sehen Sie Ihren tieferen Sinn derzeit eher in der Arbeit oder außerhalb?

in der Arbeit ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ außerhalb

5. Inwiefern sind Sie derzeit auf der Suche nach tieferem Sinn in Ihrem Leben?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ vollkommen

6. Wenn Sie sich ein ideales, erfülltes Leben vorstellen, wie sehr ist dieses Leben von tieferem Sinn geprägt?

keine ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ alle

7. Wie oft können Sie sich für Dinge, die sie derzeit tun, begeistern bzw. sind vollkommen darin versunken?

nie ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ immer

8. Wie viele der Dinge, für die Sie sich begeistern, empfinden Sie als sinnstiftend?

keine ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ alle

9. Wenn Sie sich ein ideales, erfülltes Leben vorstellen, wie sehr ist dieses Leben von Dingen geprägt, für die Sie sich begeistern?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ vollkommen

10. Wie oft haben Sie derzeit das Gefühl, dass Sie von Anderen wertgeschätzt werden?

nie ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ immer

11. Wie viele Ihrer Interaktionen mit Anderen empfinden Sie als sinnstiftend?

keine ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ alle

12. Wenn Sie sich ein ideales, erfülltes Leben vorstellen, wie sehr ist dieses Leben von gegenseitiger Wertschätzung geprägt?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ vollkommen

13. Alles in allem betrachtet, wie glücklich sind Sie?

äußerst unglücklich ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ äußerst glücklich

Demografische Daten

Diese Daten werden lediglich in anonymisierter Form zu wissenschaftlichen Zwecken genutzt, wodurch sie streng vertraulich behandelt werden.

Welchem Geschlecht fühlen Sie sich zugehörig?

◯ weiblich ◯ männlich ◯ divers

Welche Position beschreibt Ihre berufliche Situation am besten?

◯ Geschäftsführer / Vorstand ◯ Abteilungsleiter ◯ Teamleiter

◯ Fachkraft ◯ Selbstständiger / Freiberufler ◯ Rentner / Pensionär

◯ Student ◯ Sonstiges

In welcher Altersgruppe befinden Sie sich gegenwärtig?

◯ <21 ◯ 21-30 ◯ 31-40 ◯ 41-50 ◯ 51-60

◯ 61-70 ◯ >70

Vielen Dank für Ihre Unterstützung!

Appendix 14 Main Survey

Herzlich willkommen und vielen Dank, dass Sie sich Zeit für diese Befragung nehmen!

Im Rahmen meiner Masterarbeit mit dem Titel "How to measure happiness" möchte ich untersuchen, wie man individuelle Erfüllung am besten messen kann. Zu diesem Zwecke wurden nachfolgende Fragen ausgewählt, die Anhaltspunkte darüber liefern sollen, woraus eben diese Erfüllung bezogen wird und wie diese gesteigert werden kann.

Die Betreuung der Masterarbeit erfolgt durch den Lehrstuhl für Controlling der Technischen Universität München in Zusammenarbeit mit dem Unternehmen zentor GmbH.

Die Befragung kann auch auf mobilen Endgeräten durchgeführt werden, die Nutzung eines Geräts mit einem größeren Bildschirm wird jedoch sehr empfohlen.

Ihre Angaben sind völlig anonym und die Zuordnung der Daten zu einzelnen Personen ist nicht möglich. Die Auswertung erfolgt ausschließlich zu wissenschaftlichen

Zwecken, wodurch Ihre Daten streng vertraulich behandelt werden.

Für alle Fragen gilt: Es gibt keine richtigen oder falschen Antworten. Es geht hier ausschließlich um Ihre persönlichen Erfahrungen und Einstellungen. Bitte beantworten Sie daher alle Fragen so ehrlich und spontan wie möglich.

Bei Fragen können Sie sich gerne an mich wenden unter: debora.dietrich@live.de

Vielen Dank für Ihre Unterstützung!

Debora Dietrich

Powered by Qualtrics

In der Glücksforschung wurden drei Themen als Quellen für ein erfüllendes Leben identifiziert: Tieferer Sinn, Engagement und Wertschätzung. Die folgenden Fragen versuchen diese Themen aus Ihrer aktuellen, individuellen Lebenssituation zu erfassen.

