What are character strengths good for? A daily diary study on character strengths enactment

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ABSTRACT

While character strengths are expected to contribute to the ‘good life,’ they also may serve specific purposes (e.g., the strength of curiosity should support the acquisition and use of knowledge). This study explored the potential functions of character strengths from a within-person perspective. We used a literature review and qualitative and quantitative surveys to determine potential functions. This resulted in 17 distinguishable functions (e.g., ‘feeling free and independent’). We used a diary study that included N = 196 participants (84.4% women, mean age: 25.68 years) who reported their daily character strength enactments and their experiences of the functions for 14 consecutive days. Our results suggested that the enactment of character strengths was positively related to several functions. However, the character strengths also showed distinguishable patterns of relationships with the functions, which were largely in line with – but not limited to – the functions suggested in the VIA classification.

Character strengths are defined as positively-valued personality traits (Peterson & Seligman, 2004). These traits are associated with a broad array of important life outcomes, including life satisfaction across the life span (e.g., Baumann et al., 2020; Martínez-Martí & Ruch, 2014), academic achievement (e.g., Lounsbury et al., 2009; Wagner & Ruch, 2015), work performance (e.g., Gander et al., 2020; Harzer & Ruch, 2014; Littman-Ovadia & Lavy, 2016), relationships (Wagner, 2019; Weber & Ruch, 2012), and health-related behaviors (Pröyer et al., 2013). While character strengths are related to a variety of desirable long-term outcomes across different life domains (for an overview, see also Wagner et al., 2021), they may also be associated with more proximal outcomes and they could be capitalized upon to achieve specific goals or purposes. Knowledge of these short-term outcomes or functions might help people to achieve specific goals (e.g., enactments of humor for fostering positive social interactions or displaying appreciation of beauty and excellence for experiencing pleasure). Such short-term or proximal outcomes might be responsible for producing relationships with long-term outcomes (e.g., daily positive social interactions might be a mechanism that establishes the relationship between the character strength of humor and the long-term outcome of relationship quality). However, little is known about which functions are associated with specific character strength enactments. In the present study, while acknowledging the significance of understanding the role of character strengths in important long-term life outcomes, we thus intentionally focus on more proximal goals. We use the traits-as-tools perspective (McCabe & Fleeson, 2016) to explore potential functions that might be served by enactments of character strengths in daily life.

Functional perspectives on personality traits

Functions of personality traits are conceptualized as either ‘functions-of’ (i.e., behavior is displayed as a function of environmental features) or ‘functions-for’ (i.e., there are different purposes for displaying different traits; see Perugini et al., 2016). With regard to the second perspective, McCabe and Fleeson (2016) argue that ‘the enactment of traits is functional, in that traits manifestations are the concrete means by which people accomplish their goals’ (p. 287). Previous studies that used this perspective employed both experience sampling methodology and experimental approaches and found that the enactment of different personality traits (such as extraversion and conscientiousness) relates to different functions or goals (such as connecting with others and getting a task done; e.g., McCabe &
Fleeson, 2012, 2016). In the present study, we aim to extend this perspective to character strengths.

**Functional perspectives on character strengths**

The idea that virtues can be ‘functions for’ important outcomes has been put forward already before the advent of the VIA classification: Johnson (1996) argued that whether something can be morally evaluated as ‘good’ depends on its power to cause positive outcomes. Functions of character strengths are sometimes mentioned in the literature, but often only in very broad terms, such as ‘alleviating suffering and increasing well-being’ (Duan & Bu, 2017, p. 2521). In the present study, we sought to identify candidates for more concrete functions that people may experience in daily life and that might, in the longer run, contribute to serving these broader functions. To this end, we conducted a pre-study in order to gain a comprehensive list of potential functions. We applied a mixed-methods approach and considered three different sources: (i) theoretical considerations related to character strengths, (ii) empirical findings regarding groupings of character strengths, and (iii) a qualitative approach.

With regard to (i) the theoretical considerations, Peterson and Seligman’s (2004) VIA classification offers a starting point for an investigation of more specific functions. Each of the six clusters of character strengths defined in this classification system is assigned a specific purpose or function (see Ruch et al., 2021). For instance, the character strengths of love, kindness, and social intelligence all involve ‘tending and befriending others’ (Peterson & Seligman, 2004, p. 29) – that is, the creation and maintenance of positive relationships. In the present study, we investigate how character strengths relate to these six functions as manifested in individuals’ daily experiences. Further, Peterson and Seligman (2004) suggested that a character strength ‘contributes to various fulfillments that constitute the good life, for oneself and others’ (p. 17). We used Seligman’s (2011) well-being theory to describe the ‘good life’ and formulated functions for each of his five PERMA dimensions (pleasure/positive emotions, engagement, positive relationships, meaning, and accomplishment). According to Seligman (2011), the ‘twenty-four strengths underpin all five elements’ (p. 24) of PERMA.

