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Are only emotional strengths emotional?

Character Strengths and Disposition to Positive Emotions

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Abstract

This study aimed at examining the relations between character strengths and dispositional positive emotions (i.e. joy, contentment, pride, love, compassion, amusement, and awe). A sample of 574 German-speaking adults filled in the *Dispositional Positive Emotion Scales (DPES)* (Shiota, Keltner, & John, 2006), and the *Values in Action Inventory of Strengths (VIA-IS)* (Peterson, Park, & Seligman, 2005). The factorial structure of the DPES was examined on item level. Joy and contentment could not be clearly separated; the items of the other five emotions loaded on separate factors. A confirmatory factor analysis assuming two latent factors (*self-oriented* and *object/situation specific*) was computed on scale level. Results confirmed the existence of these factors, but also indicated that the seven emotions did not split up into two clearly separable families. Correlations between dispositional positive emotions and character strengths were positive and generally low to moderate; a few theoretically meaningful strengths–emotions pairs yielded coefficients $> .40$. Finally, the link between five character strengths factors (i.e. emotional strengths, interpersonal strengths, strengths of restraint, intellectual strengths, and theological strengths) and the emotional dispositions was examined. Each of the factors displayed a distinctive “emotional pattern”; *emotional strengths* evidenced the most numerous and strongest links to emotional dispositions.

Keywords: positive psychology, character strengths, positive emotions

Character Strengths and Disposition to Positive Emotions

Positive psychology focuses on conditions and processes that enable human flourishing and optimal functioning (Gable & Haidt, 2005), more precisely on positive subjective experiences, positive individual traits, and positive institutions (Seligman & Csikszentmihalyi, 2000). It is hypothesized that positive institutions enable the display of positive traits, namely character strengths, which in turn foster positive experiences and positive outcomes (Peterson, 2006).

A large empirical literature deals with the link between character strengths and positive outcomes such as, for example, recovery from illness (Peterson, Park, & Seligman, 2006), life and work satisfaction (Peterson, Park, Hall, & Seligman, 2009), well-being (Park, Peterson, & Seligman, 2004), or job performance (Harzer & Ruch, 2011). The relation between character strengths and positive subjective experiences (i.e. emotions) has received less research attention. Only a few studies examined the link between specific character strengths, such as love (Park & Peterson, 2006a), zest (Park & Peterson, 2006a), hope (Park & Peterson, 2006a; Yurkewicz (2009), gratitude (Park & Peterson, 2006a), self-control (Yurkewicz, 2009), kindness (Otake, Shimai, Tanaka-Matsumi, Otsui, & Fredrickson, 2006; Tkach, 2006), wisdom (Beaumont, 2009), or forgiveness (Maltby, Day, & Barber, 2005; Pinto & Barros-Oliveira, 2006) and positive affect in children, adolescents and adults.

Although there is increasing recognition of the existence of multiple positive emotions (e.g. Ekman, 1994; Fredrickson, 1998; Haidt, 2003; Lazarus, 1991), most of these studies relied on subjective happiness as a uni-dimensional measure of positive affect. This raises the question, whether such a uni-dimensional measure can meet the plural nature of positive emotions, or whether a pluri-dimensional measure would be more appropriate. Furthermore, current empirical data suggest the existence of very specific links between some of the character strengths and positive emotions. Therefore, the main idea of the present study was

to combine a measure of multiple character strengths with a measure of distinct positive emotions, to make a step further into a deeper understanding and a finer grained analysis of the relation between character strengths and positive emotions.

Measuring character strengths

In Peterson and Seligman's (2004) *Values-in-action classification* (VIA), 24 character strengths - defined as positively valued traits that enable the "good life" (p. 4) - are theoretically assigned to six universal virtues which consistently appear in philosophical and religious texts across culture and history (Dahlsgaard, Peterson, & Seligman, 2005), namely wisdom and knowledge, justice, courage, humanity, temperance, and transcendence. Virtues are conceived as abstract concepts, whereas character strengths are seen as concrete processes and mechanisms which allow displaying the virtues in every-day life, and which can be assessed. The best-studied and at the moment standard instrument for the assessment of character strengths is the Values in Action Inventory of Strengths (*VIA-IS*; Peterson, Park, & Seligman, 2005).¹

According to Peterson and Seligman (2004), their classification of the 24 character strengths under the six virtues is not a definitive one. Specific strengths of character might be added, deleted, or combined, and their organization under core virtues might be changed "as theory and research [...] proceed" (p. 31). They computed first exploratory factor analyses on scale level, and reported about five factors which were similar but not identical to the six virtues of the a-priori classification (Peterson & Seligman, 2004, p. 632). The factor of *emotional strengths* was loaded by zest, hope, bravery, humor, love, and social intelligence. The factor named *interpersonal strengths* combined leadership, teamwork, kindness,

¹ Details concerning the reliability and validity of the VIA-IS are presented in Peterson and Seligman (2004), Park and Peterson (2006b), Park, Peterson, and Seligman (2006), Peterson, Ruch, Beermann, Park, and Seligman (2007), Peterson, Park, and Seligman, (2006), Peterson and Seligman (2004). Details for the German version can be found in Ruch et al. (2010).

forgiveness, fairness, and modesty. The factor called *strengths of restraint* comprised prudence, perseverance, self-regulation, honesty, and perspective. The factor representing *intellectual strengths* embraced love of learning, creativity, curiosity, and judgment. And finally, the fifth factor, identified as *theological strengths*, grouped religiousness, gratitude, and appreciation of beauty. A few years later, this five-factor solution was reproduced for the German VIA-IS (Ruch, Proyer, Harzer, Park, Peterson, & Seligman, 2010), and for the Hebrew version as well (Littman-Ovadia & Lavy, 2012).

