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To cite this article: Kay Brauer, Hannah Sophie Charlott Stumpf & René T. Proyer (2024) Playfulness in middle- and older age: testing associations with life satisfaction, character strengths, and flourishing, *Aging & Mental Health*, 28:11, 1540-1549, DOI: [10.1080/13607863.2024.2372471](https://doi.org/10.1080/13607863.2024.2372471)

To link to this article: <https://doi.org/10.1080/13607863.2024.2372471>



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Playfulness in middle- and older age: testing associations with life satisfaction, character strengths, and flourishing

Kay Brauer , Hannah Sophie Charlott Stumpf and René T. Proyer 

Martin Luther University Halle-Wittenberg, Halle, Germany

ABSTRACT

Objectives: Playfulness describes individual differences in (re)framing situations in a way that they are experienced as interesting, intellectually stimulating, or entertaining. We extended the study of playfulness to groups of middle- and higher age and examined the relations of four facets of playfulness (Other-directed, Lighthearted, Intellectual, and Whimsical) to indicators of positive psychological functioning.

Method: We collected self-report data from 210 participants aged between 50 and 98 years.

Results: The playfulness expressions in this age group were comparable to younger adults. We found that playfulness relates to life satisfaction, the PERMA domains of well-being, and character strengths with small-to-medium correlation effect sizes. The OLIW facets showed differential associations, with regression analyses revealing that particularly Other-directed is positively associated with positive psychological functioning.

Conclusion: Our findings highlight the importance of playful relationships across the lifespan. We discuss the findings regarding the role of playfulness for healthy aging.

ARTICLE HISTORY

Received 25 October 2023

Accepted 20 June 2024

KEYWORDS

Playfulness; OLIW; well-being; happiness; character strengths; older age

Playfulness describes individual differences in how people (re) frame situations in a way such that they are experienced as intellectually stimulating, and/or entertaining, and/or personally interesting (Proyer, 2017). Although play (the behavior) and playfulness (the disposition to play) are well studied in children, the knowledge of adults' playfulness is still limited, particularly in middle- and older age. George Bernard Shaw once said, "We don't stop playing because we grow old; we grow old because we stop playing." In line with Shaw's sentiment, we argue that playfulness may act as a resource for coping with challenges and life events common in later life, such as the transition from work to retirement, bereavement, or health issues (Sutin et al., 2010). However, no study has hitherto studied expressions in facets of playfulness and their relations with indicators of positive psychological functioning. This study addresses this gap in the literature by examining the relationships between playfulness and life satisfaction, "building blocks" of well-being, and morally positively valued traits (character strengths) in a sample of middle- and older-aged adults.

Adult playfulness

Although playfulness has been included in personality taxonomies since the 1950s, there was heterogeneity concerning its definition and structural models (i.e. regarding the number and content of dimensions), and some models lack distinctiveness between playfulness and its outcomes (see Proyer & Brauer, 2023; for a discussion). Using multi-methodological approaches, Proyer (2017) introduced the OLIW model of adult playfulness, which consists of four facets; namely, **O**ther-directed (i.e. using one's playfulness to cheer others up and solve social tension), **L**ighthearted (i.e. seeing life as a game and liking to improvise

instead of planning ahead), **I**ntellectual (i.e. preference for complexity over simplicity, liking to play with ideas), and **W**himsical (i.e. preference for odd and/or unusual things, persons or activities, finding amusement in grotesque situations; Proyer, 2017). Studies showed differential relations between the four facets and, for example, creativity, loneliness, and maladaptive personality traits to name but a few (e.g. Farley et al., 2021; Proyer et al., 2019).

Playfulness and age

The role of age for playfulness is understudied. Proyer's (2014b) study of 4100 participants between 18 and 92 years of age showed a minor association of .13 between age and a unidimensional measure of playfulness (*Short Measure of Adult Playfulness*, SMAP; Proyer, 2012a). For the OLIW facets, only Other-directed shows a minor association with age ($r_s \approx -.20$). To our knowledge, no long-term studies are available and only few have tested associations between playfulness and external variables in older age groups (Brauer et al., 2023; Chang et al., 2016; Parker et al., 2023; Proyer, 2014b; Proyer et al., 2010; Saliba & Barden, 2021; Yarnal & Qian, 2011).

Playfulness and positive psychological functioning

The literature on playfulness and variables such as life satisfaction, well-being, positive emotions, and indicators of positive relationships suggests that playfulness relates to the broader domain of positive psychological functioning. Fredrickson's (2001) broaden-and-build theory posits that positive emotions contribute to broaden the thought-action repertoire and that engaging in play is one expression that allows people to expand their thought-action repertoire by exploring, adapting, and

CONTACT Kay Brauer  kay.brauer@psych.uni-halle.de

 Supplemental data for this article can be accessed online at <https://doi.org/10.1080/13607863.2024.2372471>.