Wie würden Sie Ihr Energieniveau der vergangenen zwei Wochen bewerten?

niedrig ○ ○ ○ ○ ○ ○ ○ hoch

Wie würden Sie Ihre Stimmung der vergangenen zwei Wochen bewerten?

negativ ○ ○ ○ ○ ○ ○ ○ positiv

Wie oft erkennen Sie derzeit einen tieferen Sinn in Ihrem Leben - wie etwa eine größere Aufgabe oder ein

übergeordnetes Ziel?

nie ○ ○ ○ ○ ○ ○ ○ immer

Sehen Sie Ihren tieferen Sinn derzeit eher in der Arbeit oder außerhalb?

in der Arbeit ○ ○ ○ ○ ○ ○ ○ außerhalb

Inwiefern sind Sie derzeit auf der Suche nach tieferem Sinn in Ihrem Leben?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ vollkommen

Wenn Sie sich ein ideales, erfülltes Leben vorstellen, wie sehr ist dieses Leben von tieferem Sinn geprägt?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ vollkommen

Wie oft können Sie sich für Dinge, die Sie derzeit tun, begeistern bzw. sind vollkommen darin versunken?

nie ○ ○ ○ ○ ○ ○ ○ immer

Wie viele der Dinge, für die Sie sich begeistern, empfinden Sie als sinnstiftend?

keine ○ ○ ○ ○ ○ ○ ○ alle

Wenn Sie sich ein ideales, erfülltes Leben vorstellen, wie sehr ist dieses Leben von Dingen geprägt, für die Sie sich begeistern?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ vollkommen

Wie oft haben Sie derzeit das Gefühl, dass Sie von anderen wertgeschätzt werden?

nie ○ ○ ○ ○ ○ ○ ○ immer

Wie viele Ihrer Interaktionen mit anderen empfinden Sie als sinnstiftend?

keine ○ ○ ○ ○ ○ ○ ○ alle

Wenn Sie sich ein ideales, erfülltes Leben vorstellen, wie sehr ist dieses Leben von gegenseitiger Wertschätzung geprägt?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ vollkommen

Alles in allem betrachtet, wie glücklich sind Sie?

äußerst unglücklich ○ ○ ○ ○ ○ ○ ○ äußerst glücklich

Die nachfolgenden Fragen entstammen dem **Perma Profiler** (Butler & Kern), der im weitesten Sinne das individuelle Wohlbefinden messen möchte. Genauer betrachtet werden dabei die Bereiche positive Emotion, Engagement, Beziehungen, Sinnhaftigkeit und Zielerreichung.

Wie oft haben Sie das Gefühl, sich der Erreichung Ihrer Ziele zu nähern?

nie ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ immer

Wie oft sind Sie ganz in dem versunken, was Sie gerade tun?

nie ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ immer

Wie oft fühlen Sie sich im Allgemeinen voller Freude?

nie ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ immer

Wie oft fühlen Sie sich ängstlich?

nie ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ immer

Wie oft erreichen Sie wichtige selbstgesetzte Ziele?

nie ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ immer

Wie würden Sie Ihre Gesundheit im Allgemeinen einschätzen?

sehr schlecht ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ exzellent

In welchem Ausmaß führen Sie ein sinnvolles und bedeutsames Leben?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ vollkommen

In welchem Ausmaß erhalten Sie Hilfe und Unterstützung von anderen, wenn Sie diese brauchen?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ vollkommen

In welchem Ausmaß glauben Sie, dass das, was Sie in Ihrem Leben tun, wertvoll und lohnenswert ist?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ vollkommen

In welchem Maß können Sie sich für Dinge interessieren und begeistern?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ vollkommen

Wie einsam fühlen Sie sich in Ihrem Alltagsleben?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ vollkommen

Wie zufrieden sind Sie derzeit mit Ihrer Gesundheit?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ vollkommen

Wie oft fühlen Sie sich im Allgemeinen positiv gestimmt?

nie ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ immer

Wie oft fühlen Sie sich wütend?

nie ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ immer

Wie oft sind Sie in der Lage Ihren Verantwortungen gerecht zu werden?

nie ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ immer

Wie oft fühlen Sie sich traurig?

nie ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ immer

Wie oft vergessen Sie die Zeit während Sie etwas tun, das Sie genießen?

nie ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ immer

Wie schätzen Sie Ihre Gesundheit im Vergleich zu anderen ein, die dasselbe Geschlecht und Alter wie Sie haben?