Regarding (ii) empirical findings, we considered the possibility that the co-occurrence of character strengths might also indicate their functions. Therefore, we looked at the interpretation of character strength factors reported in studies on VIA character strengths in adults. Previous factor analytic studies suggested two (using ipsative data: Peterson, 2006; Ruch, Proyer, Harzer, et al., 2010), three (Duan et al., 2012; Khumalo et al., 2008; McGrath, 2015; Shryack et al., 2010), four (Brdar & Kashdan, 2010; Macdonald et al., 2008; Shryack et al., 2010), or five factors (e.g., Littman-Ovadia & Lavy, 2011; McGrath, 2014; Peterson et al., 2008; Ruch et al., 2014; Ruch, Proyer, Harzer, et al., 2010; Singh & Choubisa, 2010). For the current study, we considered functions based on the resulting higher-order factors of these factor analyses. Furthermore, we reviewed lexical approaches to character (Cawley et al., 2000; De Raad & Barelds, 2008) and considered functions based on the factors suggested by these approaches.

We conducted an online survey to address the (iii) qualitative approach. Participants (N = 63, 76.1% women, aged 19 to 77 years, M = 25.7, SD = 9.6) were provided a list of descriptions of the 24 character strengths based on Ruch et al.’s (2014) Character Strengths Rating Form (CSRF) and were asked to select the five strengths that they thought were most pronounced in themselves. They then answered the following set of open-ended questions for each of these five strengths:

- What do you use this character strength for?
- What is made possible or made easier for you by this character strength? and
- Please give some examples or specific situations of how you apply this character strength concretely in your life.

To illustrate, one candidate function that was gathered from this qualitative approach was the function of independence. Examples of answers that were used to extract this function included: ‘(I use perseverance) (…) to be independent from outside, because motivation comes from myself’, ‘(A situation in which I enact love of learning is) when something needs to be done, I don’t look for someone who can do it, but I do research and do it myself; e.g., repairing a bicycle’, and ‘Through creativity, I often come to a solution myself and don’t have to ask anyone for help.’

Our subsequent step was to reduce the number of character strength function candidates we gathered from sources (i)–(iii). We pursued an iterative approach in which we merged the most conceptually similar functions two-by-two until no two functions that remained were similar enough that they could easily be collapsed without losing information. For instance, we considered humanity (as described by Peterson & Seligman, 2004) to be conceptually very similar to positive relationships (as described by Seligman, 2011), and therefore, we omitted
the latter function. This procedure resulted in 29 remaining candidates for functions (see online supplementary Table D).

We conducted a second pre-study to further reduce the number of functions. We presented participants (N = 113, aged 18 to 52, M = 22.44, SD = 5.90, 87.6% women) with a random selection of five character strengths, and we asked them to rate the degree to which each of them fulfilled each of the 29 functions. For each function, participants were asked to rate the question ‘To what extent does this character strength fulfill the function described?’ on a six-point Likert-style scale on which 1 = ‘does not fulfill it’ and 6 = ‘fulfills it completely.’

We analyzed the correlations among each of the functions and eliminated the functions that strongly overlapped (r > .50) with another function, starting with the functions that showed the strongest overlap with each other. In case of a strong overlap between a function derived from (i) theoretical considerations and from (ii) empirical studies on the overlap between character strengths, we opted to retain the function derived from theoretical consideration because we assumed that they would represent a better source to derive testable descriptions of the functions. In case of a strong overlap between a function derived from the literature (i and ii) and from the qualitative pre-study (iii), preference was given to the functions derived from the literature. The statistical criterion of a correlation larger than .50 was accompanied by theoretical and practical considerations. For example, we omitted the functions based on two-factor solutions of the character strengths (i.e., heart vs. mind or self- vs. other-focused strengths) because we considered them too abstract to be considered functions of character strengths in the context of the present study. Three individuals each independently conducted this iterative data reduction procedure, and they compared their results and agreed on a final number of functions through a committee approach. In addition to the reduction of functions, one function was split into two separate functions because it contained two distinct contents (health & optimism) and one previously omitted function (accomplishment) was added during this process. This resulted in a final number of 17 functions (see Table 1).