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adopting behaviors, cognitions, and intellectual, physical, and social resources. This notion has received support in numerous studies testing the role of play (the behavior) and playfulness (the trait that describes individual differences in inclinations to play) in several domains (see e.g. Aune & Wong, 2002; Chang et al., 2013). For example, laypeople report using playfulness to increase well-being, master and cope with difficult situations, and establish and maintain relationships (Proyer, 2014a). Further, associations with life satisfaction, mental health, and both subjective and objective indicators of physical fitness and health corroborate the link between playfulness and positive psychological functioning, while also suggesting a negative association with maladaptive traits (e.g. Chang et al., 2016; Parker et al., 2023; Proyer, 2012b, 2013; Proyer et al., 2018, 2020). Finally, the robust link between playfulness and well-being has been demonstrated in a placebo-controlled randomized intervention study (Proyer et al., 2021), where participants trained their playfulness with short homework-like tasks (e.g. listing three playful things pursued or observed during the day) for seven consecutive days. Findings showed that increases in playfulness predicted greater well-being and alleviated depressive symptoms over time and showing effects until up to 12 wk after the trainings took place. In line with Fredrickson's notion, it is suggested that playfulness contributes to positive emotions and well-being, as the (re)framing of situations contributes to extend the cognitive and behavioral repertoire and allows to deal with positive and negative situations in non-rigid ways.

Playfulness has received particular interest regarding its role for close relationships. A systematic review of studies on relationships summarized that playfulness contributes to facilitating and maintaining social relationships (for an overview see Brauer et al., 2021). For example, by providing means to reduce conflict and solve interpersonal tension as well as finding ways to increase trust and make relationships interesting. Dyadic studies of couples have shown that playfulness is associated with greater relationship satisfaction, including spillover of one's playfulness to the *partner's* satisfaction (Proyer et al., 2019). These findings replicated well in couples of middle- and older-age couples in an independent study, suggesting that playfulness is important for relationship satisfaction across all ages, including couples between the age of 50 and 98 years (Brauer et al., 2023).

Finally, Proyer et al. (2021) provided evidence that playfulness can be stimulated in a randomized placebo-controlled study, where 533 participants completed 1-week trainings (e.g. recounting playful experiences throughout the day). Their findings showed that playfulness increased in the training group along with increased subjective well-being and reduced depressiveness. These effects were small-to-medium size but lasted for up to three months post-intervention, suggesting a substantial link between playfulness and well-being and depressiveness.

Taking the findings from the literature together, there is strong evidence that playfulness relates to several domains of positive psychological functioning and traits that contribute to well-being. However, research on playfulness in adults is mostly limited to samples of younger age and there is a gap on the knowledge of playfulness and its relations to indicators of positive psychological functioning is sparse.

The present study

We analyzed the associations between a global measure of playfulness (SMAP) and the four OLIW facets of playfulness

(Proyer, 2012b, 2017) with three domains of positive psychological functioning: Life satisfaction, PERMA, and character strengths. There is good evidence that personality traits are linked to how people perceive and deal with life events that people inevitably experience when aging (Sutin et al., 2010). Given the link between playfulness and well-being, we argue that playfulness could contribute positively to successful aging. This is because playfulness may be consistently linked to positive psychological indicators even beyond young adulthood, particularly in middle and older age.

Life satisfaction

Life satisfaction (LS) is the cognitive component of well-being and is a strong predictor of subjective and objective markers of mental health (Pavot & Diener, 2008). Proyer (2012b, 2013) found positive associations of about .20 with a global measure of playfulness. Similar findings have been obtained with adolescents, with studies showing positive associations between LS and playfulness in 12- to 19-year-olds (Staempfli, 2007) and 13- to 18-year-olds (Proyer & Tandler, 2020). The latter study showed that LS was particularly associated with the Other-directed (.24) and Lighthearted (.31) playfulness subscales.

To our knowledge, the OLIW facets have not yet been studied regarding LS. Correlations with theoretically near measures such as the Authentic Happiness Inventory showed correlations of about .20 (Proyer, 2012b; Proyer et al., 2021). Farley et al. (2021) found positive associations between a global indicator of well-being from the PERMA-profiler and Other-directed, Lighthearted, and Intellectual playfulness (r s between .18 and .34). Parker et al. (2023) used the same measure in a sample of 60+-year-olds and found slightly different results, namely, positive correlations with Other-directed, Intellectual, and Whimsical playfulness (r s between .18 and .37), but a minor association with Lighthearted (.10). Considering these findings, we expected positive associations between LS and playfulness.

Flourishing

Seligman (2011) introduced five measurable components that he hypothesized as building blocks of flourishing; namely, **Positive emotions** (experiencing hedonic emotions such as joy and cheerfulness); **Engagement** (feeling purpose and connection to one's activities; e.g. experiencing absorption in tasks); **positive Relationships** (feeling others' support, cared about, and being satisfied with one's social relationships); **Meaning** (experiencing a sense of purpose and being connected to something greater that exceeds oneself); **Accomplishment** (mastering difficulties and attaining goals and feeling a sense of pride). Overall, empirical evidence shows that the PERMA components contribute to experience subjective well-being and flourishing (Seligman, 2018).

Playfulness can be linked to the components from a theoretical perspective. For example, by showing its connection to positive emotions (e.g. Aune & Wong, 2002), relationships (Brauer et al., 2021), goal aspirations and accomplishments (Proyer, 2013), and engagement in domains such as relationships, school, and work (e.g. Proyer, 2012b, 2013; Proyer et al., 2019). Proyer (2014b) localized the scores of the SMAP in three of the five dimensions and found relations with positive emotions ($r = .28$) and to a numerically lesser extent to engagement and meaning ($r = .14$).

Farley et al. (2021) and Parker et al. (2023) have localized the OLIW facets in the PERMA model and found positive associations with all facets except accomplishment.¹ Regression analyses showed that Other-directed was the best predictor of each PERMA domain in younger and older adults alike, whereas in younger adults Intellectual explained incremental variance in positive emotion and meaning. One finding should be highlighted as it could hint to an age-related difference: Lighthearted was unrelated to PERMA in older-aged participants (Parker et al., 2023) but showed robust relations in younger adults (Farley et al., 2021). Overall, we expected to find comparable results and tested whether Parker et al.'s finding on the negligible role of lighthearted playfulness in older age replicates in our sample.