Later, Peterson (2006) also discussed a factor analysis based on ipsative data. Two bipolar factors emerged with the strength being located in a full circumplex. The first factor was labeled *strengths of the heart* (e.g. religiousness, humor) vs. *mind* (e.g. self-regulation, perseverance), and contrasted strengths entailing emotional expression vs. intellectual restraint. The second factor was named *strengths focusing on the self* (e.g. creativity, curiosity) vs. *on others* (e.g. teamwork, leadership), and distinguished between strengths focusing on self vs. others. This two-factor solution could be reproduced for the German VIA-IS (Ruch et al., 2010), but not for the Hebrew version (Littman-Ovadia & Lavy, 2012).

Measuring the disposition to experience positive emotions

Up to now, two instruments measuring the disposition to experience different positive emotions do exist: a modified version of Izard's (1977) *Differential Emotions Scale* (mDES; Fredrickson, Tugade, Waugh, & Larkin, 2003), and the *Dispositional Positive Emotions Scales* (DPES; Shiota, Keltner and John, 2006). The modified DES comprises joy, interest, and eight negative emotions – all of which appear in the original DES – plus eight additional discrete positive emotions (i.e. amusement, awe, contentment, gratitude, hope, love, sexual desire, and pride), and assesses how often these emotions were experienced during the last 24 hours. The DPES, in turn, measures the general disposition to experience seven distinct positive emotions (i.e. joy, contentment, pride, love, compassion, amusement, and awe).

We wanted to correlate character strengths, which are assumed to be trait-like (Peterson & Seligman, 2004), with the disposition to experience positive emotions. The DPES seemed particularly suitable with respect to this aim, as it assesses the overall disposition to experience distinct positive emotions (whereas the mDES measures their occurrence during the last 24 hours, thus being rather a state, than a trait measure). Furthermore, several studies using this specific instrument and providing details about its psychometric quality were published recently. Therefore, the DPES was selected for this research.

Shiota et al. (2006) developed the DPES to investigate the relation between the disposition to experience seven positive emotions and two core aspects of personality: the Big Five factors Extraversion, Agreeableness, Openness to Experience, Neuroticism and Conscientiousness and adult attachment style. Correlations showed theoretically meaningful differentiation. For example, Extraversion was significantly associated with all of the positive emotion dispositions, whereas only the agency-focused emotions joy, contentment and pride correlated significantly with Conscientiousness, and only love and compassion with the prosocial personality disposition Agreeableness. In subsequent studies, selected subscales were used rather than the whole test. For example, Shiota, Keltner, and Mossman (2007) used the joy, contentment, and awe subscales within the scope of a research about elicitors, appraisals, and effect on self-concept of awe. The happiness, pride and humor subscales were employed to study positive emotions disturbance in depression (Gruber, Oveis, Keltner, & Johnson, 2010). Finally, the joy, pride, love, and compassion subscales were utilized to examine whether the HPS was differentially related to reward and achievement-related, but not prosocial dimensions of positive emotion (Gruber, & Johnson, 2009).

Relations between character strengths and positive emotions: uni- or bidirectional?

Two different ideas about the nature of the directionality of the link between character strengths and positive emotions can be found in the literature. On one side, there is the

postulate that strengths are psychologically fulfilling, and thus contributing to the “good life” (Peterson and Seligman’s (2004); therefore, living in accordance to one’s core strengths, “leads to more positive emotions, to more meaning, to more accomplishment, and to better relationships” (Seligman, 2011, p. 24). On the other side, there is Fredrickson’s (1998, 2001) broaden-and-build theory which assumes not only that positive emotions help building and developing personal resources (e.g. positive traits), but also that the growing and flourishing of these resources predict increased emotional well-being over time. Fredrickson (2001) names this bidirectional or circular effect an “upward spiral” (p. 223). The “upward spiral” model suggests that the link between character strengths and positive emotions might be reciprocal, with not only character strengths fostering positive emotional experiences (Peterson, 2006), but also repeated positive emotion nurturing the strengths. Fredrickson (2001; see also Fredrickson, Tugade, Waugh, & Larkin, 2003) stresses the fact that it is the tendency to regularly experience even small positive emotions which broadens and builds. Consequently, to study the relations between positive emotions and character strengths, the *disposition* to repeatedly experience positive emotions should be taken into account.

Aims of the study

The main purpose of the present study was to investigate the relationships between character strengths and the disposition to experience several distinct positive emotions. Within this general framework, three more specific objectives were set. The first objective was to examine the factor structure of the DPES on item and on scale level, in order to address the question whether the seven dispositional emotions can be considered as distinct constructs or should rather be grouped into families. Fredrickson’s (1998) initial broaden-and-build model comprised three positive emotions, namely joy, interest, and contentment. When additional emotions were later included (i.e. love, pride, gratitude, and elevation), she discussed the difference between emotions which were mainly intrapersonal or individual,

and emotions which had social causes and consequences (Fredrickson, 2000, pp. 2-3). Joy, pride, and contentment were assumed to belong to the first category; love, gratitude, and elevation to the second. At the same time, Fredrickson (2000) stressed the fact that each of these emotions might fit both of these categories to varying degrees. Therefore, the question is whether a distinction between two groups of positive emotions, namely the self- and the other-focused, would be sufficient to study the relations between character strengths and positive emotions, or whether a finer-grained analysis including the seven distinct positive emotions would be more suitable.