Table 1. Descriptions of functions.

| Function | Description |
|----------|-------------|
| Wisdom   | Today I applied existing knowledge or acquired new knowledge. |
| Courage  | Today I overcame inner and/or outer resistance through willpower in order to reach a goal. |
| Humanity | Today I contributed to the welfare of the community. |
| Justice  | Today I counteracted excessive behavior. |
| Temperance | Today I felt connected to something greater and experienced meaningfulness. |
| Transcendence | Today I used my potential for a higher cause. |
| Engagement | Today I could enjoy, was happy, or had joy. |
| Health   | Today I felt fit and healthy. |
| Optimism | Today I was optimistic and positive about what was to come. |
| Accomplishment | Today I made progress with something personally important to me. |
| Mastery  | Today it was easy for me to cope with everyday challenges. |
| Positive Thinking | Today I influenced my perceptions or thoughts in order to take a positive view of myself, others, or the world. |
| Independence | Today I felt free and independent. |
| Understanding | Today I could understand myself, other people, and the world, and thus experience competence and control. |
| Self-Efficacy | Today I experienced that I could make a difference with my actions. |

The present study

Most existing research on character strengths has focused on habitual experiences (i.e., traits). The work of Wagner and Ruch (2021) was one of the few studies that also looked at specific character strength enactments; they confirmed that character strength states contribute additional relevant information beyond traits for predicting relevant outcomes. Further to this, Gander and Wagner (2021) showed that there is substantial within-person variation in character strength states. In line with previous research (e.g., McCabe & Fleeson, 2016) and theoretical considerations, we argue that the functions of character strengths are best studied through a state perspective. Adopting a state perspective allows us to disentangle between- and within-person variances. Looking at the between-person variance only allows researchers to analyze whether individuals who have habitual higher levels in a strength also experience higher levels of an outcome from a general perspective, while analyzing within-person variance allows us to examine whether someone experiences higher levels of an outcome particularly on days in which they displayed a strength more frequently than usual. Also, associations of constructs within individuals do not necessarily follow between-person associations (Curran & Bauer, 2011; Hamaker, 2012). For example, the robust between-person relationships between the character strengths of humor and pleasure (Peterson et al., 2007; Ruch, Prorer, & Weber, 2010; Wagner et al., 2020) show that those who are more humorous in general also report higher general levels of pleasure. This does not mean, however, that if someone is particularly humorous at a given moment, they will also experience more pleasure at that point in time. Thus, for the examination of functions, a focus on within-person associations is
more relevant. Moreover, studying state (rather than trait) levels does not require people to remember and aggregate their past behavior, and it should therefore be less prone to recall bias (Bolger et al., 2003).

Thus, our main research aim for the present study was to use a daily diary approach to identify candidates for functions of character strength enactment. We asked the participants to complete daily measures of character strength states and functions over a span of two weeks. We determined six specific hypotheses related to the six functions originally suggested by Peterson and Seligman (2004). We expected that:

- creativity, curiosity, judgment, love of learning, and perspective will show stronger associations with the function of wisdom than with the other five functions;
- bravery, perseverance, honesty, and zest will show the strongest associations with the function of courage;
- love, kindness, social intelligence, and humor\(^2\) will show the strongest associations with the function of humanity;
- teamwork, fairness, and leadership will show the strongest associations to the function of justice;
- forgiveness, humility, prudence, and self-regulation will show the strongest associations to the function of temperance; and
- appreciation of beauty and excellence, gratitude, hope, and spirituality will show the strongest associations with the function of transcendence.

We had no specific expectations for the other functions and we conducted all analyses on an exploratory basis.

**Method**

**Participants**

A total of 199 participants provided data; we excluded three participants because they did not provide demographic information. The final sample consisted of \(N = 196\) participants (84.4% women) aged 18 to 67 \((M = 25.68, SD = 10.30)\). They were predominantly Swiss (76.5%) or German (16.0%; other nationalities: 7.4%), and 10.6% held a university degree, 5.0% held a degree from a university of applied sciences, 78.9% held a diploma allowing them to attend a university or a university of applied sciences, 3.6% had completed vocational training, and 1.9% had completed secondary school. Most of the participants were students (77.2%) or employed (6.5%), while the remaining participants were homemakers, interns, unemployed, in vocational training, on sick leave, retired, or did not answer the question. The 196 participated completed a total of 2,363 daily measures (out of 2,744 possible measures) over 14 days, resulting in an average of \(M = 12.06\) daily measures \((SD = 2.72)\).

