



# Prioritizing positivity across the adult lifespan: initial evidence for differential associations with positive and negative emotions

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## Abstract

**Purpose** Prioritizing positivity (PP) has been presented as an effective mechanism to increase positive emotions and reduce negative emotions. The current study sought to explore the role of age as a moderator and identify selected situations facilitating the likelihood of routinely experiencing positive and negative emotions.

**Methods** This mixed methods study consisted of 604 adults between 17 and 87 years who completed prioritizing positivity (PP) scale, positive and negative affect scale (PANAS), and demographic data. Aside from the study questionnaires, a subsample of 223 participants was presented with two open questions. 1037 responses to these two questions comprised the data for content analysis.

**Results** PP was found to be associated with increasing positive emotions in old adulthood, but not in young adulthood, and more with decreasing negative emotions in young adulthood than in old adulthood. Content analysis revealed that interpersonal interaction is critical in both increasing positive and reducing negative emotions, across age groups. However, young adults were more likely to prioritize pleasurable activities as triggers of positive emotions. Older adults focused on avoiding unfulfilling situations, due to the negative emotions that they trigger.

**Conclusion** Integrating both qualitative and quantitative findings elucidates the role of daily routine situations and activities in the management of positive and negative emotions across the lifespan. PP was shown to be of significant emotional value for younger as well as for older adults, though for different reasons. For younger adults, PP serves as a potential 'buffer' to balance negative emotions related to daily stresses and hassles characterizing this life stage, whereas for older adults it serves as a mechanism to boost life's little pleasures on a daily basis based on the acknowledgment of one's limited time ahead.

**Keywords** Prioritizing positivity · Positive affect · Negative affect · Lifespan · Situations selection · Emotion-regulation strategy · Well-being Adulthood

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This study has received the approval from the institutional review boards in both Ariel University (Approval number: AU-HLO-20150621-1) and the University of Haifa (Approval number: 045/17).

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## Introduction

Prioritizing positivity (PP) has been recently introduced as an effective strategy for increasing positive emotional experiences in everyday life [1]. Findings from the fields of subjective well-being and aging have shown that older adults generally report fewer negative emotions and more positive emotions relative to young adults. The strategy of PP may hold the potential of explaining these differences, suggesting that older individuals use it more frequently, more effectively, or both. However, to date, no study has explored the role and function of PP across the lifespan.

PP describes an effective strategy of pursuing happiness by intentionally seeking scenarios or circumstances (e.g., scheduling daily hiking sessions with a friend) that can lead to naturally occurring positive emotions [1]. It has been

presented as a more efficient strategy than that of deliberately trying to maximize happiness when experiencing a positive event or paying constant attention to one's happiness levels, two strategies that have been shown to generate lower levels of happiness [2–5]. Catalino et al. [1] suggested that individuals vary in terms of their predisposition to select positive situations and in the manner by which they incorporate these situations in their lives. In their study, they found that PP was positively associated with positive emotions and inversely associated with negative emotions [1]. A more recent study exploring PP focused on the question of temporality, through a three-wave measurement of PP and positive emotions [6]. Datu and King, in their longitudinal study, using cross-lagged regressions, suggested that PP augments positive emotions, which then lead to greater PP, consistent with Fredrickson's [7] 'upward spiral hypothesis.' However, this study did not examine negative emotions, nor has previous research investigated the possibility that the reciprocal relationship between PP and positive and negative emotions is not consistent throughout the lifespan. In addition, studies to date on PP have not provided an in-depth understanding of the essence of daily prioritized situations and activities.

### Positive and negative affect across the lifespan

Subjective well-being is a broad construct encompassing both individuals' cognitive evaluations of the overall positivity of their lives (e.g., life satisfaction), as well as their routine affective experience (e.g., positive and negative emotions [8]). A large body of research has been devoted to understanding how affect develops across the lifespan. Most of the relevant studies have suggested that negative emotions decrease with age (e.g., [9]), while positive emotions increase with age (e.g., [10–12]). Studies have found that older adults report experiencing less anger [13], less anxiety, greater contentment (e.g., [14]), and greater balance between positive and negative affect than do their younger counterparts [15].