The second objective was to investigate the correlations between the seven dispositions to positive emotions and the 24 character strengths. Some of the character strengths included in Peterson and Seligman's (2004) classification seem to relate clearly to one of the positive emotions included in the DPES. For example, *appreciation of beauty and excellence*, described as "a specific emotional responsiveness, the tendency to experience at least subtle self-transcendent emotions such as awe, admiration, and elevation" in the book about the VIA classification (Peterson, 2004, p. 539), might be expected to be closely linked to awe (or elevation) taken as an emotion. Likewise, the character strength *love*, described as a "cognitive, behavioral, and emotional stance toward others" (p. 304), and the emotion of *love* were presumed to go together; the character strength *bravery*, which implies "self-efficacy and self-confidence" (p. 217), and the emotion of *pride*; the character strength *kindness*, which involves "doing the good for others with love" (p. 326), and the disposition to experience compassion; the character strength *humor*, defined as "liking to laugh and joke, bringing smiles to other people" (p. 530), and dispositional amusement. Character strengths, are defined as "thoughts, feelings, and/or actions" (Peterson & Seligman, 2004, p. 23), whereas emotions are supposed to be only feelings. The two constructs should therefore be overlapping, but not identical. Following this assumption, the correlations between the five

above-mentioned character strength-emotion pairs were expected to be positive, significant, and of medium effect size. It was also predicted that all other correlations would be numerically lower.

The third objective was to take a close look at the “emotional pattern” of the VIA-IS factors reported in the literature. With respect to this last objective, the particular focus was on the factor Peterson and Seligman (2004) labeled *emotional strengths*. However, within the scope of this study, it will not only be of interest to examine how the *emotional strengths* relate to dispositional positive emotions, in order to understand what makes them “emotional”, but also to study the link to emotionality of the other four strengths groups, thus answering the question whether only emotional strengths are emotional.

Methods

Participants

The sample consisted of 574 German-speaking adults (345 women, 229 men) aged 18 to 86 years ($M = 43.20$; $SD = 12.38$). With respect to their highest educational achievement, 4% of the participants indicated to have achieved compulsory education, 41% an apprenticeship, 10% a baccalaureate, and 45% a University degree; 51 % indicated being married or living with their partner, 49 % lived alone (single, divorced, or widowed). In regard to employment, 81% reported to be working, and 19% to be presently unemployed, studying, or retired.

Volunteers were recruited via flyers, e-mails, Internet sites of popular scientific psychological journals and via short articles about Positive Psychology published in widely read Swiss magazines. Participants filled in the DPES and the VIA-IS along with other questionnaires within the scope of an online-survey. Before registering, respondents had to get acquainted with the topic and the procedure of the study. The fact that they could quit the survey at any moment was highlighted. Furthermore, they were told that they would not be

paid, but receive standardized feedback about their character strengths profile (VIA-IS) and take part in a raffle (prices were for example concert tickets, museum passes, beauty products, wine) after completion of the questionnaire.

Instruments

The *Values in Action Inventory of Strengths (VIA-IS)*; Peterson, Park, & Seligman, 2005) consists of 240 items for the self-assessment of the 24 character strengths (10 items per strength) included in the classification of Peterson and Seligman (2004). The VIA-IS uses a 5-point rating format (from 1 = *very much unlike me* to 5 = *very much like me*). A sample item is “I know that I will succeed with the goals I set for myself” (hope). For the German VIA-IS, Ruch et al. (2010) reported about internal consistencies ranging from .71 (honesty) to .90 (spirituality), with a median of .77. In their sample, retest reliabilities were comparable to the internal consistencies.

The *Dispositional Positive Emotion Scales (DPES)*; Shiota et al., 2006) is an instrument for the self-assessment of the disposition to experience seven emotions, namely joy, contentment, pride, love, compassion, amusement, and awe. It consists of 38 items (5 or 6 items per scale), and uses a 7-point rating format (1 = *strongly disagree* to 7 = *strongly agree*). A sample item is “I often feel bursts of joy” (joy). Shiota et al. (2006) reported reliabilities ranging from .75 (amusement) to .92 (contentment) with a median of 0.80.

Procedure

Translation of the DPES. Within the scope of this study, a German version of the DPES was developed. The first author translated the items into German, aiming at a close fit with the original English formulations. An American English speaking bilingual person did an independent back translation. Differences between the original English form and the back translation were discussed with the authors of the test and followed by several minor changes.

The items of the original questionnaire and of the final German version are shown in Appendix A.

Analyses. To examine the factor structure of the DPES on scale level, a confirmatory factor analysis was computed using SPSS Amos (Version 18; Arbuckle, 2007). Different models were compared and their fit was tested using the p-value of the chi-square (χ^2 ; Hair, Anderson, Tatham, & Black, 2006), the goodness-of-fit index (GFI), the adjusted goodness-of-fit index (AGFI), and the root-mean-square error of approximation (RMSEA; Hu & Bentler, 1998) as criteria. A non-significant p-value of chi-square (χ^2) indicates good fit. But the chi-square statistic is very sensitive to sample size (Hair et. al., 2006); additional indices should therefore always be taken into account (Bentler, 1990; Hu & Bentler, 1999). The goodness-of-fit index (GFI), the adjusted goodness-of-fit index (AGFI), and the root-mean-square error of approximation (RMSEA) are commonly used alternatives. A GFI and an AGFI equal or higher .90 indicate a good-fitting model, a GFI and an AGFI equal or higher .95 an excellent-fitting model. For the RMSEA, values equal or lower .08 can be interpreted as good fit.