Character strengths

Character strengths are morally positively valued traits that enable the "good life" by contributing to a sense of psychological fulfillment and well-being (Peterson & Seligman, 2004). We aimed to provide the first localization of the OLIW facets in Peterson and Seligman's (2004) Values-in-Action (VIA) classification of character strengths that encompasses 24 trait-like strengths. Peterson and Seligman use the strength of "humor" synonymously with "playfulness," but this has been challenged. It has been argued that playfulness contributes to the sense of humor without being redundant (e.g. by identifying characteristics in the environment to make fun of; see Proyer, 2018, for a discussion). Accordingly, Proyer and Ruch (2011) found no redundancy between the SMAP and the strength of humor ($r = .41$) when testing the relations with the VIA-strengths, along with appreciation of beauty, creativity, and teamwork as robust correlates.

To our knowledge, no study has yet examined how the OLIW facets relate to character strengths. Apart from assuming a positive overlap with the strength of humor, we can derive other expectations based on the higher-order mapping of the strengths. Higher-order factors include interpersonal strengths (e.g. leadership and teamwork), strengths of restraint (e.g. self-regulation and prudence), theological strengths (e.g. religiousness and gratitude), emotional strengths (e.g. zest and humor), and intellectual strengths (e.g. creativity and curiosity; Ruch et al., 2010). We expected to find positive associations between Other-directed playfulness and interpersonal strengths in accordance with the notion that Other-directed playfulness contributes to cultivate and maintain relationships. Lighthearted playfulness is characterized by liking to improvise, dislike of planning ahead, and seeing life as a game, and impulsivity (Proyer, 2017). It could be argued that this facet relates negatively to strengths of restraint. Further, Intellectual playfulness is characterized by liking to engage in intellectual tasks in a playful manner and relates to individual difference variables such as creativity and curiosity (e.g. Proyer et al., 2019). Accordingly, we expected that Intellectual playfulness would be positively related to intellectual strengths. Whimsical playfulness is characterized by preferences for unusual things and people, as for example shown in the domain of sexual preferences (Brauer et al., 2023) and we assumed that Whimsical playfulness also goes along with curiosity and love of learning, as it contributes to discovering new interests and their preferences for unusual activities and people.

Method

Participants and procedure

Our sample comprised 210 participants aged between 50 and 98 years ($M = 65.3$; $SD = 9.8$). The majority (70.0%) identified as women and 29.5% as men (one participant did not indicate their gender). Half of the sample (57.1%) were married, 13.3% were in a relationship, 11.9% divorced, 9.5% single, and 7.1% widowed (two participants did not indicate their relationship status). The majority (82.9%) reported having children. The educational status of the sample was high, with 63.3% of participants holding a university degree, 12.9% completing vocational training, 12.4% having a high school diploma, and 10.5% completed secondary school. At the time of the study, 42.9% of participants were working and 54.3% were retired (one participant was job-seeking and four indicated "other").

We collected the data between January and June 2023. There were no COVID-19 protocols in action (i.e. no social distancing, lockdowns etc.). We advertised the study as research on playfulness and well-being in older age *via* leaflets in local stores and meeting places, in seniors' residences, seniors' sports classes (cardiac rehab), clubs with leisure and dining services for people aged ≥ 50 years, and in a choir group for seniors. Also, we advertised the study online *via* mailing lists of several local associations, travel groups and institutions with older target groups, social media, and websites (e.g. Psychology Today and websites of seniors' associations). The inclusion criteria were being ≥ 50 years of age and speaking German. Participants completed the questionnaire online (www.soscisurvey.de) and provided informed consent. There was no financial compensation. On average, participants completed the questionnaires in 20 to 30 min.

Instruments

We used the *Short Measure of Adult Playfulness* (SMAP; Proyer, 2012a) to assess global playfulness in adults in the sense of an easy onset, a high intensity, and a frequent display of playful behaviors. It comprises 5 items (e.g. "I am a playful person") and participants respond to each item on a 7-point Likert-type rating scale (1 = *does not apply at all*, 7 = *applies completely*). The SMAP has high internal consistency ($\alpha \geq .80$; .90 in this study) and test-retest correlations of .74 over 16 wk. There is robust evidence for the SMAP's convergent (e.g. Adult Playfulness Scale [APS], Glynn & Webster, 1992; List of Playful Adjectives; Barnett, 2007), discriminant (e.g. Big Five traits and Cheerfulness), and factorial validity (one-factorial model).

The OLIW-Playfulness Questionnaire (OLIW; Proyer, 2017) assesses four facets of adult playfulness with 7 items each: Other-directed (e.g. "I use my playfulness to cheer others up"), Lighthearted (e.g. "I am an unconcerned person"), Intellectual (e.g. "I always have an idea about what to do"), and Whimsical playfulness (e.g. "I have the reputation to be a little odd or flamboyant"). The response format is a 7-point Likert-type scale (1 = *strongly disagree*, 7 = *strongly agree*). There is robust evidence for the good psychometric properties of the instrument; for example, Proyer (2017) reported good psychometric properties with internal consistencies $\geq .66$ and test-retest correlations $\geq .67$ for up to three months, and Davis and Boone (2021) reported support when using Item-Response Theory analyses. The validity has been supported by means of convergent (measures of playfulness;

e.g. the SMAP, APS, Barnett's, 2007 Playfulness Scale, and daily ratings of playful behaviors aggregated across 14 days), discriminant (e.g. Big Five traits, aggression, exhibitionism, and narcissism), and factorial validity (e.g. well-replicable four-factorial structure; scalar measurement invariance between self- and other reports, Brauer et al., 2024; metric invariance between German and Israeli samples, Rubinstein et al., 2023). In the present study, the Cronbach's α s were .73 (Other-directed), .78 (Lighthearted), .61 (Intellectual), and .77 (Whimsical).