A possible explanation for such differences is the divergence in mental perspective (e.g., ever-increasing awareness of limited time remaining to live), which may lead older adults to prioritize and select situations and activities that facilitate positive emotions and minimize negative ones. This potential explanation arises from the basic assumptions of the socioemotional selectivity theory (SST), a lifespan theory of motivation, which argues that as people age and time horizons grow shorter, people invest in what is most important, typically meaningful relationships, and derive increasingly greater satisfaction from these investments [16, 17]. Reasoning from SST, emotional experience improves with age because people come to appreciate and invest more effort in matters of life important to them. In other words,

the prospect of limited time horizons may lead to implementing more frequent or/and more effective PP strategies.

### Overview of the present study

The current study had several aims: The first objective was to reexamine the question of whether PP is a stable characteristic across the lifespan. Catalino et al. [1] found a non-significant correlation between PP and three age groups: young adulthood (age 21–34), middle adulthood (age 35–64), and late adulthood (age 65 and above). However, based on previous findings that younger adults experience fewer positive emotions and more negative emotions than do older adults, and the assumption that PP serves to increase emotional positivity and decrease emotional negativity, we hypothesized that PP is positively correlated with age, measured as a continuous variable. It is worth noting that we sought to reexamine the linear component of the association between PP and age. Our focus is based on previous cross-sectional age comparisons indicating the possibility of a steady and marked improvement in positive emotions from early adulthood into old age (e.g., [10–12]). Although findings from several studies suggest that negative emotions may increase slightly at very advanced ages, even this late-life upturn is typically better predicted by closeness to death than chronological age [10]. Based on a 10-year longitudinal study of experience sampling in a representative sample of adults spanning from early to very late adulthood, the developmental pattern of emotional experience was examined [10]. Findings supported those of the cross-sectional studies that there is indeed a steady improvement in the ratio of positive to negative emotional experience across adulthood: 'The positive emotional experience index significantly increases with age, whether modeled as a linear or polynomial function (age  $\gamma=0.0026$ ,  $p<.001$ ; age<sup>2</sup>  $\gamma = -0.0001$ ,  $p<.001$ )' [10]. Their statistical results were supportive of the hypothesis that the frequency of positive relative to negative experiences increases mostly linearly with chronological age. Therefore, we posited the following three hypotheses:

**H1** The levels of PP differ across age: older adults engage in PP more frequently than do younger adults.

The second objective of this study stems from the first one. Given the assumption that replication will confirm the findings of Catalino et al. [1] that older adults do not engage in PP more frequently than do younger adults and taken along with the noted previous findings, there remains the prospect that older individuals use the PP mechanism differently, maybe more effectively, than do younger ones. Therefore, as a second objective, the present study aimed at exploring the question of whether PP assumes different roles at different ages, a question which has remained unexplored

in previous research. Using a broad and diverse sample, we examined the question of whether the contributions of PP to positive emotions and negative emotions exhibit similar patterns across the lifespan. Specifically, we examined the moderating role of age in the associations of PP with positive emotions and negative emotions.

**H2–H3** The effectiveness of PP differs across ages: Older adults engage in PP more effectively than do younger adults. Specifically, among older individuals, the relationship of PP with positive emotions is stronger (H2), and the relationship with negative emotions is inversely stronger (H3), compared with its effectiveness among younger individuals.

Finally, to gain a broader understanding of situation-selection strategy of emotion regulation, in which individuals seek out contexts (situations and activities) that are likely to give rise to positive emotions or prevent negative emotions [18], we aimed to explore the various types of situations by means of a ‘bottom-up’ qualitative approach. To the best of our knowledge, this is the first study that addresses this aim in regard to PP, enabling a deeper and a broadened understanding of the mechanism by connecting it with the well-established theory of SST [18]. Catalino et al. [1] delineated the mechanism in that ‘PP reflects the extent to which individuals seek out positivity by virtue of how they make decisions about how to organize their day-to-day lives’ (p. 1159); ‘...when it comes to designing the structure of everyday life, people high in PP may be particularly good “architects”.’ (p. 1160). However, despite their broad definition of PP, according to Catalino et al. [1], people who prioritize positivity deliberately arrange their lives to include pleasure-generating activities and situations. In this study, we suggested and explored the possibility that individuals also deliberately arrange their lives to avoid negative activities and situations, as suggested by SST. By exploring the nature of situations that people seek out or create in anticipation of the positive emotions they trigger, and situations that people seek to avoid or reduce their frequency in anticipation of the negative emotions they trigger, the construct of PP will become more comprehensive and theoretically grounded.