**Instruments**

The Character Strengths State Rating Form (CSSRF) assesses the 24 VIA classification character strengths as states using one item per strength. The scale, which was developed based on Ruch et al.’s (2014) Character Strengths Rating Form, uses a 7-point Likert-style scale that ranges between 1 = ‘not at all’ and 7 = ‘all the time.’ A sample item for the character strength of creativity is ‘Today I have shown creativity (originality, ingenuity; Creative people have a distinctive way of thinking about new problem-solving paths and often have creative and original ideas). They are not satisfied with conventions.’ Gander and Wagner (2021) reported a good convergence of aggregated character strength states with a trait measure of character strengths (i.e., the VIA-IS; Peterson & Seligman, 2004).

We created the Character Strengths Functions Rating (CSFR) scale for the purpose of this study; it consists of one item for each of the 17 functions that are rated on a 7-point Likert-style scale that ranges between 1 = ‘not at all’ and 7 = ‘all the time.’ A sample item for the function of wisdom and knowledge is, ‘Today I have applied existing knowledge or acquired new knowledge.’ All items are provided in Table 1.

**Procedure**

According to the local ethical committee guidelines, the present study did not require an ethical review. Participation was voluntary and the participants provided written consent. They could receive partial course credit and individual feedback on their character strengths as an incentive for participation. We recruited participants via social media, university mailing lists, and postings in public places. Potential participants completed a baseline assessment not relevant to the present study. They were then invited via e-mail to complete a daily questionnaire regarding their behavior and experiences over 14 consecutive days. This questionnaire could be completed any time between 4 p.m. and 2 a.m. on the following day. The questionnaire included the CSSRF and the CSFR (and an additional measures not relevant here), and the respective items were presented in a randomized order. The data presented here were collected as part of a larger study and
overlap with those presented in Gander and Wagner (2021), which also uses the CSSRF data. The research questions, however, do not overlap between the two manuscripts.

**Data analysis**

We gathered data on the person level (Level 2; e.g., demographic variables) and on the day level (Level 1; i.e., character strength states and functions); the day-level data was nested within the person data. Therefore, we used multilevel models (R-packages lme4; Bates et al., 2015) to analyze our data and we used the lmerTest package (Kuznetsova et al., 2017) to compute p-values. We predicted every function by each character strength separately for the analyses. The daily measures of character strengths were disaggregated (Curran & Bauer, 2011) to distinguish between between-person effects (which vary between individuals but not from day-to-day) and within-person effects (which vary within individuals from day-to-day). We centered day-level predictors on the person mean and person-level predictors on the grand mean. Thus, all models that predicted a function contained both a term for between-person effects and a term for within-person effects for each character strength. Since the focus of the present research is the within-person relationships, we only report results for within-person effects. The results for the between-person effects are available in online supplementary Table B. For all of the analyses, we controlled for gender, age, day of the week (dummy coded), and measurement time point (i.e., number of days since the study started).

All of the estimated models allowed random intercepts (but fixed slopes) for the individuals, since preliminary analyses suggested no significant increases in model fit when allowing slopes to vary between individuals. All models used a restricted maximum likelihood estimation. For all of the analyses, we provide standardized coefficients and adjusted p-values using the Bonferroni-Holm correction for 24 comparisons. We did not solely rely on statistical significance to interpret the results; we also considered the numerically highest relationships of a strength to the different functions. This approach allowed us to focus on the relationships between strengths and functions that were relatively more important.

**Results**

An inspection of the means and standard deviations of character strength states and functions (see online supplementary Table A) suggested that strengths and functions showed substantial variation both between and within individuals. Zero-order within-person correlations (Bakdash & Marusich, 2017) among functions ranged from .04 (courage and optimism) to .60 (pleasure and optimism) with a median of $r = .24$ (see online supplementary Table C). Relationships among state strengths ranged from $-0.02$ (zest and prudence) to .49 (curiosity and love of learning) with a median of $r = .17$. Thus, character strength states and functions were interrelated but not redundant.

The relationships between character strength states predicting the daily functions (while controlling for the covariates) are shown in Table 2.