In line with Gander et al.'s (2017) recommendations for research on the PERMA domains in German-speaking samples, we used two questionnaires. First, the *Orientations to Happiness questionnaire* (Peterson et al., 2005; German: Ruch et al., 2010) assesses positive emotions (e.g. "Life is too short to postpone the pleasures it can provide"), engagement ("I am always very absorbed in what I do"), and meaning ("I have a responsibility to make the world a better place") with 5 items each. Participants give their responses on a 5-point Likert scale (1 = *very much unlike me*, 5 = *very much like me*). The OTH is well established in research and there is robust support for its validity (Seligman, 2018). In our study, Cronbach's α s were .72 (positive emotions), .60 (engagement), and .80 (meaning). Secondly, we used the *Subjective Assessment of Accomplishment and Positive Relationships Scale* (Gander et al., 2017) to assess accomplishment (e.g. "I have ambitions") and positive relationships ("A good life means to me that I can share it with others"). Each scale consists of 5 items and participants give responses on a 5-point Likert scale (1 = *very much unlike me*, 5 = *very much like me*). Gander et al. reported good internal consistencies ($\alpha > .70$) and test-retest-reliabilities ($\geq .68$; up to 6 months). Cronbach's α s were .72 (accomplishment) and .75 (positive relationships) in this study.

The *Satisfaction with Life Scale* (SWLS; Diener et al., 1985; German: Glaesmer et al., 2011) contains five items assessing LS ("I am satisfied with my life"). Participants give their responses on a 7-point Likert-type rating scale (1 = *strongly disagree*, 7 = *strongly agree*). The SWLS is frequently used and demonstrates satisfactory psychometric properties in German-speaking samples. In the present study, α was .87.

We assessed character strengths with Ruch et al.'s (2014) *Character Strengths Rating Form* (CSRf), which assesses each of the 24 strengths of the VIA classification (Peterson & Seligman, 2004) with one item each. The CSRf demonstrated strong associations and factorial congruence with the VIA-IS. After a brief description of each strength, participants are asked to rate how well the strength describes them (1 = *not like me at all*, 9 = *absolutely like me*). For example, curiosity:

"Curious people take an interest in all ongoing experience in daily life for its own sake and they are very interested in and fascinated by various topics and subjects. They like to explore and discover the world, they are seldom bored, and it's easy for them to keep themselves busy."

Data analysis

We used correlation and regression analyses to examine the associations between the adult playfulness and indicators of positive psychological functioning. We computed Pearson correlations to examine bivariate associations and interpret correlation coefficients $\geq .10$, .20, and .30 as small, medium, and large effect sizes (Gignac & Szodorai, 2016).

To account for intercorrelations between study variables, we computed regression analyses to predict² the study variables by the OLIW facets. In Step 1, we included age and gender (type=enter) to control for demographics. In consecutive steps, the OLIW facets entered the model (type=stepwise). This approach allowed us to compute the regression effect size Δf^2 (Cohen, 1988) for each step. The f^2 values are interpreted as small, medium, and large effect sizes when ≥ 0.02 , 0.15, and 0.35. Note that we interpret the effect sizes of our findings instead of statistical significance because this allows to evaluate the magnitude of effects and reduces reliance on statistical significance by chance. We report the p -values for transparency and completeness.

Sensitivity power analysis in G*Power (Faul et al., 2009) showed that our sample size allowed us to detect effect sizes $\rho \geq .19$ with 80% power and 5% type-I-error rate.

Results

Preliminary analyses

The descriptive statistics are displayed in the ESM. Overall, the distributions of the SMAP and OLIW scores were comparable to samples of similar ages (Brauer et al., 2023; Parker et al., 2023). The same was true for the remaining variables (Gander et al., 2017; Glaesmer et al., 2011; Martínez-Martí & Ruch, 2014). Our study variables did not robustly deviate from the normal distribution (kurtosis $\leq |2.30|$; skewness $\leq |1.29|$).

Gender showed negligible-to-minor effect sizes ($g \leq 0.36$; ESM). Correlations with age were negligible ($r_s \leq .12$) except for a negative relationship with Other-directed playfulness ($r = -.21$, $p = .003$) and greater expressions in the strength of self-regulation ($r = .22$, $p = .002$).

Tables 1 and 2 give the bivariate correlations between playfulness and LS, PERMA, and character strengths. In short, the correlations indicate the importance of differentiating between facets of playfulness. While the SMAP scores related to positive emotion, engagement, and meaning as well as the strengths of humor, gratitude, forgiveness, love of learning, curiosity, creativity, and low prudence,³ the OLIW facets show differential associations to our indicators of positive psychological functioning.

Associations between facets of playfulness and positive constructs

Life satisfaction

Only Intellectual playfulness predicted LS in the regression analysis, showing a small effect size ($\beta = .26$, $\Delta f^2 = 0.07$, $p < .001$). After controlling for age and gender, the OLIW facets shared 8% variance with LS.