## Method

### Participants and procedure

Data collection was conducted in two stages. In the first stage of the study, 381 participants were recruited to participate in the quantitative part alone. In the second stage, conducted as a direct continuation of the first one, 223

additional participants were recruited to participate in both the quantitative and qualitative components of the study. These 223 participants were recruited to further explore the insights gained from the first sample, with the aim of posing open questions that would deepen our understanding of the nuances of the differences. They were recruited in the same manner as the initial sample; older participants were recruited by two research assistants who solicited organized venues for the elderly in the community, such as day centers. The quantitative data of the subsample ( $n = 223$ ) were added to the data of the initial sample ( $n = 381$ ), with the entire quantitative sample, totalling 604 participants.

The total quantitative sample comprised 604 Israeli Jewish adults (231 males, 38.25%; 373 females, 61.75%) from the general population. Participants’ ages ranged from 17 to 87 ( $M_{\text{age}} = 38.40$ ;  $SD_{\text{age}} = 16.50$ ). Education levels ranged from high school (18.87%) and training/professional diploma (12.58%) to academic education (68.55%). Married participants made up 52.32% of the sample; 42.38% were single, 3.80% divorced, 0.33% widowed, and 1.17% ‘other.’ This distribution resembles the general Israeli population [19] with 56% married, yet deviates from the general Israeli population in terms of gender, having more women compared to the general public’s gender distribution (with 50% males), and education level (with 32% having an academic degree).

Participants were recruited through the distribution of notices at the authors’ universities and through social media outlets of the research team. Participants were recruited to reflect the full range of adult ages.

Aside from the study questionnaires, the subsample of 223 participants (101 males, 122 females), aged 17–87 ( $M_{\text{age}} = 44.90$ ;  $SD_{\text{age}} = 18.40$ ), was presented with two open questions, for which participants were compensated with a voucher to be redeemed at a coffee shop. Responses to these two questions comprised the data for the content analysis. Participants were recruited for the study to further explore the insights gained from the first sample, with the aim of posing open questions that would deepen our understanding of the nuances of the differences. They were recruited for the study in the same methods and older participants were recruited by research assistants who reached organized activities for the elderly in the community.

Questionnaires were designed using the Qualtrics (<http://www.qualtrics.com>) platform. All data were collected online over a 4-month period.

For this study, the authors received authorization from the ethics committees of their respective universities (AU-HLO-20150621-1 from Ariel University and 17/045 from The University of Haifa).

## Measures

### PP [1]

Participants indicated the extent of their agreement or disagreement with six items presented on a 9-point Likert-type scale, ranging from 1 (*strongly disagree*) to 9 (*strongly agree*): ‘A priority for me is experiencing happiness in everyday life’; ‘I look for and nurture my positive emotions’; ‘What I decide to do with my time outside of work is influenced by how much I might experience positive emotions’; ‘I structure my day to maximize my happiness’; ‘My major decisions in life (e.g., the job I choose, the house I buy) are influenced by how much I might experience positive emotions’; and ‘I admire people who make their decisions based on the happiness they will gain.’ The scale was translated into Hebrew using the back-translation method, and was validated for the local Israeli culture in a previous study [20]. For the present study, Cronbach’s  $\alpha = 0.86$ .

### Positive and Negative Affect Scale (PANAS; [21])

The PANAS questionnaire was used to measure the frequency with which individuals experienced positive and negative emotions over the past two weeks. The measure includes two 10-item mood scales and was developed to provide brief measures of positive affect (PA) and negative affect (NA). Sample PA items included *attentive, interested, alert, excited, enthusiastic, inspired, proud, determined, strong, and active*. Sample NA items included *distressed, upset, hostile, irritable, scared, afraid, ashamed, guilty, nervous, and jittery*. The 20 items were presented randomly on a 5-point Likert-type scale, ranging from 1 (*very slightly or not at all*) to 5 (*very much*). Participants were asked to rate how frequently they experienced each particular emotion during the last 2 weeks. The Hebrew version of the PANAS was developed and validated by Anaby et al. [22]. For the present study, Cronbach’s  $\alpha$  coefficients were 0.88 for PA, and 0.90 for NA.