Table 2 demonstrates that all character strengths had positive associations to most functions. This means that if an individual reported higher character strength states than usual (i.e., higher than this person did on average), this person would also report higher levels of the functions. Furthermore, we found that all of the character strengths were positively related to at least one of the functions, and every function was among the most important ones (i.e., among the three functions yielding the highest significant relationship) for at least one character strength. While some functions were among the most important for only one character strength (i.e., temperance, transcendence, independence), other functions were among the most important for several strengths (e.g., humanity for ten of the strengths, pleasure and understanding for nine, self-efficacy for eight). This trend was also reflected in the size of the relationships – functions such as humanity, mastery, understanding, and self-efficacy yielded numerically-higher average associations with strengths than the other functions. Meanwhile, strengths such as hope, humor, curiosity, and kindness yielded the highest, while strengths such as prudence, humility, forgiveness, and spirituality yielded the lowest average relationships with the functions. A summary of the most important functions for each character strength is provided in Table 3.

Finally, we focus on the results regarding the original six functions suggested by Peterson and Seligman (2004). The pattern of the relationships we observed bears some similarity to the character strengths’ theoretical assignments to the functions; for 14 of the 24 strengths, the hypothesized function was the most important of the six functions. This was true for curiosity, judgment, and love of learning (wisdom function); for bravery and perseverance (courage function); for love, kindness, social intelligence, and humor (humanity function); for teamwork, fairness, and leadership (justice function); for prudence (temperance function); and for spirituality (transcendence function). Additionally, for zest, self-regulation, appreciation of beauty and excellence, gratitude, and hope, the
Table 2. Fixed effects of character strengths (Within-person effects) predicting functions.

| Strength     | Wisdom | Courage | Humanity | Justice | Temperance | Transcendence | Meaning | Engagement | Pleasure | Health | Optimism | Accomplishment | Mastery | Positive Thinking | Independence | Understanding | Self Efficacy | Median |
|--------------|--------|---------|----------|---------|------------|--------------|---------|------------|----------|--------|----------|-----------------|---------|------------------|-------------|--------------|--------------|--------|
| Creativity   | .11*   | .13     | .12      | .14     | .09        | .11          | .16     | .22        | .20      | .14    | .18       | .19              | .19     | .12              | .16         | .16          | .18          | .16    |
| Curiosity    | .29*   | .13     | .17      | .09     | .09        | .14          | .14     | .29        | .28      | .21    | .29       | .27              | .28     | .16              | .21         | .20          | .18          | .20    |
| Perception   | .12*   | .11     | .18      | .16     | .10        | .12          | .16     | .13        | .15      | .13    | .15       | .15              | .16     | .14              | .13         | .09          | .19          | .14    |
| Perspective  | .12*   | .11     | .18      | .16     | .10        | .12          | .16     | .13        | .15      | .13    | .15       | .16              | .14     | .13              | .13         | .11          | .12          | .09    |
| Bravery      | .06*   | .19     | .10      | .11     | .07        | .09          | .09     | .05        | .06      | .04    | .12       | .14              | .13     | .03              | .11         | .12          | .12          | .09    |
| Perseverance | .31*   | .33     | .06      | .14     | .12        | .09          | .19     | .31        | .12      | .19    | .17       | .34              | .23     | .12              | .09         | .13          | .20          | .17    |
| Honesty      | .01    | .03     | .18      | .09     | .05        | .06          | .04     | .08        | .13      | .09    | .13       | .06              | .11     | .11              | .11         | .15          | .15          | .09    |
| Zest         | .21*   | .20     | .20      | .18     | .09        | .16          | .20     | .36        | .36      | .38    | .36       | .31              | .42     | .14              | .27         | .23          | .25          | .23    |
| Love         | .02    | .05     | .39      | .14     | .06        | .13          | .06     | .14        | .32      | .16    | .23       | .09              | .18     | .11              | .18         | .19          | .13          | .14    |
| Kindness     | .08*   | .10     | .30      | .21     | .09        | .12          | .08     | .17        | .26      | .19    | .21       | .10              | .12     | .11              | .11         | .16          | .15          | .16    |
| Social        | .07*   | .08     | .33      | .20     | .08        | .13          | .10     | .14        | .14      | .10    | .17       | .10              | .17     | .16              | .15         | .23          | .21          | .16    |
| Intelligence  | .06*   | .08     | .25      | .08     | .06        | .13          | .13     | .12        | .17      | .13    | .14       | .07              | .12     | .09              | .08         | .19          | .18          | .12    |
| Fairness     | .04    | .06     | .17      | .18     | .08        | .07          | .07     | .04        | .12      | .09    | .11       | .05              | .08     | .11              | .08         | .16          | .14          | .08    |
| Leadership   | .09*   | .10     | .16      | .25     | .07        | .12          | .17     | .10        | .13      | .11    | .12       | .09              | .10     | .09              | .04         | .15          | .19          | .11    |
| Forgiveness  | .01    | .07     | .11      | .12     | .09        | .07          | .08     | .01        | .06      | .02    | .02       | .04              | .06     | .01              | .10         | .01          | .12          | .07    |
| Humility     | .03    | .06     | .11      | .10     | .09        | .06          | .07     | .03        | .06      | .04    | .04       | .11              | .06     | .13              | .11         | .11          | .11          | .06    |
| Prudence     | .01    | .04     | .05      | .06     | .08        | .02          | .02     | .02        | .05      | .03    | .04       | .04              | .11     | .06              | .13         | .11          | .11          | .06    |
| Self-regulation | .18* | .21     | .05      | .09     | .17        | .06          | .12     | .15        | .09      | .12    | .14       | .21              | .17     | .16              | .07         | .12          | .15          | .14    |
| ABE          | .02    | .06     | .18      | .11     | .05        | .13          | .09     | .22        | .29      | .18    | .21       | .12              | .20     | .15              | .23         | .20          | .14          | .15    |
| Gratitude    | .02    | .03     | .24      | .12     | .07        | .13          | .06     | .17        | .25      | .15    | .22       | .14              | .17     | .13              | .17         | .17          | .15          | .15    |
| Hope         | .12*   | .11     | .17      | .10     | .05        | .14          | .12     | .24        | .33      | .25    | .40       | .22              | .31     | .19              | .27         | .23          | .21          | .21    |
| Humor        | .07*   | .05     | .37      | .20     | .06        | .12          | .09     | .22        | .41      | .24    | .28       | .13              | .27     | .13              | .23         | .22          | .19          | .20    |
| Spirituality | .04    | .06     | .08      | .06     | .06        | .21          | .08     | .09        | .07      | .04    | .04       | .07              | .08     | .07              | .06         | .06          | .09          | .07    |
| Median       | .07    | .09     | .17      | .12     | .08        | .12          | .10     | .14        | .15      | .14    | .16       | .12              | .17     | .12              | .10         | .17          | .17          | .17    |