Results

Primary analyses

Skewness and kurtosis of all VIA-IS scales indicated normal distribution. The means ranged from 3.08 (religiousness) to 4.00 (curiosity), and the reliabilities from .72 (honesty and self-regulation) to .90 (religiousness), with a median of .77. The means of the DPES scales ranged from 4.32 (amusement) to 5.58 (pride), thus all lying above the scale midpoint of 4. The reliabilities ranged from .58 (awe) to .89 (contentment), with a median of .73, which is below the reliabilities reported by Shiota et al. (2006) for the original version (median = .80), but still shows that the scales yielded acceptable to high internal consistencies. Correlations with demographics were generally moderate in size, yet

statistically significant in most cases due to the number of participants. Women scored significantly higher than men for joy, contentment, compassion and awe; age was related positively to contentment and pride, but negatively to amusement. Therefore, all subsequent correlational analyses controlled for a potential impact of demographics.

The correlations among the seven DPES scales ranged from .10 (compassion with amusement) to .79 (joy with contentment). Four of the scales, namely contentment, joy, pride, and to a somewhat lesser extent, love - were highly correlated among each other and seemed to form a cluster. The other three scales showed clearly lower correlations, not only with the cluster, both also among each other.

Factor structure of the DPES

In order to get a clear idea of the relationships between the seven emotional dispositions (i.e. the observed variables) and their underlying latent constructs, two factor analyses were computed. The first one, on item level, yielded a 6-factor solution, with all joy and contentment items loading on the first factor, and the pride, love, compassion, humor, and awe items loading on a separate factor each. The second one, a confirmatory factor analysis, (CFA) was computed on scale level. The model to be tested was conceived following Fredrickson's (2000) distinction between individual and social emotions and therefore comprised two latent factors. The first factor had paths leading to contentment, pride, and joy, and was labeled *self-oriented*, as contentment, pride, and to a somewhat lesser extent joy, are not elicited by a specific, external stimulus, but rather reflect the longer-lasting appraisal of one's personal situation. The second factor had paths leading to love, compassion, amusement, and awe, and was labeled *object or situation specific*, as these emotions are elicited by external stimuli which may, but must not, be of social nature. The fit of this initial model was $\chi^2 (13, N = 574) = 157.7, p = .001$; GFI = .926; AGFI = .840; RMSEA = .139, which is not satisfactory according to the criteria specified in the methods

section. As Fredrickson stressed the fact that each of the positive emotions might fit both of the categories to varying degrees, several models with additional paths were computed and compared. The model which fitted the data best is shown in Figure 1.

Insert Figure 1 about here

Figure 1 shows that in this model four of the seven emotional dispositions, namely DPES contentment, compassion, amusement, and awe were explained by only one of the latent factors, whereas the other three, that is DPES pride, love and joy, were explained to various degrees by both. The variance accounted for by one or both latent factors ranged from .93 (DPES contentment) to .17 (DPES compassion).

The first factor analysis showed that the putative factor structure of the DPES was confirmed, except for the joy and contentment subscales, which could not easily be separated. The CFA substantiated the existence of two correlated latent factors, but also highlighted that the emotional dispositions did not split up into two clearly separable families, and that there is considerable variability in some positive emotion dispositions that is not accounted for by the self- vs. other-focused distinction. Following these results, we assumed the seven emotional dispositions to be distinct constructs and included them as such in all subsequent analyses – together with the two emotion factors.

Correlations between character strengths and emotional dispositions

In a next step, the VIA-IS and DPES scores were correlated. Table 1 provides these correlations.

Insert Table 1 about here

Table 1 shows that most correlations were numerically low to moderate ($< .40$). The highest correlations were found between the character strengths of zest and hope, and the emotional dispositions of joy and contentment (.62 to .67); all other correlations were below 0.60, which is in line with the idea of overlapping, but not identical constructs. A few negative correlations appeared, but they were numerically small ($< .11$); it can therefore be said that overall, character strengths and the disposition to experience positive emotions go together.

We had predicted correlations of medium effect size for the five character strengths which had a direct counterpart in one of the seven dispositional emotions, and this was confirmed: VIA-IS bravery with DPES pride (.50), VIA-IS love with DPES love (.53), VIA-IS kindness with DPES compassion (.44), VIA-IS humor with DPES amusement (.54) and VIA-IS appreciation of beauty and excellence with DPES awe (.54). Love, compassion, amusement, and awe were mainly linked to this one specific character strength, whereas pride was strongly related to several other character strengths, namely curiosity, perspective, perseverance, zest, love, social intelligence, leadership, hope, and humor. The correlation patterns of dispositional joy and dispositional contentment with the 24 character strengths were nearly identical, which is not surprising considering the close link between them ($r = .79$). These two emotional dispositions, which have no specific counterpart in one of the character strengths, displayed numerically strong correlations with the character strengths of curiosity, zest, love, gratitude, hope, and humor. Two character strengths displayed strikingly few significant correlations with the dispositional emotions, namely modesty and prudence.