### Open questions

Prior to presenting the subsample with the open questions, participants were given a brief explanation about PP and were told that the aim of the study was to gain a deeper understanding of individual differences regarding the manner in which people use the mechanism. Specifically, the participants were introduced to PP as a strategy that has been found to lead to well-being through deliberately choosing to be engaged in activities or situations having the potential to generate positive emotions and to avoid or lessen engagement in activities or situations that may trigger negative emotions, all on a day-to-day basis. This explanation of PP

expands on the Catalino et al. [1], incorporating elements drawn from an emotion-regulation strategy, namely situation selection, in which individuals seek out contexts that likely give rise to or prevent certain emotions [18].

The participants were then asked to record their responses to the two open questions: (1) please indicate three situations or activities in your daily life that you consider to be ‘positivity boosters’ (i.e., situations that you seek out or create due to the positive emotions that they trigger), and (2) indicate three situations or activities in your daily life that you consider to be ‘negativity boosters’ (i.e., situations that you seek to avoid or lessen their frequency due to the negative emotions they trigger).

## Data analysis

### Quantitative analysis

Data were examined using descriptive statistics. Pearson correlations, hierarchical regression analyses, and the Baron and Kenny [23] approach to analyze moderation were conducted.

### Qualitative analysis

For the first step of the analysis, participants’ descriptions of the activities or situations they identified as triggering positive and negative emotions were carefully reviewed by the two authors, with each author independently dividing the descriptions into preliminary categories. In the second step, common themes were identified by open coding of the participants’ descriptions. Two judges (undergraduate psychology students) independently sorted the descriptions into the various content categories, achieving good inter-rater reliability: Kappa = 0.87 for the positive context descriptions, and 0.83 for the negative ones. Differences were resolved through independent discussions between each judge and the second author, who has experience in qualitative research methods and was familiar with the data and categories. These discussions involved in-depth clarifications, reexamining the texts to verify interpretations and then reconvening, a process which enhanced the credibility of the qualitative examination.

## Results

### Preliminary analyses

The study variables’ means, standard deviations, and correlations are presented in Table 1.

As can be seen in Table 1, the current study replicated previous findings [1, 6] that PP is associated with more

positive emotions ( $r = .26, p < .001$ ) and fewer negative emotions ( $r = -.25, p < .001$ ).

### Hypotheses testing

#### Is PP stable across age?

The hypothesized association of PP with age (H1) was not supported. As can be seen in Table 1, Pearson correlation of PP ratings with age did not reach significance ( $r = .06, ns$ ). A complete hierarchical regression model, conducted to examine the unique contribution of age to PP, after controlling for gender, did not reach significance,  $F(2, 602) = 1.52, p > .05$ .

#### Assessing the moderating effects of age

Consistent with guidelines suggested by Baron and Kenny [23] for examining moderating effects between continuous variables, two hierarchical regression analyses were performed to examine the extent to which age might moderate the associations of PP with positive (H2) and negative (H3) emotions. With positive (Table 2) and negative (Table 3) emotions as the dependent variables, standardized gender scores (control), standardized PP scores (predictor), and standardized age scores (moderator) were entered in Step 1. To examine the possibility of a significant moderator effect, standardized PP X Standardized Age scores were then entered in Step 2, which was the final step. According

**Table 1** Descriptive statistics and correlational coefficients between the variables

|                   | $\alpha$ | Mean  | SD    | 1        | 2       | 3        |
|-------------------|----------|-------|-------|----------|---------|----------|
| PP                | 0.86     | 6.57  | 1.55  |          |         |          |
| Positive emotions | 0.88     | 3.37  | 0.75  | 0.26***  |         |          |
| Negative emotions | 0.90     | 2.05  | 0.78  | -0.25*** | -0.07   |          |
| Age               |          | 38.40 | 16.50 | 0.06     | 0.21*** | -0.23*** |

\*\*\* $p < .001$

**Table 2** Regression results for the moderation effect on positive emotions

|          | $b$   | $SE_b$ | $\beta$ | $\Delta F$ | $\Delta R^2$ | Adj. $R^2$ |
|----------|-------|--------|---------|------------|--------------|------------|
| Step 1   |       |        |         | 21.08      | 0.10         | 0.10***    |
| Gender   | -0.06 | 0.04   | -0.06   |            |              |            |
| PP       | 0.24  | 0.04   | 0.24*** |            |              |            |
| Age      | 0.17  | 0.04   | 0.16*** |            |              |            |
| Step 2   |       |        |         | 10.07      | 0.02         | 0.12**     |
| Gender   | -0.06 | 0.04   | -0.06   |            |              |            |
| PP       | 0.22  | 0.04   | 0.22*** |            |              |            |
| Age      | 0.16  | 0.04   | 0.16*** |            |              |            |
| PP X age | 0.12  | 0.04   | 0.13**  |            |              |            |