PERMA

As expected, the OLIW facets were positively related to *positive emotions* (P), with correlations between .20 (Intellectual) and .33 (Other-directed, $p_s \leq .004$; Table 1). However, only Other-directed ($\beta = .26$, $\Delta f^2 = 0.13$) and Lighthearted playfulness ($\beta = .21$, $\Delta f^2 = 0.04$; $p_s \leq .003$) entered the regression model. Whimsical ($\beta = .18$, $\Delta f^2 = 0.06$, $p = .014$) and Other-directed playfulness ($\beta = .15$, $\Delta f^2 = 0.02$, $p = .045$) predicted *engagement* (E). In line with our expectations, the *positive relationships* (R) domain was robustly predicted by Other-directed ($\beta = .47$, $\Delta f^2 = 0.13$), but against expectations, low Intellectual playfulness

Table 1. Correlations between facets of adult playfulness and indicators of life satisfaction and well-being (PERMA).

	SMAP	Other-directed	Lighthearted	Intellectual	Whimsical	R^2
Life satisfaction	-.01	.19**	.22**	.26***	.11	.08
PERMA						
Positive Emotion	.29***	.33***	.31***	.20**	.28***	.17
Engagement	.18**	.18**	.02	.15*	.22**	.11
Relationships	.08	.30***	.08	.04	.03	.16
Meaning	.19**	.27***	-.03	.21**	.24***	.17
Accomplishment	.02	.14*	-.08	.00	.20**	.11
R^2	.17	.26	.15	.16	.17	

Note. $N = 210$.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Two-tailed. SMAP = Short Measure of Adult Playfulness. R^2 in column gives the variance overlap between OLIW facets and the PERMA domains; R^2 in rows give the variance overlap between PERMA and each measure of playfulness.

Table 2. Correlations between adult playfulness and character strengths.

	SMAP	Other-directed	Lighthearted	Intellectual	Whimsical	R^2
Creativity	.19**	.20**	.09	.35***	.23***	.14
Curiosity	.20**	.19**	.03	.29***	.24***	.14
Judgment	-.02	.12	-.11	.12	.12	.08
Love of learning	.15*	.14*	-.05	.24***	.21**	.12
Perspective	.04	.07	-.16*	.06	.09	.07
Bravery	.05	.06	.09	.09	.21**	.05
Perseverance	.07	-.04	-.21**	.03	.04	.08
Honesty	.03	.02	-.16*	.02	.03	.05
Zest	.10	.14*	.05	.17*	.16*	.05
Love	-.04	-.02	-.11	.02	-.05	.04
Kindness	.10	.15*	-.02	.12	.05	.04
Social intelligence	.01	.11	-.07	.14*	.04	.07
Teamwork	.09	.22**	-.04	.15*	-.01	.10
Fairness	.06	.11	-.12	.05	-.09	.06
Leadership	-.02	.05	-.10	.09	.09	.04
Forgiveness	.19**	.25***	.09	.20**	.05	.09
Modesty	-.01	-.03	-.06	-.07	-.20**	.06
Prudence	-.15*	-.20**	-.35***	-.25***	-.22**	.15
Self-regulation	-.12	-.08	-.29***	-.12	-.11	.15
Beauty	.09	.06	-.09	.10	-.15*	.08
Gratitude	.16*	.16*	.03	.16*	.14*	.06
Hope	.07	.16*	.09	.09	.09	.04
Humor	.35***	.35***	.17*	.30***	.27***	.15
Religiousness	.07	.02	-.17*	.03	.04	.08
R^2	.30 (.21)	.35 (.31)	.39 (.34)	.36 (.34)	.32 (.27)	

Note. $N = 210$.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Two-tailed. R^2 in column gives the variance overlap between OLIW facets and the strengths; R^2 in rows give the variance overlap between each strength and OLIW facets. R^2 values in brackets show variance overlap after excluding humor.

($\beta = -.21$, $ps \leq .010$; $\Delta^2 = 0.03$) emerged as a statistically significant predictor. Considering the negligible bivariate association between Intellectual playfulness and the R-domain ($r = .04$), it is unclear whether the finding is a statistical artifact. The regression analysis of *meaning* showed that Other-directed ($\beta = .32$, $\Delta^2 = 0.11$), Lighthearted ($\beta = -.22$, $\Delta^2 = 0.03$), and Whimsical ($\beta = .21$, $\Delta^2 = 0.04$; $ps \leq .005$) emerged as predictors. Whimsical ($\beta = .23$, $\Delta^2 = 0.05$), low expressions of Lighthearted ($\beta = -.22$, $\Delta^2 = 0.03$, $ps \leq .004$), and Other-directed ($\beta = .16$, $\Delta^2 = 0.02$, $p = .041$) playfulness predicted *accomplishment*. Overall, the regression effect sizes of the playfulness facets were of small size.

The PERMA domains and the OLIW facets shared between 11 to 17% when predicting PERMA from the OLIW facets, and the OLIW facets shared between 15% (Lighthearted) and 26% (Other-directed) variance with PERMA (Table 1), showing overlap but no redundancy.