The correlations between the character strengths and the two DPES factors showed that the *self-oriented* dispositional emotions (i.e. joy, contentment, pride, and love) are mainly related to curiosity, bravery, zest, love, gratitude, hope, and humor, whereas the *object or*

situation specific dispositional emotions (i.e. compassion, amusement, and awe) are mainly related to appreciation and gratitude.

Emotional pattern of character strengths factors

A Varimax rotated principal component analysis on scale level was computed for the VIA-IS. The five factors Ruch et al. (2010) described, namely (1) emotional strengths, (2) interpersonal strengths, (3) strengths of restraint, (4) intellectual strengths, and (5) theological strengths, could well be reproduced. In our sample, they explained 66.18 % of the variance; Tucker's phi coefficients were .98, .96, .99, .99, and .97. The 2-factor solution using ipsative data was examined as well. In line with previous studies (Ruch et al., 2010; Peterson & Seligman, 2006), the resulting two factors could be labeled as (1) *mind* (e.g., open-mindedness, prudence) vs. *heart* (e.g., kindness, gratitude) and (2) *focus on self* (e.g., creativity, judgment) vs. *others* (e.g., fairness, modesty). However, as Tuckers Phi coefficients for these two factors were -.89 and .76 respectively, the 2-factor solution was less satisfying than the 5-factor solution and therefore not included in subsequent analyses.

By correlating the factor scores for the five-factor solution with the seven emotional dispositions, it was possible to show that each of the factors displayed a distinct emotional "identity".

Insert Table 2 about here

Table 2 shows that the *emotional strengths* were characterized by numerically high (.47 to .59) positive correlations with joy, contentment, pride, love, and the DPES total score. The correlations with compassion, amusement, and awe were lower (.11 to .31) but still significant. The *interpersonal strengths* were mainly identified by their highly significant correlation with compassion (.38), and additionally by lower, but still significant, correlations

with love (.14) and DPES total (.15). The *strengths of restraint* were positively correlated with pride (.32), and negatively with amusement (-.12). The main feature of the *intellectual strengths* was their medium high positive correlations with amusement, awe, and the DPES total score (.23 to .36). Finally, the *theological strengths* were defined by the conjunction of clear correlations with awe, joy, compassion, and the DPES total score (.32 to .39), as well as with love (.23) and compassion (.12) to a lesser extent.

By correlating the scores for the five strengths factors with the scores for the two emotional factors, the “emotional identities”, although less differentiated, became even more evident. The numerically highest correlation (.66) was found between the *emotional strengths* and the self-oriented emotions. *Interpersonal* strengths were related only to the object or situation specific emotions, whereas the *intellectual strengths* additionally showed a small, but significant correlation with the self-oriented emotions. The *strengths of restraint* were linked with neither of the two factors. And finally, the *theological strengths* were characterized by the almost perfect balance between their link to both of the emotional factors (.29 and .26 respectively).

Discussion

The present study aimed at exploring the relations between character strengths and the disposition to experience positive emotions. With respect to this main objective, we could show that the 24 character strengths included in the VIA classification were differentially associated with the tendency to experience seven positive emotions, namely contentment, pride, joy, love, amusement, compassion, and awe: each of the character strengths exhibited a distinct “emotional identity”, and each of the dispositional positive emotions displayed a unique correlation pattern with some of the character strengths. The correlations were positive and generally low to moderate, consistent with the idea that character strengths and emotions are overlapping, but not identical constructs.

The mainly *self-oriented* dispositional emotions (i.e. joy, contentment, and pride) proved to be related to all character strengths, except for judgment, prudence, and modesty, whereas the disposition to experience *object or situation specific* emotions (i. e. love, compassion, amusement, and awe) was linked to few, specific character strengths. This indicates that, overall, good character goes together with the disposition to experience *self-oriented* positive emotions. By contrast, the disposition to experience one or another or none of the *object or situation specific* emotions, depends on the individual's very specific character strengths profile.

The five strengths factors, namely the *emotional strengths*, the *interpersonal strengths*, the *strengths of restraint*, the *intellectual strengths*, and the *theological strengths* not only displayed distinct correlational profiles with the seven dispositions and the two emotions factors, but were also characterized by different degrees of emotionality. The *emotional strengths* - which we were of particular interest within the scope of this research - yielded the most numerous and the numerically highest links to dispositional positive emotions. This is an important result, as it shows that *emotional strengths* are rightly labeled "emotional". Additionally – and this is an important result as well, because it answers the question raised in the title of this contribution – the emotional strengths proved not to be the only ones associated with the dispositional positive emotions: three other strengths factors, namely the *interpersonal*, *intellectual*, and *theological strengths*, yielded meaningful, significant correlations. The *interpersonal strengths* were correlated with love and compassion, the two relational *object or situation specific* emotional dispositions. The *intellectual strengths* which include love of learning, creativity, and curiosity, that is openness to the world and to anything new or unexpected, were mainly related to amusement and awe, which are both *object or situation specific* dispositional emotions. And finally, the *theological strengths*

religiousness, gratitude and appreciation of beauty and excellence, which give meaning to one's life, were mainly related to the disposition to experience joy, contentment, and awe.

