**Savouring in Everyday Life: An Experience Sampling Study Investigating the Associations Between Savouring Strategies, Savouring Regulation Diversity, Positive Events, and Emotional Well-Being**

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**Abstract**

**Aim:** Increasing evidence outlined the importance of savouring for well-being by up-regulating positive emotions. The associations between the main savouring strategies and well-being within the daily context have remained unknown. The present study examined the associations between Capitalizing, Behavioural Display, Be Present, and Positive Mental Time Travel and emotional well-being. More recently, adaptive emotion regulation is defined as the flexible use of diverse emotion regulation strategies. The current study investigated savouring flexibility by assessing the association of savouring regulation diversity, the use of two or more savouring strategies, in contrast to savouring regulation specificity, the use of only one savouring strategy, and emotional well-being. Additionally, the interaction effect of positive events and savouring regulation diversity on emotional well-being was examined.

**Method:** Intensive longitudinal data were collected through experience sampling. The sample included 47 participants (mean age = 31.26 years, 78.7% female), who completed a baseline questionnaire and momentary measures of state savouring, positive affect, and the experience of a positive event three times a day for two weeks. 1951 timepoints were analysed using multilevel models.

**Results:** Significant weak positive associations were found for the relationships between Capitalizing ($B$=0.24, $\beta$=.24, $p$<.001), Be Present ($B$= 0.26, $\beta$=.24, $p$<.001), and Positive MTT ($B$=0.22, $\beta$=.21, $p$<.001) and positive affect and a significant moderate positive association was shown for Behavioural Display and positive affect ($B$= 0.33, $\beta$=.32, $p$<.001). The association between savouring regulation diversity and positive affect was significant strong and positive ($B$= 1.06, $\beta$=.90, $p$<.001) and in contrast to savouring regulation specificity more beneficial ($B$= 0.46, $\beta$=.39, $p$<.001). The interaction effect of positive events and savouring regulation diversity was significant weak negative and beneficial for positive affect ($B$=-0.28, $\beta$=-0.05, $p$=.01).

**Conclusion:** This study is an essential step towards extending the emotion regulation literature by showing the relevance of savouring and by demonstrating that the main savouring strategies are important resources for emotional well-being within the daily context. Furthermore, it provides preliminary evidence for the notion of savouring diversity. For future studies, the investigation of an optimal savouring use by considering situational and personality characteristics, as well as the exploration of within-person associations of savouring and well-being, is recommended.

**Introduction**

"Stop feeling sad and start feeling happy instead." Advice like this makes it seem easy to be in control of emotions (Gross, 2015). However, to regulate emotions, complex emotion regulation processes are required and indispensable. A rapidly growing research field emerged in the mid-1990s investigating the topic of emotion regulation (ER) (Gross, 2015). ER is conceptualised as conscious and unconscious goal-directed strategies individuals apply to modify the intensity, the duration, and the quality of their emotional experiences (Gross, 1998, 1999, 2015; Gyurak et al., 2011).

Emotion regulation strategies (ERS) can be organised into four categories based on emotional valence and regulation type as visualised in Figure 1 (Gross, 2015). Down-regulation strategies of negative emotions decrease negative emotions such as anger, sadness, and anxiety, whereas up-regulation strategies of negative emotions aim to increase negative emotions (Gross et al., 2006). Up-regulation strategies of positive emotions increase positive emotions like love, interest, and joy and are defined as *savouring strategies*, while down-regulation strategies of positive emotions decrease positive emotions and are called *dampening strategies* (Quoidbach et al., 2010).

Research has mainly focused on how individuals regulate negative situations and negative emotional states (Colombo et al., 2021; Ma et al., 2020). The regulation of negative emotions is widely accepted as an important determinant for mental health and mental illness (Aldao et al., 2010; Kobylinska & Kusev, 2019; Sapolsky, 2007). On the one hand, the regulation of negative emotions is found to reduce stress and increase well-being (Hu et al., 2014; Wranik et al., 2007). On the other hand, a deficit in the regulation of negative emotions is described as a risk factor for the onset of various psychological disorders including depressive disorders, anxiety disorders, eating disorders and alcohol abuse disorders (Clyne & Blampied, 2004; McLaughlin et al., 2007; Nolen-Hoeksema et al., 2008; Sher & Grekin, 2007).

Despite the major focus on negative ER, increasing evidence outlined the importance of the regulation and specifically the savouring of positive events and positive emotions (Colombo et al., 2021; Gable et al., 2018; Ma et al., 2020). Studies suggested that positive events are associated with well-being for instance by decreasing depressive symptoms or increasing self-esteem and perceived control in daily life (Lewinsohn & Graf, 1973; Reis & Gable, 2003; Zautra et al., 2002). Positive events are expected to be uniquely and distinguishably associated with

positive emotions (Ma et al., 2020; Salovey et al., 2000).