$N = 564$ . The coefficients are standardized  $\beta$  weights

\*\* $p < .01$ ; \*\*\* $p < .001$

**Table 3** Regression results for the moderation effect on negative emotions

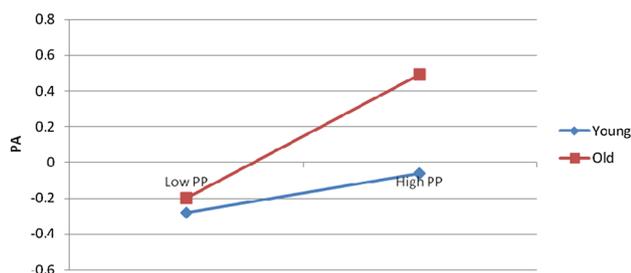
|          | $b$   | $SE_b$ | $\beta$  | $\Delta F$ | $\Delta R^2$ | Adj. $R^2$ |
|----------|-------|--------|----------|------------|--------------|------------|
| Step 1   |       |        |          | 22.01      | 0.10         | 0.10***    |
| Gender   | -0.02 | 0.04   | -0.02    |            |              |            |
| PP       | -0.23 | 0.04   | -0.23*** |            |              |            |
| Age      | -0.22 | 0.04   | -0.22*** |            |              |            |
| Step 2   |       |        |          | 9.14       | 0.02         | 0.12**     |
| Gender   | -0.06 | 0.04   | -0.06    |            |              |            |
| PP       | -0.24 | 0.04   | -0.25*** |            |              |            |
| Age      | -0.22 | 0.04   | -0.22*** |            |              |            |
| PP X age | 0.11  | 0.04   | 0.12**   |            |              |            |

$N = 565$ . The coefficients are standardized  $\beta$  weights

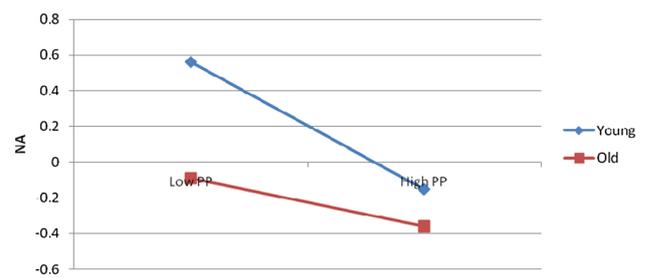
\*\* $p < .01$ ; \*\*\* $p < .001$

to Baron and Kenny [23], evidence of a moderator effect is present when the interaction term between the predictor and moderator is significant. Regression results for the moderation effects are presented in Tables 2 and 3. Gender, PP, and Age accounted for 10% of the variance for positive emotions, and 10% for negative emotions in Step 1. In Step 2, the PP X Age interaction accounted for a significant addition of 2% for positive emotions, and 2% for negative emotions. The complete regression model accounted for 12% of the variance in positive emotions,  $F(4, 560) = 31.15, p < .001$ , as well as in negative emotions,  $F(4, 561) = 31.15, p < .001$ . Step 2 in Tables 2 and 3 shows that the interaction of PP and Age is significant ( $\beta = 0.13, p < .01$  for positive emotions, and  $\beta = 0.12, p < .01$  for negative emotions). In support of Hypotheses H2 and H3, age was found to significantly moderate the relationships of PP with positive and negative emotions. Overall, these results indicate that age provides a unique contribution to positive and negative emotions, beyond that accounted for by PP, and also moderates the relations between PP and positive and negative emotions.

To examine the emerged interaction effects, we plotted the simple slopes of the PP-age linkage at one standard deviation below the mean age and one standard deviation above the mean age [24, 25]. We also tested whether each slope was statistically significant. In the case of positive emotions, as shown in Fig. 1, the results did not match the predicted pattern: The PP-age linkage was significant in the older group (simple slope = 0.34,  $p < .001$ ), but was not found to be significant in the younger group (simple slope = 0.11,  $p > .05$ ). Thus, H2 was not supported. Specifically, for older individuals, those with high levels of PP reported more positive emotions than those with low levels of PP, but for younger individuals there were no differences between the two groups. In other words, PP is associated with more positive emotions among older individuals, but not among younger individuals. In the case of negative emotions, as shown in Fig. 2, the results matched the predicted pattern: The PP-age linkage was significantly stronger in the younger age group (simple slope = -0.35,  $p < .001$ ) than it was in the older age group (simple slope = -0.13,  $p < .05$ ).