sehr schlecht ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ exzellent

In welchem Ausmaß haben Sie sich bisher geliebt gefühlt?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ vollkommen

In welchem Ausmaß glauben Sie, dass Sie im Leben eine Orientierung haben?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ vollkommen

Wie zufrieden sind Sie mit Ihren persönlichen Beziehungen?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ vollkommen

In welchem Ausmaß fühlen Sie sich zufrieden?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ vollkommen

Die letzten drei Fragenblöcke sind Module des Gesundheitsfragebogens für Patienten (**Patient Health Questionnaire**, Löwe et al.) und dienen dazu, das psychische Wohlbefinden zu erfassen.

Wie oft fühlten Sie sich im Verlauf der letzten 2 Wochen durch die folgenden Beschwerden beeinträchtigt? (0 = überhaupt nicht - 3 = beinahe jeden Tag)

	0	1	2	3
Wenig Interesse oder Freude an Ihren Tätigkeiten	○	○	○	○
Niedergeschlagenheit, Schwermut oder Hoffnungslosigkeit	○	○	○	○
Schwierigkeiten ein- oder durchzuschlafen oder vermehrter Schlaf	○	○	○	○
Müdigkeit oder Gefühl, keine Energie zu haben	○	○	○	○

	0	1	2	3
Verminderter Appetit oder übermäßiges Bedürfnis zu essen	○	○	○	○
Schlechte Meinung von sich selbst; Gefühl, ein Versager zu sein oder die Familie enttäuscht zu haben	○	○	○	○
Schwierigkeiten, sich auf etwas zu konzentrieren, z.B. beim Zeitunglesen oder Fernsehen	○	○	○	○
Waren Ihre Bewegungen oder Ihre Sprache so verlangsamt, dass es auch anderen auffallen würde? Oder waren Sie im Gegenteil "zappelig" oder ruhelos und hatten dadurch einen stärkeren Bewegungsdrang als sonst?	○	○	○	○
Gedanken, dass Sie lieber tot wären oder sich Leid zufügen möchten	○	○	○	○

Wie oft fühlten Sie sich im Verlauf der letzten 2 Wochen durch die folgenden Beschwerden beeinträchtigt? (0 = überhaupt nicht - 3 = beinahe jeden Tag)

	0	1	2	3
Nervosität, Ängstlichkeit oder Anspannung	○	○	○	○
Nicht in der Lage sein, Sorgen zu stoppen oder zu kontrollieren	○	○	○	○
Übermäßige Sorgen bezüglich verschiedener Angelegenheiten	○	○	○	○
Schwierigkeiten zu entspannen	○	○	○	○
Rastlosigkeit, so dass Stillsitzen schwerfällt	○	○	○	○
Schnelle Verärgerung oder Gereiztheit	○	○	○	○
Gefühl der Angst, so als würde etwas Schlimmes passieren	○	○	○	○

Wie stark fühlten Sie sich im Verlauf der letzten 4 Wochen durch die folgenden Beschwerden beeinträchtigt?
(0 = nicht beeinträchtigt - 2 = stark beeinträchtigt)

	0	1	2
Sorgen über Ihre Gesundheit	○	○	○
Sorgen über Ihr Gewicht oder Ihr Aussehen	○	○	○
Wenig oder kein sexuelles Verlangen oder Vergnügen beim Geschlechtsverkehr	○	○	○
Schwierigkeiten mit dem Ehepartner, Lebensgefährten, Freundin/Freund	○	○	○
Belastung durch die Versorgung von Kindern, Eltern oder anderen Familienangehörigen	○	○	○
Stress bei der Arbeit oder in der Schule	○	○	○
Finanzielle Probleme oder Sorgen	○	○	○

	0	1	2
Niemanden zu haben, mit dem man Probleme besprechen kann	○	○	○
Etwas Schlimmes, das vor kurzem passiert ist	○	○	○
Gedanken an schreckliche Ereignisse von früher oder Träume darüber - z.B. die Zerstörung des eigenen Heimes, ein schwerer Unfall, körperliche Gewalt oder eine sexuelle Handlung unter Zwang	○	○	○

Sie sind nun fast am Ende angelangt. Zum Abschluss beantworten Sie bitte noch einige Fragen zu Ihrer Person. Hierbei möchte ich noch einmal darauf hinweisen, dass ihre Daten anonymisiert sind und der Rückschluss auf einzelne Personen nicht möglich ist.