Character strengths

First, we inspected the overlap between playfulness and the strength of humor (Table 2). As expected, they showed robust associations between $r = .17$ (Lighthearted) and $.35$ (SMAP,

Other-directed). This replicates prior findings well (Proyer & Ruch, 2011), indicating overlap but no redundancy between playfulness and humor. This is also true when examining the overlap between all four OLIW facets and humor (15% shared variance). We additionally computed the shared variance when each indicator of playfulness is predicted by all strengths, including and excluding humor. The strengths shared between 30 (SMAP) and 39% (Lighthearted) variance with playfulness and accounted for 2 (Intellectual) and 9% (SMAP) unique variance (differences between models including and excluding the strength of humor; Table 2).

Next, we inspected the differential associations between the OLIW facets and the strengths. Table 2 gives the bivariate correlations, but to account for the multivariate nature of the study, we relied on regression analyses to draw conclusions about which strengths uniquely relate to the OLIW facets: For Other-directed playfulness, humor ($\beta = .28$, $\Delta^2 = 0.14$), prudence ($\beta = -.24$, $\Delta^2 = 0.04$), and forgiveness ($\beta = .24$, $\Delta^2 = 0.06$; $ps \leq .001$) emerged as predictors. Lighthearted playfulness did go along with lower expressions in the strengths of prudence ($\beta = -.33$, $\Delta^2 = 0.13$), self-regulation ($\beta = -.25$, $\Delta^2 = 0.05$), and perseverance ($\beta = -.32$, $\Delta^2 = 0.04$) along with

inclinations to hope ($\beta = .23$, $\Delta f^2 = 0.03$), bravery ($\beta = .23$, $\Delta f^2 = 0.04$), and modesty ($\beta = .20$, $\Delta f^2 = 0.02$; $ps \leq .006$). Intellectual playfulness was predicted by creativity ($\beta = .33$, $\Delta f^2 = 0.14$), prudence ($\beta = -.31$, $\Delta f^2 = 0.08$), and forgiveness ($\beta = .26$, $\Delta f^2 = 0.08$; $ps < .001$) and Whimsical playfulness was predicted by humor ($\beta = .31$, $\Delta f^2 = 0.09$), low modesty ($\beta = -.27$, $\Delta f^2 = 0.08$), bravery ($\beta = .20$, $\Delta f^2 = 0.04$), low fairness ($\beta = -.23$, $\Delta f^2 = 0.04$; $ps \leq .004$), and gratitude ($\beta = .16$, $\Delta f^2 = 0.02$, $p = .041$). As with the prior analyses, the regression effect sizes were small.

Discussion

Research on playfulness in higher age is relatively rare, but initial evidence suggested a hidden potential of studying playfulness across all age groups (e.g. Proyer, 2014b; Yarnal & Qian, 2011). Along these lines, this study examined the relations between playfulness and positive psychological functioning in participants of middle- and older age. We replicated and extended prior findings by localizing the OLIW facets in life satisfaction (LS), flourishing (PERMA), and positively morally valued traits (character strengths).

Life satisfaction

Our data did not replicate Proyer's (2013) positive association between LS and the SMAP found in young adults, but our findings fit with results from an age-diverse sample where no robust associations in the age groups of 50+-year-olds were found ($.00 \leq rs \leq .16$; exception: 61-to-65-year-olds $r = .28$; Proyer, 2014b). When extending the study to the facet-level, all OLIW-scales correlated with minor-to-medium effect sizes with LS, but only Intellectual playfulness entered the regression model as predictor. One might argue that this reflects LS as the cognitive component of subjective well-being and that Intellectual playfulness may enable individuals to reevaluate their assessments in a positive manner. Although previous research has consistently indicated that intellectual abilities are unrelated to LS across the life span (Gow et al., 2005), it is noteworthy to consider the positivity effect that describes how older adults tend to process information in a manner that enhances experiences of happiness and positive emotions (e.g. Mather & Carstensen, 2005). Intellectual playfulness might facilitate the framing of information in positive ways (e.g. challenges associated with later life stages) and thereby contribute to satisfaction. Although not entering the regression model, it should be noted that Other-directed and Lighthearted playfulness showed positive associations with LS, aligning with previous research underscoring the importance of social connectedness and a positive outlook for successful aging (e.g. Berg et al., 2006). Future research using longitudinal data might examine how playfulness towards others and the ability to improvising, for example, when facing life events such as adjusting to a new life phase (e.g. transition from work life to retirement or bereavement), contributes to building and maintaining resources such as social networks and stress-reducing coping mechanisms that contribute to dealing with adversity.

Well-Being

We considered Seligman's (2011) five-dimensional PERMA approach to well-being. We found strong similarity with

Proyer's (2014b) findings, showing that a brief measure of playfulness (SMAP; Proyer, 2012a) relates robustly to experiencing positive emotions, and to a lesser degree to engagement and meaning in our sample of middle- and older age adults. Thus, in comparatively older participants, general inclinations to an easy-onset and frequent display of playful behaviors also go along with greater expressions in positive emotions.