**Fig. 1** Simple slope for the interaction effect of PP and age on positive emotions



**Fig. 2** Simple slope for the interaction effect of PP and age on negative emotions

Thus, H3 was fully supported. Specifically, the mechanism of PP was considerably more negatively associated with negative emotions for younger individuals than it was for older individuals.

### Qualitative content analysis of participants' prioritized/avoided activities and situations

The total number of descriptions derived from 223 participants' responses was 596 for positive activities and 441 for negative activities.

#### Positive contexts

For positive emotions, seven main themes of activities or situations emerged from the analysis: (1) interpersonal relationships ('being with my kids'; 'spending time with my partner'); (2) accomplishments ('closing a successful deal at work'; 'achieving a good grade after working hard on my studies'); (3) pleasure ('listening to my favorite music'; 'snuggling in front of the TV'); (4) creative activity ('engaged with my hobbies'; 'creating new things'); (5) contribution to society ('giving myself to the greater good of my community'; 'volunteering'; 'charity'); (6) virtues or overall life view ('living according to my values'; 'being hopeful and optimistic about the future'); and (7) faith ('attending synagogue'; 'praying').

Almost half of the sample (41.9%) mentioned interpersonal relationships as contexts which they use in order to increase positive emotions. Six other contexts were indicated: accomplishments (17.8%), pleasure (15.4%), creative activity (13.8%), contribution (6.5%), virtues (2.3%), and faith (2.2%).

#### Negative contexts

For negative emotions, seven main themes of activities or situations emerged from the analysis: (1) negative interactions ('fighting with my kids'; 'arguments with my spouse'; 'conflicts in my workplace'); (2) negative

qualities ('lies and deceptions'; 'cynicism and judgment'); (3) unfulfilling situations ('getting a negative response to my request'; 'wasting time on doing unfulfilling things'); (4) chores ('commuting to work and traffic jams'; 'shopping for groceries'); (5) negative thoughts ('worrying about the future'; 'nagging and negative thoughts about death'); (6) health concerns ('feeling that my body betrays me as I get older'; 'being overweight'); and (7) life events ('attending my father's funeral'; 'visiting a friend in a hospital').

Almost a third of the sample (29.62%) cited negative interpersonal interactions as contexts that they seek to avoid so as not to experience negative feelings. Additional contexts were negative qualities (19.74%), unfulfilling situations (14.81%), chores (14.08%), negative thoughts (10.6%), health (6.58%), and life events (4.57%).

### Positive and negative contexts by age

In order to examine age-related differences between positive and negative contexts, several Chi-square tests were conducted. Prior to these tests, age was divided into a dichotomous measure using the median (Med = 46) as a cutoff. Table 4 presents frequency differences of positive contexts between younger and older participants.

As can be seen in Table 4, younger participants (20.2%) were more likely than older participants (9.6%) to use pleasure as a means of triggering positive emotions. No other significant differences were found.

Table 5 presents frequency differences of negative contexts between younger and older participants. As can be seen in the Table 5, younger and older participants differed in their avoidance of the category of unfulfilling situations. That is, younger participants (11.0%) were less likely than were older participants (19.2%) to be affected by experiencing lack of fulfillment as a negative emotion. Other differences did not achieve significance.

**Table 4** Age differences in frequencies of contexts that trigger positive emotions

| Measure                     | Younger<br>N (%) | Older<br>N (%) | Difference ( $X^2$ ) |
|-----------------------------|------------------|----------------|----------------------|
| Interpersonal relationships | 132 (41.1)       | 118 (42.0)     | 0.05                 |
| Pleasure                    | 65 (20.2)        | 27 (9.6)       | 13.10**              |
| Accomplishments             | 58 (18.1)        | 48 (17.1)      | 0.10                 |
| Contribution                | 16 (5.0)         | 23 (8.2)       | 2.53                 |
| Faith                       | 4 (1.2)          | 9 (3.2)        | 2.71                 |
| Creative activity           | 40 (12.5)        | 42 (14.9)      | 0.78                 |
| Virtues                     | 5 (1.6)          | 9 (3.2)        | 1.78                 |