*N = 196 participants (2,363 data points). Learning = love of learning, ABE = appreciation of beauty and excellence. Given are the standardized fixed effects for character strengths predicting the functions while controlling for gender, age, day of the week, and measurement time point in a multilevel model allowing random individual intercepts and slopes. The three highest significant relationships in every row are highlighted.

* p < .05 (After Bonferroni-Holm correction for 24 comparisons across strengths.)
Table 3. Summary of most important functions of character strengths.

| Character Strengths | Most Important Functions |
|---------------------|--------------------------|
| Creativity          | Engagement, Pleasure, Accomplishment, Mastery |
| Curiosity           | Wisdom, Engagement, Optimism |
| Judgment            | Wisdom, Understanding, Self-Efficacy |
| Love of Learning    | Wisdom, Accomplishment, Engagement |
| Perspective         | Understanding, Self-Efficacy, Humanity |
| Bravery             | Courage, Positive Thinking, Accomplishment, Self-Efficacy |
| Perseverance        | Accomplishment, Courage, Wisdom, Engagement |
| Honesty             | Humanity, Understanding, Self-Efficacy |
| Zest                | Mastery, Health, Engagement, Pleasure, Optimism |
| Love                | Humanity, Pleasure, Optimism |
| Kindness            | Humanity, Pleasure, Understanding |
| Social Intelligence | Humanity, Pleasure, Understanding |
| Teamwork            | Justice, Humanity, Understanding |
| Fairness            | Justice, Humanity, Understanding |
| Leadership          | Justice, Self-Efficacy, Meaning |
| Forgiveness         | Justice, Understanding, Self-Efficacy |
| Humility            | Understanding, Humanity, Positive Thinking, Self-Efficacy |
| Prudence            | Temperance, Justice, Positive Thinking |
| Self-Regulation     | Courage, Accomplishment, Wisdom |
| Appreciation of Beauty and Excellence | Pleasure, Independence, Engagement |
| Gratitude           | Pleasure, Humanity, Optimism |
| Hope                | Optimism, Pleasure, Mastery |
| Humor               | Pleasure, Humanity, Optimism |
| Spirituality        | Transcendence, Engagement, Self-Efficacy |

The hypothesized function was the second most important function among the six. We also found a significant association with the intended functions for the remaining six strengths (creativity, perspective, honesty, forgiveness, and humility), but these strengths had stronger relationships with other functions.