Welchem Geschlecht fühlen Sie sich zugehörig?

- ◯ weiblich
- ◯ männlich
- ◯ divers

Welche Position beschreibt Ihre berufliche Situation am besten?

- ◯ Geschäftsführer / Vorstand
- ◯ Abteilungsleiter
- ◯ Teamleiter
- ◯ Fachkraft
- ◯ Selbstständiger / Freiberufler

- ◯ Rentner / Pensionär
- ◯ Student
- ◯ Sonstiges

In welcher Altersgruppe befinden Sie sich gegenwärtig?

- ◯ < 21
- ◯ 21-30
- ◯ 31-40
- ◯ 41-50
- ◯ 51-60
- ◯ 61-70
- ◯ >70

Befinden Sie sich momentan in einer Übergangsphase? Wenn ja, in welcher?

- ☐ Berufseinstieg / -wechsel
- ☐ Wohnortswechsel
- ☐ Änderung der familiären Situation
- ☐ Änderung der generellen Lebenssituation (z.B. Midlife-Crisis)
- ☐ Übergang in den Ruhestand
- ☐ Sonstiges

Da ein Vergleich der Ergebnisse über einen gewissen Zeitablauf für Forschungszwecke überaus interessant ist, würde ich dieselbe Umfrage in 3 Wochen gerne noch einmal starten.

Sollten Sie zu einer erneuten Teilnahme bereit sein, tragen Sie bitte Ihre E-Mail-Adresse in untenstehendes Feld ein. Diese erhält dann den Link für die Folgeerhebung und wird einmalig zur Verknüpfung der Datenreihe verwendet; die Daten selbst werden selbstverständlich anonym ausgewertet und die E-Mail-Adresse wird wieder gelöscht.

Unter allen Teilnehmern der zweiten Versuchsreihe werden 3 Amazongutscheine im Wert von jeweils 30€ verlost!

(Code für Nutzer von SurveyCircle: G4SK-7K35-LUR6-GRG3)

Wir danken Ihnen für Ihre Teilnahme an dieser Umfrage.
Ihre Antwort wurde erfasst.

Appendix 15 Retest

Herzlich willkommen und vielen Dank, dass Sie sich noch einmal Zeit für diese Befragung nehmen!

Wie Sie bereits wissen, möchte ich im Rahmen meiner Masterarbeit mit dem Titel "How to measure happiness" untersuchen, wie man individuelle Erfüllung am besten messen kann. Zu diesem Zwecke wurden nachfolgende Fragen ausgewählt, die Anhaltspunkte darüber liefern sollen, woraus eben diese Erfüllung bezogen wird und wie diese gesteigert werden kann.

Im Besonderen untersucht diese zweite Versuchsreihe Veränderungen im Zeitablauf anhand nur einer Skala, womit diese Umfrage sehr viel weniger Zeit beanspruchen wird als die vergangene.

Die Betreuung der Masterarbeit erfolgt durch den Lehrstuhl für Controlling der Technischen Universität München in Zusammenarbeit mit dem Unternehmen zentor GmbH.

Anhand Ihrer E-Mail-Adresse werden Ihre Angaben mit der Datenreihe der letzten Erhebung verknüpft, wobei die

Auswertung selbstverständlich anonym und ausschließlich zu wissenschaftlichen Zwecken erfolgt. Ihre Daten werden streng vertraulich behandelt und Ihre E-Mail-Adresse wird nach Verlosung der Gutscheine wieder gelöscht.

Für alle Fragen gilt: Es gibt keine richtigen oder falschen Antworten. Es geht hier ausschließlich um Ihre persönlichen Erfahrungen und Einstellungen. Bitte beantworten Sie daher alle Fragen so ehrlich und spontan wie möglich.

Bei Fragen können Sie sich gerne an mich wenden unter: debora.dietrich@live.de

Vielen Dank für Ihre Unterstützung!

Debora Dietrich

In der Glücksforschung wurden drei Themen als Quellen für ein erfüllendes Leben identifiziert: Tieferer Sinn, Engagement und Wertschätzung. Die folgenden Fragen versuchen diese Themen aus Ihrer aktuellen, individuellen Lebenssituation zu erfassen.