\*\* $p < .01$

**Table 5** Age differences in frequencies of contexts that trigger negative emotions

| Measure                 | Younger<br>N (%) | Older<br>N (%) | Difference ( $X^2$ ) |
|-------------------------|------------------|----------------|----------------------|
| Chores                  | 45 (15.4)        | 32 (12.5)      | 0.92                 |
| Unfulfilling situations | 32 (11.0)        | 49 (19.2)      | 7.35**               |
| Negative interactions   | 90 (30.8)        | 72 (28.2)      | 0.43                 |
| Negative thoughts       | 36 (12.3)        | 22 (8.6)       | 1.96                 |
| Negative qualities      | 57 (19.5)        | 51 (20.0)      | 0.02                 |
| Life events             | 13 (4.5)         | 12 (4.7)       | 0.02                 |
| Health                  | 19 (6.5)         | 17 (6.7)       | 0.01                 |

\*\* $p < .01$

### Summary of qualitative results

Good interpersonal relationships and interactions were noted most frequently as the context likely to increase positive emotions among all of the participants, regardless of age. At the same time, poor relationships and interactions were noted as the negative context that all participants were most frequently seeking to avoid. Upon examining age-related differences with regard to positive contexts, younger adults were more likely than older ones to use pleasurable activities as a trigger of positive emotions. With regard to negative contexts, older adults expressed greater concern for a lack of satisfaction than were younger adults.

### Discussion

The present study employed the recently introduced strategy of PP [1] to offer a possible mechanism to explain previous findings showing that negative emotions tend to decrease with age (e.g., [9]), while positive emotions increase with age (e.g., [10]). More specifically, this study employed insights from both qualitative and quantitative perspectives to gain more breadth and depth of understanding of the role and nature of PP. This mixed methods approach allows methodological pluralism and triangulation to identify aspects of a phenomenon by approaching it from different vantage points (e.g., [26]) as well as to elaborate and clarify the specific components of the PP mechanism. Our quantitative findings suggest that PP assumes distinct roles across the lifespan: For older individuals (but not for younger ones), PP was shown to be a mechanism associated with an increase of positive emotions, while the PP mechanism was much more associated with reducing negative emotions for younger individuals than it was for older individuals. Moreover, the types of prioritized or avoided situations were explored in the qualitative part of this study. Interpersonal connections were found to be the most salient

contributor to emotional experience, regardless of age; good relationships and interactions were most frequently reported as positive emotion boosters, while poor human qualities and negative interactions were mentioned as those most frequently avoided in order to shield against negative emotions. Some noteworthy findings emerged from comparing younger adults with older ones: for example, whereas younger adults focused more than did older adults on pursuing pleasurable situations to stimulate positive emotions, older individuals were more likely to avoid unfulfilling situations more than did younger adults.

Consistent with socioemotional selectivity theory (SST), this study's findings suggest that PP is a mechanism associated with increasing positive emotions among older individuals and not among younger individuals. PP was found to be associated with decreasing negative emotions among younger adults to a much greater extent than among older adults. SST is a lifespan theory of motivation, grounded in the human ability to monitor time and to appreciate that time ultimately runs out with increasing age [17]. SST maintains that time horizons play a key role in motivation. Goals, preferences, and even cognitive processes, such as attention and memory, change systematically as time horizons shrink.

The qualitative finding that interpersonal connections were the most salient contributor to both positive and negative emotional experiences, regardless of age, is consistent with various theories of well-being, which included relationships as a central component (e.g., [27, 28]). However, our content analysis allowed for a deeper exploration of the nuances of how interpersonal connections vary between younger and older adults, highlighting differences between younger and older adults regarding prioritized and avoided situations and activities. Younger adults appeared to be more occupied with short-term pleasure situations as a means of experiencing positive emotions, while older adults appeared to be more occupied with avoiding unfulfilling situations and activities ('wasted time' or 'unwise use of their time,' in their own words). These differences appear to be reflected in interpersonal situations and activities as well: Younger people prefer interpersonal contacts which provide immediate enjoyment, while older people prefer interpersonal contacts that are not considered a waste of time or viewed as having the potential for unpleasantness. This may reflect differences in orientations or motivational changes (e.g., [29]), according to which older adults demonstrate more insightful and flexible capability in dealing with their life pursuits, goals, and emotions. According to Jung [30], the outer-directed orientation of young adulthood transforms to an inner-directed orientation around midlife, as mortality awareness is increased, thus completing the process of identity construction. Turning inward to explore the more eudaimonic and spiritual aspects of the self rather than to externally directed pursuits of hedonic pleasures and materialism appears to

be in accordance with processes of self-examination more characteristic of older adults (e.g., [31]).