By definition, the *strengths of restraint* facilitate self-control and prevent the individual from any excess, including the overt expression of positive or negative feelings. Therefore, we had not expected the restraint factor to yield significant correlations with one or several of the dispositional positive emotions. The fact that it showed to be associated with the disposition to feel pride, might be due to the formulation of the VIA items, which present self-control as a positive individual characteristic, with no negative connotation, and thus as a trait respondents may be proud of. However, overall, the *strengths of restraint* are probably rather related to the regulation of emotions, and to “display rules” (Ekman & Friesen, 1975), than to the actual experience of positive emotions.

The fact that each of the five strengths factors displayed a distinct correlation pattern with the dispositional positive emotions lead us to hypothesize that the “emotional component” of character strengths, which are conceived as “thoughts, feelings, and/or actions” (Peterson & Seligman, 2004, p. 23), might lie behind the factorial structure of the VIA-IS, in other words that the specific connection to positive emotions some of the character strengths share, brings them together as factors. What would be the criteria for this hypothesis to be confirmed? First, that the factorial structure of the VIA-IS would prove to be stable. Second, that the correlation pattern with the dispositional positive emotions could be reproduced in other samples, using other instruments than the DPES, or even including other emotions. As many studies confirmed the five-factor solution Peterson and Seligman (2004) described first (Gander, Proyer, Ruch, & Wyss, in press; Littman-Ovadia & Lavy, 2012; Peterson & Seligman, 2004; Proyer, Gander, Wyss, & Ruch, 2011; Ruch et al., 2010), the first criterion seems to be fulfilled. The second criterion, in turn, still needs to be examined, and this gives directions for further research.

Although our data showed that dispositional positive emotions and character strengths were related in many ways, they do not allow for any predictions about the nature of directionality in the relationship between the two constructs. Nevertheless, they have interesting implications, not only for researchers, but also practitioners in the field of positive psychology. Up to now, a few intervention studies examined the long-term outcomes of either training character strengths on the disposition to experience different positive emotions, or of an intervention fostering positive emotions on the development of character strengths. Seligman (2005, 2011) reports about three exercises, namely the “Gratitude Visit”, the “Three Blessings”, or “Signature Strengths Exercise” which proved to increase happiness and decrease depressive symptoms for up to six months. Mitchell, Stanimirovic, Klein, & Vella-Brodich (2009) described the impact of an Internet intervention on well-being. Saroglou, Vassilis, Buxant, Coralie, Tilquin and Jonathan (2008) found that experimentally inducing self-transcendent emotions increased spirituality. The results of these studies give first empirical support not only to Peterson’s (2006) assumption that character strengths foster positive experiences, or to Fredrickson’s (1998, 2001) idea that positive emotions help building and developing positive traits, but also – indirectly – to Fredrickson’s (2001) concept of an “upward spiral” (p. 223). They indicate that there might be a bidirectional or circular effect between positive emotions and personal resources. Considering that specific links exist between some of the positive emotions dispositions, and some of the character strengths, we suggest to extended to the concept of a single, general “upward spiral” to the idea of multiple, specific upwards spirals (e.g. a humor and disposition the experience amusement spiral, an appreciation of beauty and excellence and disposition to experience awe spiral, a kindness and disposition to experience compassion spiral, a curiosity and disposition to experience joy and contentment spiral). And this idea, in turn, could lead to the

development of very specific interventions, which target one of these character strengths/positive emotion pairs.

Limitations of studies give directions for future research. One limitation of this study, namely its reliance on correlational analysis, has already been discussed. The second limitation which needs to be mentioned is the fact that we relied only on the DPES to measure the tendency to experience different positive emotions. The German version of the DPES, which was developed within the scope of this study, showed acceptable psychometric qualities. However, it ought to be further tested and cross-validated, in other samples and with special focus on the awe subscale, as this specific scale yielded the lowest alpha-coefficient, not only in this research, but also in previous studies using the original English version. Additionally, the measurement of the disposition to experience different positive emotions could be improved by (a) combining self- and peer-report instruments; (b) assessing actually experienced emotions over a longer period of time (for example with the mDES; Fredrickson et al., 2003); (c) studying emotions in the direct face-to-face interplay of different relational dyads and situations; (d) incorporating objective data using the Facial Action Coding System (FACS; Ekman & Friesen, 1978) - an anatomically based, comprehensive, objective technique to distinguish between all observable facial movement – in order to get a better understanding of the relation between different facets of positive emotions and facial expressions; (e) including the disposition to experience other types of positive emotions, for example gratitude, interest, or hope.

With respect to the last point, namely the necessity to consider other positive emotions, awe and awe-related emotions would be a particularly interesting field of research. Up to now, very little is known about these emotions (Keltner & Haidt, 2003; Shiota, Keltner, & John, 2006; Shiota, Keltner, & Mossmann, 2007). In their contribution about the character strength *appreciation of beauty and excellence*, Haidt and Keltner (2004) mention the tendency to

experience “self-transcendent emotions such as awe, admiration, and elevation” (p. 539), and hold that these emotions are elicited by three types of stimuli, namely human-made, natural, or moral beauty and excellence (see also Güsewell, 2011). What exactly are these self-transcendent emotions? Different terminologies and classifications do exist. According to Haidt and Morris (2009), these emotions “transcend self-interest” (p. 287), they are elicited by virtues and excellences of others, and include admiration, elevation, and compassion. Algoe and Haidt (200) describe the *other-praising* emotions (see also Haidt, 2003), a family of emotions arising from the exemplary actions of other people, like gratitude, elevation, and admiration. Ortony, Clore and Collins (1988) mention the *appreciation* emotions, which comprise admiration, awe, esteem, and respect. Faced with this multitude of emotions, terminologies, and classifications, we hold that empiric research focusing on of the relation between appreciation of beauty and these emotions families would be a promising field for future research.