Wie würden Sie Ihr Energieniveau der vergangenen zwei Wochen bewerten?

niedrig ○ ○ ○ ○ ○ ○ ○ hoch

Wie würden Sie Ihre Stimmung der vergangenen zwei Wochen bewerten?

negativ ○ ○ ○ ○ ○ ○ ○ positiv

Wie oft erkennen Sie derzeit einen tieferen Sinn in Ihrem Leben - wie etwa eine größere Aufgabe oder ein

übergeordnetes Ziel?

nie ○ ○ ○ ○ ○ ○ ○ immer

Sehen Sie Ihren tieferen Sinn derzeit eher in der Arbeit oder außerhalb?

in der Arbeit ○ ○ ○ ○ ○ ○ ○ außerhalb

Inwiefern sind Sie derzeit auf der Suche nach tieferem Sinn in Ihrem Leben?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ vollkommen

Wenn Sie sich ein ideales, erfülltes Leben vorstellen, wie sehr ist dieses Leben von tieferem Sinn geprägt?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ vollkommen

Wie oft können Sie sich für Dinge, die Sie derzeit tun, begeistern bzw. sind vollkommen darin versunken?

nie ○ ○ ○ ○ ○ ○ ○ immer

Wie viele der Dinge, für die Sie sich begeistern, empfinden Sie als sinnstiftend?

keine ○ ○ ○ ○ ○ ○ ○ alle

Wenn Sie sich ein ideales, erfülltes Leben vorstellen, wie sehr ist dieses Leben von Dingen geprägt, für die Sie sich begeistern?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ vollkommen

Wie oft haben Sie derzeit das Gefühl, dass Sie von anderen wertgeschätzt werden?

nie ○ ○ ○ ○ ○ ○ ○ immer

Wie viele Ihrer Interaktionen mit anderen empfinden Sie als sinnstiftend?

keine ○ ○ ○ ○ ○ ○ ○ alle

Wenn Sie sich ein ideales, erfülltes Leben vorstellen, wie sehr ist dieses Leben von gegenseitiger Wertschätzung geprägt?

überhaupt nicht ○ ○ ○ ○ ○ ○ ○ vollkommen

Alles in allem betrachtet, wie glücklich sind Sie?

äußerst unglücklich ○ ○ ○ ○ ○ ○ ○ äußerst glücklich

Vielen Dank für Ihre erneute Teilnahme!

Sollten Sie einen der 3 Amazongutscheine gewonnen haben, werden Sie via E-Mail darüber informiert.

Wir danken Ihnen für Ihre Teilnahme an dieser Umfrage.
Ihre Antwort wurde erfasst.

Appendix 16 Descriptive Statistics of the Pre-Test

		Frequency	Percent
Gender	Female	11	52.4
	Male	10	47.6
	Diverse	0	0.0
Position	Managing Director / Board Member	0	0.0
	Head of Department	2	9.5
	Team Leader	1	4.8
	Self-Employed Person / Freelancer	2	9.5
	Professional	6	28.6
	Student	4	19.0
	Pensioner	2	9.5
	Other	4	19.0
Age	<21	0	0.0
	21-30	11	52.4
	31-40	3	14.3
	41-50	3	14.3
	51-60	2	9.5
	61-70	0	0.0
	>70	2	9.5

N = 21.

Appendix 17 Descriptive Statistics of the Retest

		Frequency	Percent
Gender	Female	93	66.9
	Male	46	33.1
	Diverse	0	0.0
Position	Managing Director / Board Member	1	0.7
	Head of Department	5	3.6
	Team Leader	9	6.5
	Self-Employed Person / Freelancer	5	3.6
	Professional	39	28.3
	Student	63	45.7
	Pensioner	2	1.4
	Other	14	10.1
Age	<21	11	7.9
	21-30	98	70.5
	31-40	12	8.6
	41-50	13	9.4
	51-60	3	2.2
	61-70	0	0.0
	>70	2	1.4
Transitional Phase	Occupational Change	52	37.4
	Change of Residence	17	12.2
	Change of Family Circumstances	9	6.5
	General Life Changes	13	9.4
	Transition to Retirement	0	0.0
	Other	18	12.9