At the facet-level, our findings replicated earlier research on the OLIW model and PERMA, which showed that Other-directed emerged as the best predictor (Farley et al., 2021; Parker et al., 2023). As expected and in line with the literature, our findings support the notion that playfulness might facilitate positive emotions to some degree (Aune & Wong, 2002; Fredrickson, 2001), as all facets of playfulness were correlated with experiencing positive emotions. However, as in Farley et al.'s (2021) and Parker et al.'s (2023) studies, only Other-directed playfulness emerged as a robust predictor of this domain in the regression analysis (medium effect size) in our sample of middle- and older-aged adults. Considering the importance of social relationships for successful aging and experiences of joy at any age (e.g. Berg et al., 2006), Other-directed playfulness might contribute to engaging with social relationships (e.g. by using nicknames for one's partner or friends on the basis of shared experiences), which could support establishing one's social network as a source of well-being. Also, Other-directed was the best predictor for the PERMA domain of positive relationships, whereas the remaining indicators of playfulness were unrelated to the relationships domain. It could be speculated that those who can use their playfulness to enrich their relationships also perceive more belonging in their lives, be it with others or feeling connected spiritually. Again, our findings highlight the role of Other-directed playfulness for social relationships as a building block of well-being (see also Brauer et al., 2021). Data from older-aged couples show that Other-directed is not limited to within-person effects, but also relates to *partner's* feelings of togetherness, relationship satisfaction, and feelings of tenderness (Brauer et al., 2023). Future research might extend these lines of research by using dyadic analyses testing how Other-directed playfulness relates to participants' *partner's* or *friend's* indicators of well-being to extend the knowledge on how Other-directed playfulness relates to social networks in the elderly.

Since prior research highlighted the role of Intellectual playfulness and the PERMA relationship domain (Farley et al., 2021) and relationship satisfaction (e.g. Brauer et al., 2023), we expected to find that Intellectual playfulness relates to the PERMA domains positively. Against expectations, we found only minor correlations with PERMA. This suggests that while Intellectual playfulness appears to play a role for generalized evaluations of satisfaction with one's life in middle- and older age in terms of LS, its relations to fine-grained facets of well-being are outperformed by other types of playfulness, in our case Other-directed playfulness.

We found negligible associations between Lighthearted playfulness and all PERMA dimensions except positive emotions. This fits with Parker et al.'s (2023) study of older-aged participants but differs from data from younger adults (Farley et al., 2021). Although older adults express Lighthearted playfulness at comparable levels to younger samples, its relationship with outcomes such as satisfaction and well-being might be reduced in older age (see also Brauer et al., 2023).

Consistent with prior research, playfulness showed associations of minor size with engagement and accomplishment (Farley et al., 2021; Proyer, 2014b). It could be argued that playfulness may be less relevant to evaluations of professional or personal achievements (accomplishments) and engagement as building blocks of well-being.

Taking the findings on the PERMA model and playfulness together, our data highlight the importance of distinguishing between the facets of playfulness as well as domains of well-being when considering the differential associations. Future research could extend our line of research in combination with trainings as used in Proyer et al. (2021) to learn more about the causal mechanisms and the degree of influences of change in playfulness on changes in well-being, and whether these potential effects of change mirror the associations found in our cross-sectional study.

Character strengths

In line with prior theoretical and empirical findings (Proyer, 2018), we found positive associations between all indicators of playfulness and the strength of humor, but no evidence for their redundancy. When testing the differential relationships with the OLIW facets beyond humor in regression analyses, we found overall small-to-medium regression effect sizes. In short, playfulness (except Whimsical) was characterized by low prudence, with small effect sizes. This aligns with research on the relationships between playfulness, impulsivity, sensation seeking, and boredom susceptibility (Brauer et al., 2021, 2023; Proyer, 2017).

Lighthearted playfulness was also related to low perseverance and self-regulation. Those high in Lighthearted playfulness prefer improvisation over planning ahead and are prone to sensation seeking, which might explain why they report being less prudent and show less self-regulation. However, along with the positive outlook in liking to improvise in cases of challenges and seeing life as a game (vs. a battlefield). Lighthearted playfulness also related to greater hope.

As expected, Other-directed playfulness related to interpersonal strengths and forgiveness and teamwork were robust predictors. The contributions of these strengths to social life have been documented well (Peterson & Seligman, 2004) and align with the social nature of Other-directed playfulness. Also, Other-directed playfulness was characterized by minor effect sizes regarding inclinations to creativity and curiosity. We found a similar pattern for Intellectual playfulness, showing the expected associations with cognitive strengths (e.g. love of learning, curiosity), but also the social strength of forgiveness. Considering that Other-directed and Intellectual both are consistently related to relationship outcomes (see Brauer et al., 2021), it could be argued that their combination contributes to provide the social and cognitive means to use one's playfulness in relationships. For example, Intellectual playfulness might contribute to Other-directed playfulness by finding creative ways to tease a partner or friend in a playful manner. Future research might further examine the unique and interactive paths of those types of playfulness for social relationships.

Finally, Whimsical playfulness was characterized by bravery and creativity, but also lower inclinations to morally valued traits such as fairness and modesty. This aligns with findings on the "dark side" of Whimsical playfulness, showing inclinations to the maladaptive traits of disinhibition, antagonism, and detachment (Proyer et al. 2020). Future research should disentangle the

relations with positive and dark traits by testing them simultaneously to learn more about how Whimsical playfulness relates to morally valued traits.

Taken together, we found that playfulness shows differential relationships with morally valued traits in adults of middle- and higher age. Our data cannot provide information about mechanisms or consequences in relation to playfulness and the strengths, but since character strengths allow people to engage in behaviors and attitudes that enable the "good life" (e.g. well-being; Peterson & Seligman, 2004), we expect that our findings on the localization of the OLIW facets in the VIA classification of strengths provide a first step in the direction of learning more about how playfulness might contribute to experiencing well-being in middle- and older age.

Conclusion

Consistent with prior research, we found that playfulness is expressed at comparable levels in middle and older age as in younger age, and that playfulness is associated with positive psychological functioning in this age group. Although we grow old while playing, findings from our and Parker et al. (2023) studies might show that playing in middle- and higher age relates to "the good life" in terms of positive psychological functioning in terms of our selection of indicators of life satisfaction, the PERMA building blocks of well-being, and morally positively valued traits.