The study of the variety and the specifics of the distinct dispositional positive emotions and the investigation of the way these emotions interact with character strengths are only at their beginning. This research was a first step into this direction, but leaves important questions open for future research. Which distinct positive emotions dispositions should be taken into account? What is the best way to assess them? Is there really a causal link between character strengths and positive emotions, and if so, is this link uni- or bidirectional? Which positive interventions could be designed to foster and study the hypothesized multiple specific character strengths/emotions upward spirals? To what extent are relations between character strengths and positive emotions determined by social or cultural factors? Alternatively, is there a universal connection between these two constructs?

Tables

Table 1. Correlations of the VIA-IS scales, with the DPES scales and the factor scores of the two DPES factors.

Table 2. Correlations between the disposition to positive emotions, and the factor scores for a five-factor solution for the VIA-IS.

Figure

Figure 1. Confirmatory Factor Analysis of the DPES.

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Table 1. *Correlations of the VIA-IS scales, with the DPES scales and the factor scores of the two DPES factors*

strengths	joy	cont	pride	love	comp	amuse	awe	self	other
creativity	.29***	.18***	.28***	.10*	.11*	.28***	.33***	.27***	.32***
curiosity	.50***	.51***	.44***	.33	.12**	.20***	.31***	.54***	.27***
judgment	.09*	.08	.26***	-.05	.15***	.05	.19***	.12**	.17***
learning	.27***	.23***	.23***	.16***	.13**	.17***	.30***	.27***	.27***
perspective	.22***	.23***	.41***	.09*	.20***	.12**	.22***	.28***	.23***
bravery	.36***	.32***	.50***	.19***	.25***	.16***	.26***	.41***	.30***
persevere	.22***	.28***	.42***	.08	.16***	.01	.12**	.30***	.12**
honesty	.19***	.19***	.34***	.10*	.29***	-.01	.10*	.23***	.17***
zest	.63***	.62***	.57***	.41***	.13**	.21***	.28***	.67***	.27***
love	.49***	.48***	.47***	.53***	.23***	.16***	.25***	.58***	.30***
kindness	.37***	.32***	.30***	.32***	.44***	.12**	.20***	.37***	.37***
social int	.32***	.31***	.41***	.29***	.26***	.18***	.27***	.39***	.32***
teamwork	.28***	.26***	.28***	.27***	.26***	.07	.14**	.31***	.23***
fairness	.23***	.20***	.24***	.17***	.37***	-.01	.16***	.23***	.26***
leadership	.29***	.27***	.40***	.18***	.33***	.09*	.23***	.33***	.30***
forgiveness	.32***	.34***	.29***	.35***	.25***	.05	.19***	.37***	.24***
modesty	.03	.07	.00	-.02	.26***	-.11*	.10*	.01	.13**
prudence	.07	.11*	.21***	.01	.22***	-.08	.12**	.11*	.13**
self-regul	.17***	.27***	.34***	.11*	.14**	-.01	.1**	.27***	.10*
beauty	.44***	.31***	.23***	.24***	.29***	.23***	.54***	.36***	.51***
gratitude	.54***	.49***	.35***	.35***	.34***	.14**	.42***	.51***	.43***
hope	.63***	.67***	.62***	.42***	.13**	.18***	.24***	.71***	.23***
humor	.58***	.49***	.46***	.35***	.12**	.54***	.29***	.57***	.39***
religious	.31***	.27***	.19***	.20***	.24***	.00	.40***	.29***	.32***

Note. $N = 574$ (male = 229, female = 345). Partial correlations, control for sex, and age. Cont

= contentment; comp = compassion; amuse = amusement; self = self-oriented positive

emotions; other = object or situation specific positive emotions.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2. Correlations between the disposition to positive emotions, and the factor scores for a five-factor solution for the VIA-IS

VIA-Factors	DPES scales								DPES factors	
	joy	content	pride	love	compass	amuse	awe	total	self	other
emotional	.59***	.57***	.57***	.47***	.11*	.31***	.16***	.60***	.66***	.24***
interpersonal	.09	.06	.06	.14**	.38***	-.05	.07	.15***	.08	.22***
restraint	-.02	.09	.32***	-.10*	.09	-.12**	.01	.04	.09	-.03
intellectual	.19***	.07	.13**	.02	.09	.25***	.36***	.23***	.13**	.32***
theological	.34***	.34***	.06	.23***	.12**	-.02	.39***	.32***	.29***	.26***

Note. $N = 574$. Partial correlations, control for sex, and age. Content = contentment; compass = compassion; amuse = amusement; total = DPES total score; self = self-oriented emotions (joy, contentment, pride, love); other = object or situation specific emotions (compassion, amusement, awe).