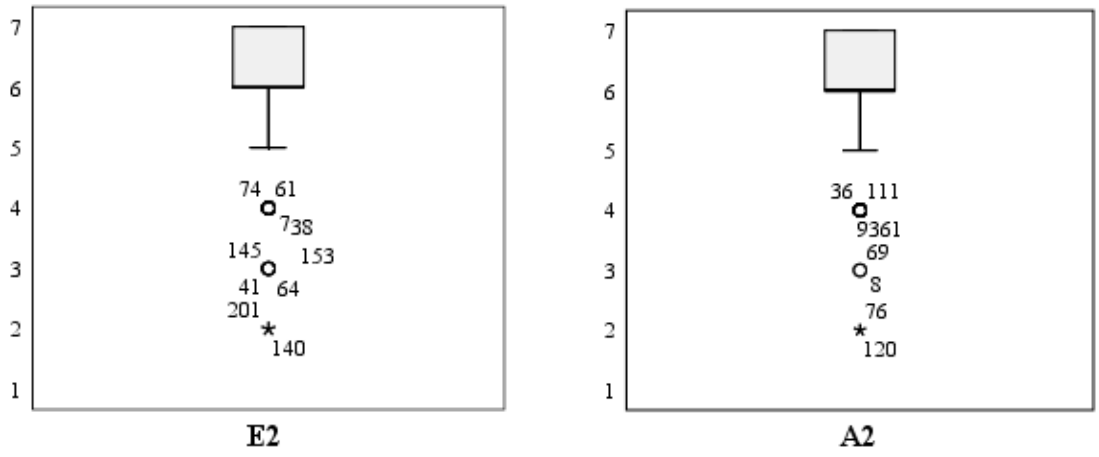
N = 139.

Appendix 18 Distributional Indices of the ZPS

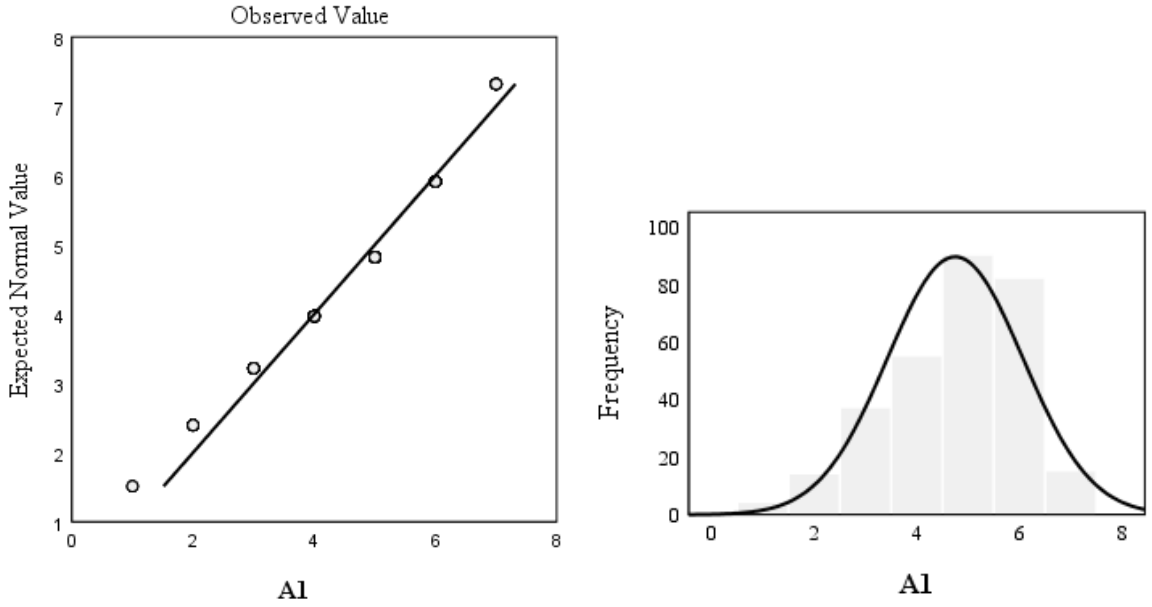
Item Label	Mean	SD	Min	Max	Skew	Kurt
S1	4.44	1.43	1	7	-.32	-.47
S2	4.54	1.52	1	7	-.43	-.50
P1	4.37	1.64	1	7	-.22	-1.00
PAW	4.49	1.75	1	7	-.21	-1.09
SFP	4.19	1.87	1	7	-.27	-1.13
P2	4.84	1.62	1	7	-.65	-.31
E1	4.78	1.35	1	7	-.61	.05
O1	4.62	1.37	1	7	-.43	-.20
E2	6.02	.96	2	7	-1.20	2.12
A1	4.75	1.32	1	7	-.57	-.15
O2	4.72	1.23	1	7	-.55	.06
A2	6.12	.96	2	7	-1.24	1.87
OH	4.97	1.33	1	7	-.95	.48