There is a further important message to be learned: Frequently, practitioners and self-guidance books give recommendations in the style of "Embrace your inner child, and remember, playing hide and seek with your age is just as fun as it sounds!" or "Imagine the look on your neighbor's face when they catch you on a seesaw in your backyard." (e.g. Brown & Vaughan, 2010; Stahl, 2021). However, playfulness extends far beyond mere nostalgia for childhood games and their re-discovery. Adult playfulness serves important functions for engaging in and maintaining social relationships, innovativeness, sexuality, and stress coping—to name but a few. Reducing this to rediscovering the inner child, while overlooking its diverse functions, such as enhancing relationships and dealing with life's challenges, constitutes an unwarranted limitation and an overly narrow perspective on the multifaceted nature of playfulness and hinder potentially useful applications and narrows the broader potential of playfulness in the context of aging.

A broader view of what playfulness is for elderly adults, who often face unique challenges related to physical health, cognitive changes, and social dynamics, could offer a versatile toolbox for improving their well-being. Playfulness can act as a social lubricant, fostering communication among friends, family, and caregivers. We argue that this allows for a more relaxed and enjoyable atmosphere, where barriers are lowered, and bonds are strengthened for a mutual benefit. This could be important for an aging society where many older adults feel isolated or undervalued. Playfulness, when understood and promoted for its stress-coping potential, can help older adults find moments of joy amidst hardship, and adapt to change (e.g. changing life goals or environments) more effectively. This is very much in line with viewing playfulness as a state of *Ernstheiterkeit*, a German neologism for serious-cheerfulness coined by the theologian Hugo Rahner in his book about the *Man at Play*.

Limitations and outlook

Our data are cross-sectional and do not allow for causal conclusions. Our sample was imbalanced regarding gender and comprised German speakers, which reduces the generalizability of our findings. Although we used state-of-the-art instruments to assess playfulness, we relied only on self-reports. Additional approaches to assessing playfulness are available in terms of a diary measure that allows to collect ratings on playful behaviors on a daily basis and provides an aggregated estimate of inclinations to show playful behaviors over time (Proyer, 2017). Also, playfulness is accurately perceived by family members and partners (Brauer et al., 2024), and, thus, using reports by knowledgeable others in a replication study would reduce shared method variance. Also, we relied on a very brief instrument to assess strengths (1-item per strength). Replication with a comprehensive measure such as the 240-item VIA-IS (Peterson & Seligman, 2004) is desirable. Although our findings are comparable to Parker et al. (2023), replication using a fully parallel design (i.e. same instruments) is desirable to examine the invariance of our findings. Further, we used regression analyses to analyze the associations between playfulness and indicators of positive psychological functioning. This is a trade-off between considering the multivariate nature of our study and sample size. The use of latent variable models with larger samples is desirable in future research to provide a simultaneous analysis of the study variables while allowing to estimate components of true score variance and measurement error. Finally, our selection of indicators of positive psychological functioning can be extended by incorporating alternative models of well-being. Examples include tripartite model of well-being (i.e. LS and trait affect; Diener et al., 1999) or multi-faceted models that also consider fine-grained facets such as sense of purpose (Ryff, 1995). Future research should explore the interplay between playfulness and positive psychological functioning across different age groups to broaden our understanding in this area.

Despite these limitations, we hope that our findings stimulate future research. First, longitudinal studies are desirable that illuminate intraindividual trajectories of change in playfulness, allowing to draw inferences on the stability and change of playfulness over the life span, but also the interplay between playfulness and positive psychological functioning. Secondly, research on practical consequences is desirable. For example, by replicating the feasibility and effects of playfulness trainings in middle- and older age (Proyer et al., 2021). This would allow to assess the malleability of playfulness at middle- and older age as well as effects of trainings on well-being. In addition, the assessment of life events could contribute to understand whether exposure to some events pronounces effects of playfulness on psychological functioning at different ages (Sutin et al., 2010). Thirdly, the associations between playfulness and positive psychological functioning could be tested in couples to examine whether our findings are limited to actors or might extend to partners.

Notes

1. In its precursor model (Authentic Happiness Model), playfulness was primarily related to a greater pleasurable (akin to positive emotions in the PERMA-model) and engaged life (Proyer, 2012b).
2. We use the term “predict” in the technical sense to describe the independent variable. Since our data are cross-sectional, we cannot make inferences about causality.

3. Stepwise regression analysis showed that humor ($\beta = .40, \Delta R^2 = 0.14$), self-regulation ($\beta = -.17, \Delta R^2 = 0.04$), forgiveness ($\beta = .17, \Delta R^2 = 0.02$), and love ($\beta = -.17, \Delta R^2 = 0.03; p_s \leq .019$) predicted the SMAP scores statistically significantly with small effect sizes. The SMAP shared 30% variance with the strengths.

Disclosure statement

The authors report there are no competing interests to declare.

Research involving humans and ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study. The present research adhered to the ethical guidelines of the German Psychological Association and Declaration of Helsinki.

Funding

The author(s) reported there is no funding associated with the work featured in this article.

ORCID

Kay Brauer  <http://orcid.org/0000-0002-7398-8457>

René T. Proyer  <http://orcid.org/0000-0001-7426-4939>

Data availability statement

The data and syntaxes underlying this study are openly available under <https://osf.io/un8gf/>.

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