**Discussion**

The present study used the traits-as-tools perspective (McCabe & Fleeson, 2016) to explore the potential functions of character strengths. Specifically, we studied how 17 different functions (which we derived and condensed through theoretical and empirical methods) related to daily enactments of character strengths within individuals over a two week period. Our results revealed that all of the proposed functions were indeed related to the character strengths that were displayed on each respective day. While some functions had relatively strong associations with many character strengths, we found some specific pairings of character strengths and functions. The functions of humanity, pleasure, understanding, mastery, and self-efficacy in particular showed strong associations with several strengths. Therefore, for example, if an individual displayed higher levels of love on one day than they usually did, they would also tend to experience higher levels of loving interactions with others (humanity) and enjoyment and happiness (pleasure), and to a lesser degree, of several additional functions. Moreover, other functions were predominantly related to specific character strengths. For example, while the function of transcendence showed the strongest association with the strength of spirituality, it had comparatively weaker associations with the other strengths. Thus, the results corroborate the idea that there are functions that are served by several or most character strengths (see Niemiec, 2020), while there may also be some strength-specific functions.

Similarly, we found that some of the character strengths were associated with many of the functions. Character strengths such as zest, hope, and curiosity, in particular – those that typically show strong relationships with general assessments of well-being or flourishing (e.g., Hausler et al., 2017; Wagner et al., 2021) – showed relatively strong relationships with many different functions. Meanwhile, some strengths (e.g., honesty, fairness, and spirituality) showed weak relationships to functions overall, but still had a robust relationship to one specific function, which is consistent with their typically weaker association of these strengths with general measures of well-being. Other particular strengths (e.g., prudence and humility) showed comparatively weaker overall associations with the functions. This suggests that other, more relevant functions for these strengths may have been missing from our selection. The functions we included in the present study do not represent a final selection of relevant functions of character strengths, and future studies that consider additional relevant functions may disregard some of the functions used in the present study. For example, the function of positive thinking had low relationships with the character strengths overall; it also lacked a specific relationship to any single strength. Functions might also be omitted or rephrased in future research due to their strong relationships to other functions (e.g., optimism, mastery, and positive thinking).

It should be noted that for the function of temperance, we aimed to assess the frequency of not acting in a certain way – that is, not giving in to temptations. The participants may have found such questions difficult to answer, which might explain the low associations we observed for the temperance function. Future studies might reconsider the wording used to assess this function. One might also argue that assessing inhibitory behavior may not be suitable for diary studies.

While our study was exploratory, we did expect that the participants’ reported character strength enactments would be associated with the functions of the six core virtues proposed by Peterson and Seligman (2004). Our results showed that for most of the character strengths, daily enactments of the strengths were
related to Peterson and Seligman (2004) respective virtue function. In some cases, however, the assigned virtue function only had the second-largest association, and in many cases, several virtue functions were related to the enactment of a character strength. Thus, while our results corroborate earlier findings on the relationships between character strengths and virtues, they also support a polytomous assignment of character strengths to virtues (Ruch et al., 2021, 2020; Ruch & Proyer, 2015).

We can also compare our results with regard to the five PERMA dimensions (Seligman, 2011) to those obtained by studies that examined between-person relationships between character strengths and orientations to well-being (Wagner et al., 2020). Wagner et al. (2020), for example, reported the most consistent relationships (across different instruments and informants) of pleasure with zest, hope, and humor, while in the present study, pleasure was among the three most important functions for all three of these character strengths. Of the seven strengths with consistent relationships to engagement, five of them (creativity, curiosity, love of learning, perseverance, and zest) also had engagement among their most important functions in the present study, whereas two (leadership and self-regulation) did not. Regarding positive relationships, the three strengths with the most consistent associations (love, kindness, and teamwork) had humanity – which we considered to be interchangeable with positive relationships – among their most important functions. For the dimension of meaning, however, none of the strengths with the most consistent associations in Wagner et al.’s (2020) work had meaning among their most important functions in the present study. However, spirituality showed a strong relationship to transcendence, which also encompasses meaningfulness. Finally, all three strengths that showed the most consistent associations with accomplishment in Wagner et al. (2020) were found, in the present study, to be related to functions closely related to accomplishment; for perspective, self-efficacy was among the most important functions, for persistence, accomplishment was among the most important functions, and for zest, mastery was among the most important functions. Overall, we find a strong convergence between our results and Wagner et al.’s (2020) findings on between-person associations, except for the function of meaning.