* $p < .05$. ** $p < .01$. *** $p < .001$

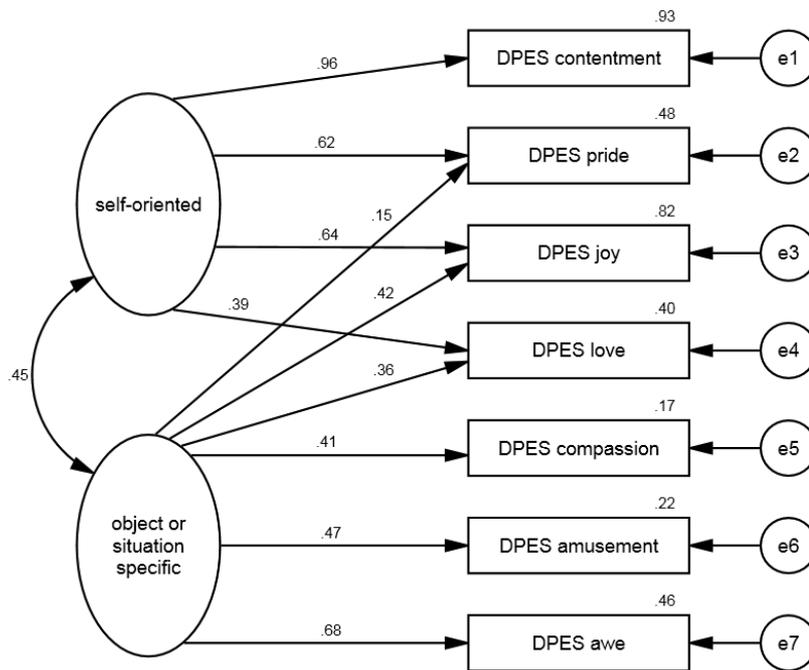


Figure 1. *Confirmatory Factor Analysis of the DPES*

$\chi^2 (10, N = 574) = 42.58, p = .001$; GFI = .980, AGFI = .944, RMSEA = .075

Appendix A. *Items of the English SSET and translation into German***Joy / Freude***I often feel bursts of joy.*

Ich habe oft Freudenausbrüche.

I am an intensely cheerful person.

Ich bin eine äusserst fröhliche Person.

I am often completely overjoyed when something good happens.

Ich bin oft absolut überglücklich, wenn etwas Schönes passiert.

On a typical day, many events make me happy.

An einem normalen Tag macht mich vieles glücklich.

Good things happen to me all the time.

Mir passieren die ganze Zeit erfreuliche Dinge.

My life is always improving.

Mein Leben wird immer besser.

Contentment / Zufriedenheit*I am generally a contented person.*

Im Grossen und Ganzen bin ich ein zufriedener Mensch.

I am at peace with my life.

Ich bin im Einklang mit meinem Leben.

When I think about my life I experience a deep feeling of contentment.

Wenn ich über mein Leben nachdenke, empfinde ich eine tiefe Zufriedenheit.

I feel satisfied more often than many people.

Ich bin häufiger zufrieden als die meisten anderen Menschen.

My life is very fulfilling.

Mein Leben ist sehr erfüllend.

Compassion / Mitgefühl*It's important to take care of people who are vulnerable.*

Es ist wichtig, sich um verletzbare Menschen zu kümmern.

When I see someone hurt or in need, I feel a powerful urge to take care of them.

Wenn ich bemerke, dass jemand verletzt oder in Not ist, verspüre ich einen starken Drang ihm zu helfen.

Taking care of others gives me a warm feeling inside.

Für andere zu sorgen gibt mir ein warmes inneres Gefühl.

I often notice people who need help.

Mir fallen oft Menschen auf die Hilfe brauchen.

I am a very compassionate person.

Ich bin ein sehr mitfühlender Mensch.

Humor / Humor*I find humor in almost everything.*

Ich finde fast an allem etwas Komisches.

I really enjoy teasing people I care about.

Ich necke Menschen aus denen ich mir etwas mache richtig gern.

I am very easily amused.

Ich amüsiere mich sehr leicht.

The people around me make a lot of jokes.

Die Menschen in meiner Umgebung machen viele Witze.

I make jokes about everything.

Ich mache mich über alles Mögliche lustig.

Love / Liebe

Other people are generally trustworthy.

Im Allgemeinen sind andere Menschen vertrauenswürdig.

I develop strong feelings of closeness to people easily.

Ich entwickle leicht eine starke Vertrautheit mit anderen.

I find it easy to trust others.

Es fällt mir leicht, anderen zu vertrauen.

I can depend on people when I need help.

Es ist für mich kein Problem, von anderen abzuhängen, wenn ich Hilfe brauche.

People are usually considerate of my needs and feelings.

Für Gewöhnlich gehen meine Mitmenschen rücksichtsvoll mit meinen Bedürfnissen und Gefühlen um.

I love many people.

Ich liebe viele Menschen.

Pride / Stolz

I feel good about myself.

Ich habe ein gutes Gefühl mir gegenüber.

I am proud of myself and my accomplishments.

Ich bin stolz auf mich und meine Fähigkeiten.

Many people respect me.

Ich werde von vielen respektiert.

I always stand up for what I believe.

Ich setze mich immer ein für das, woran ich glaube.

People usually recognize my authority.

Meine Autorität wird normalerweise anerkannt.

Awe / Ehrfurcht

I often feel awe.

Ich empfinde häufig Ehrfurcht.

I see beauty all around me.

Ich sehe Schönheit rings um mich herum.

I feel wonder almost every day.

Ich staune fast jeden Tag.

I often look for patterns in the objects around me.

Ich suche oft nach Mustern in den Dingen die mich umgeben.

I have many opportunities to see the beauty of nature.

Ich habe viele Gelegenheiten die Schönheit der Natur zu sehen.

I seek out experiences that challenge my understanding of the world.

Ich bin auf der Suche nach Erfahrungen die mein Verständnis der Welt in Frage stellen.