N = 297. *SD,* Standard Deviation; *Min,* Minimum; *Max,* Maximum; *Skew,* Skewness; *Kurt,* Kurtosis; *S,* Sentiment; *P,* Purpose; *PAW,* Purpose at Work; *SFP,* Search for Purpose; *E,* Engagement; *O,* Overlap; *A,* Appreciation; *OH*, Overall Happiness

Appendix 19 Boxplots of the ZPS Items E2 and A2



Appendix 20 Q-Q Plot and Histogram of the ZPS Item A1



Appendix 21 ZPS Inter-Item Pearson's Correlation Matrix

Item Label	P1	PAW	SFP	P2	E1	O1	E2	A1	O2	A2	OH
P1	1										
PAW	-.15**	1									
SFP	-.07	.01	1								
P2	.38**	-.10	.42**	1							
E1	.38**	-.09	-.11	.01	1						
O1	.45**	-.02	.06	.23**	.34**	1					
E2	.08	-.08	.03	.08	.15*	.18**	1				
A1	.32**	-.10	-.09	.05	.37**	.29**	.16**	1			
O2	.39**	-.08	.06	.16**	.30**	.36**	.18**	.48**	1		
A2	.18**	-.07	.00	.08	.09	.27**	.27**	.27**	.22**	1	
OH	.49**	-.07	-.22**	.04	.49**	.30**	.18**	.54**	.36**	.24**	1

** $p < .01$; * $p < .05$; N = 297. *P,* Purpose; *PAW,* Purpose at Work; *SFP,* Search for Purpose; *E,* Engagement; *O,* Overlap; *A,* Appreciation; *OH*, Overall Happiness

Appendix 22 Standardized Factor Loadings of the Four-Factor Model

	Item	Purpose	Engagement	Appreciation	Overlap Factor
Purpose	P1	1.03			
	P2	.37			
Engagement	E1		.55		
	E2		.27		
Appreciation	A1			.69	
	A2			.39	
Overlap Factor	O1				.58
	O2				.62

N = 297. *P,* Purpose; *E,* Engagement; *A,* Appreciation*; O,* Overlap

Appendix 23 Standardized Factor Loadings of the Three-Factor Model with Overlap Items

	Item	Purpose	Engagement	Appreciation
Purpose	P1	1.07		
	P2	.35		
Engagement	E1		.56	
	E2		.25	
	O1		.62	
Appreciation	A1			.68
	A2			.37
	O2			.70

N = 297. *P,* Purpose; *E,* Engagement; *A,* Appreciation*; O,* Overlap

Appendix 24 ANOVA Results for Overall Happiness

		Frequency	*Mean*	*SD*	df_M	df_R	*F*	*p*	ω^2
Gender		297	4.97	1.33	2	294	3.23	< .05	0.01
	Female	177	5.07	1.16					
	Male	118	4.85	1.52					
	Diverse	2	3.00	1.41					
Position		296	4.96	1.33	7	288	1.79	> .05	0.02
	Managing Director / Board Member	5	5.80	.84					
	Head of Department	12	4.67	1.16					
	Team Leader	29	4.93	1.62					
	Self-Employed Person / Freelancer	10	4.70	1.25					
	Professional	79	5.30	.97					
	Student	130	4.88	1.28					
	Pensioner	3	4.00	2.65					
	Other	28	4.61	1.89					
Age		297	4.97	1.33	6	290	1.17	> .05	0.00
	<21	22	4.41	1.40					
	21-30	201	5.00	1.27					
	31-40	38	5.13	1.19					
	41-50	22	5.14	1.67					
	51-60	8	4.63	1.69					
	61-70	2	5.50	.71					
	>70	4	4.25	2.22					

N = 297. *SD,* Standard Deviation; df_M, degrees of freedom for the Effect of the Model; df_R, degrees of freedom for the Residuals of the Model; *F,* F-ratio; *p,* Significance Value; ω^2, Omega Squared

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