We also examined some functions of character strengths in the present study that have hitherto received little attention. For instance, the relevance of character strengths for feeling free and independent (independence) or feeling competent to cope with everyday challenges (mastery) should be further examined in future studies. Future research might also use different methodological approaches and use experimental designs to test the associations between character strength enactments and functions. One might consider eliciting specific character strength enactments (e.g., of humor or gratitude) and examining which of the suggested functions is affected (e.g., McCabe & Fleeson, 2016). Pending further research that can clarify the direction of the relationships, the results might also bear relevant consequences for practical applications. For example, one might consider teaching people about the relationships between strengths and functions in order to encourage them to enact character strengths to achieve specific purposes. For example, given the robust association between loving interactions with others (humanity) and the character strengths of gratitude and humor, people could try to display more humor or gratitude in interactions in order to foster interpersonal relations.

In the present study, we focused on functions at the level of proximal goals or outcomes that might be accomplished by the enactment of character strengths. However, another possible perspective would be to consider more distal goals people pursue at different stages in life – as suggested, for instance, by life history theory as used in evolutionary psychology (e.g., Kaplan & Gangestad, 2005). Past research has identified some age-dependent differential relationships of character strengths with well-being (Baumann et al., 2020; Martínez-Martí & Ruch, 2014). Such differential relationships might also be found between character strengths and functions. Evolutionary theory might help formulate and test specific hypotheses about broader functions of character strengths in the future.

Further, while our results contribute to the accumulating knowledge on potential benefits of character strengths, we want to highlight that Peterson and Seligman (2004) clearly state that while character strengths and their enactment can lead to desirable outcomes (and do so in many cases), they are also valued in their own right, that is, also in the absence of positive consequences (see Stahlimann & Ruch, 2020).

Limitations

The present study’s results must be interpreted, however, in the light of some of its limitations. First, our results do not indicate the direction of the relationships between character strengths and our proposed functions. We can conclude that, for example, on days on which individuals showed higher than average perseverance, they also experienced higher than average accomplishment. As our design is correlational and not experimental, however, we cannot conclude that the enactment of
perseverance caused the experience of accomplishment. Second, our sample consisted predominantly of students, which may have influenced the results in several ways. Students’ daily experiences are likely different from those of other populations with regard, for example, to their engagement in learning. Some of the associations found here, such as the relationship between love of learning and accomplishment, might be stronger in student samples than in community samples (see Wagner et al., 2021). In addition, the population of the sample was predominantly female and relatively young, which might have led to somewhat biased results. For instance, Baumann et al. (2020) demonstrated that humility related more strongly to life satisfaction in older adults; in light of this, the effect sizes might be somewhat larger in a different population. Third, we collected our data in German-speaking countries, and it is possible that there is variability between cultures with regard to the functions of character strengths. The extent to which the functions and their associations with character strength enactments are universal or culture-specific will need to be determined by future studies. Furthermore, when we interpreted the most important relationships we focused on the three numerically-highest relationships of a character strength. This is, of course, somewhat arbitrary, and was only intended to facilitate the interpretation of the findings.

Conclusions

The present study showed that extending cross-sectional research on character strengths to diary studies on strengths enactments offers a promising new perspective. We showed that enactments of each character strength might serve several functions and that potential functions are not restricted to the six functions suggested by Peterson and Seligman (2004). Furthermore, some functions are relevant for many strengths (e.g., humanity, pleasure, understanding, mastery, and self-efficacy), while other functions are mainly relevant for specific strengths (e.g., transcendence). Finally, our results reveal that within-person relationships of character strength enactments with outcomes (e.g., PERMA) may be comparable to earlier findings on between-person relationships.

Notes

1. Niemiec (2020) presented further abstract ideas on functions of character strengths, but these proposed functions are also assumed to be common to most character strengths, and no study has investigated them empirically. In the present study, we are interested in the more concrete functions that would also allow for a differentiation among strengths.

2. Although Peterson and Seligman (2004) originally assigned humor to transcendence, recent studies suggest that it is a better fit for humanity (Giuliani et al., 2020; Ruch et al., 2021).

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Disclosure statement

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