Integrating both qualitative and quantitative findings of the current study elucidates the role of daily routine situations and activities in the management of positive and negative emotions across the lifespan. PP as a strategy that focuses on selecting or avoiding experiences was shown to be of significant emotional value for younger as well as for older adults, though for different reasons. The understanding that there is less life ahead and more life behind encourages older adults to benefit from seeking and creating moments that are likely to enhance their positive emotions rather than to diminish their negative ones. At the same time, the aging process can be viewed as a process of seeking fulfilling experiences and avoiding unfulfilling daily experiences. PP may be considered from a positive perspective of gain and growth, rather than viewing aging from a negative perspective of loss and decline. In contrast, younger adults, whose days are often packed with obligatory non-pleasurable tasks and duties (e.g., work-related or child care-related), are thus motivated to decrease their negative emotions by seeking and creating moments that are likely to provide an effect of immediate pleasure. This may suggest that for younger adults PP serves as a potential 'buffer' to balance negative emotions related to daily stresses and hassles characterizing this life stage, whereas for older adults it serves as a mechanism to boost life's little pleasures on a daily basis based on the acknowledgment of one's limited time ahead. Furthermore, given that older people need to attend more to health issues, which are imposed upon them (usually negative), they may be more encouraged to deliberately plan more positive experiences with their available time.

The current study reflects a second cross-cultural test of the effects of PP on well-being (the first one was done by Datu and King [6] with Filipino secondary school students). As our sample represents a more collectivist culture than the American culture in which the PP construct was developed, our investigation offers promising insights about the potential cross-cultural applicability of the PP mechanism across various sociocultural contexts.

The conclusions derived from the present study must be tempered by certain limitations. First, the present study relied on self-reports, which are subject to social desirability biases. We could not determine the extent to which the reported prioritized or avoided situations and activities were implemented by participants in their real life. Second, this study is cross-sectional, so causal relations between the variables could not be tested, though data from a previous, longitudinal study showed that PP enhances positive emotions, which then lead to greater PP. Third, various potential confounders, such as lifestyle factors, education level, income, morbidity, functionality, and leisure time, were not assessed. Finally, as is the case

with other age-related studies, this study suffers from the age-period-cohort identification problem. However, as Bell and Jones [32] noted, currently “no model is able to solve the identification problem because the identification problem is inherent to the real-world processes being modeled” (p. 163).

Future research in this area should best rely on experience sampling rather than on self-reports and should implement a longitudinal methodology. Samples should be recruited from various countries, cultures, and populations to further explore how PP is used and experienced, thus enhancing the generalizability of this study’s findings. Future research in this area should also control potential confounders.

Overall, despite the noted limitations and, while there are numerous and various previously explored factors that might affect emotions, this study contributes to the existing literature by offering an integrative exploration of a potential mechanism that highlights the role and function of individuals’ active and intentional efforts to increase their levels of positivity on a daily basis. Employing a mixed methods perspective, this study is the first to investigate the possibility that the reciprocal relationship between PP and positive and negative emotions is not uniform throughout the lifespan. In addition, it contributes another previously underexplored angle of how this mechanism of PP is manifested and played out in the lives of individuals across the lifespan through the exploration of daily prioritized situations and the types of activities that people prioritize or avoid at various ages. Given that priorities are defined by the choices individuals consciously make regarding how to spend their time or where to invest it, the present study underscored the possibility that through these chosen daily activities and interactions individuals can proactively nurture the experience of positivity in their lives. Focusing on and prioritizing engagement in activities known to have propitious outcomes may serve as a tangible and concrete vehicle for therapeutic, organizational, and educational practice.

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## Compliance with ethical standards

**Conflict of interest** The authors declare that they have no conflict of interest.

**Ethical approval** All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

**Informed consent** Informed consent was obtained from all individual participants included in the study.

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