      Positive Psychology has attributed the capacity to experience positive emotions a key role for human flourishing (Fredrickson, 2001). As explained by the broaden-and-build theory, positive emotions not only buffer the impact of negative emotions but simultaneously foster resilience and mental well-being. Positive emotions broaden an individual's awareness and facilitate novel thoughts and actions. This broadened repertoire subsequently builds useful skills and personal resources, including psychological, social, intellectual, and physical resources. Given the great potential of positive emotions, further investigation of savouring positive events and positive emotions is required (Colombo et al., 2021; Quoidbach et al., 2010).

**Figure 1**

*Categorization of ERS based emotional valence and regulation type*
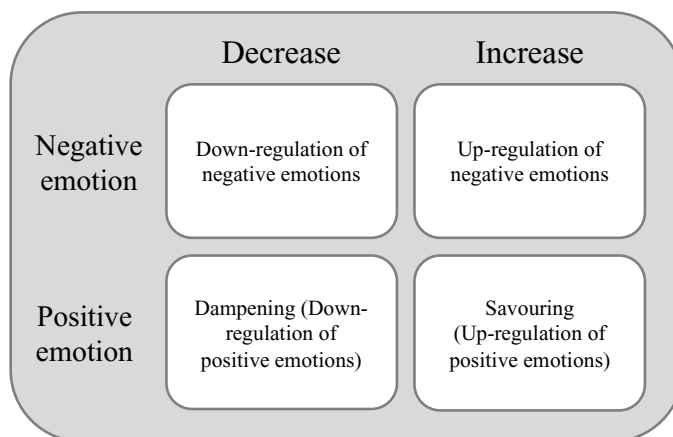


**Savouring and well-being**

      Considering the broaden-and-build theory, savouring positive events and positive emotions might yield various resources for well-being (Colombo et al., 2021; Fredrickson, 2001; Quoidbach et al., 2010). Savouring is categorised into four main savouring strategies (Nelis et al., 2011). The first savouring strategy is *Behavioural Display*, which refers to the expression of positive emotions with nonverbal behaviour (Nelis et al., 2011; Quoidbach et al., 2010). The second savouring strategy implies *Being Present* by directing one's conscious awareness to the present pleasant experiences. The third strategy entails communicating and celebrating positive events with significant others, which is defined as *Capitalizing.* Finally, the fourth savouring strategy consists of efforts to engage in *Positive Mental Time Travel (Positive MTT),* which is

defined as the deliberate act of anticipating future positive events and reminiscing past positive events.

Different studies have examined the associations between the savouring strategies and well-being. Behavioural Display in the form of smiling is shown to be positively related to positive emotional states and suggested to have a therapeutic value (Abel & Hester, 2002). Similarly, Johnson et al. (2010) presented experimental evidence that facial expressions of positive emotions lead to cognitive broadening by strengthening the attentional breadth and attentional flexibility. The facial feedback hypothesis delivered further support that facial expressions associated with positive emotions, such as smiling, can strengthen positive emotions (Buck, 1980).

Several studies have reported a positive correlation between being present and well-being including life satisfaction, optimism, self-esteem, and the subjective quality of life (Bryant, 2003; Meehan et al., 1993; Surawy et al., 2005). The insights of an experience sampling study by Brown and Ryan (2003) provided support that dispositional and state mindfulness, defined as present-centred attention-awareness, are related to positive emotional states. Additionally, the results of Erisman and Roemer (2010) revealed that participants in a brief mindfulness intervention described significantly greater positive affect in response to a positive-affect film clip, less immediate negative affect in response to a mixed-affect film clip, and more adaptive emotion regulation, yielding further support for a positive effect of mindfulness on well-being.

The results of two daily-diary studies conducted by Langston (1994) presented a positive association between Capitalizing and positive affect. Besides, Gable et al. (2018) extended the findings of Langston (1994) with another daily diary study and showed that both, the action of sharing a positive event with someone and the response of the listener, can have personal and interpersonal benefits. The personal benefits of Capitalizing implicated increased positive emotions, subjective well-being, self-esteem, and decreased loneliness. The interpersonal benefits involved satisfaction, intimacy, commitment, trust, liking, closeness, and stability.

Quoidbach et al. (2009) reported that deliberate future Positive MTT significantly raised happiness. The outcomes of the experimental study showed that daily self-guided positive future thinking for two weeks significantly increased happiness compared to neutral future thinking, negative future thinking, and control groups. Based on the findings of MacLeod and Conway (2011) a positive influence of Positive MTT on well-being is further supported by presenting that

subjective well-being was related to the anticipation of positive experiences. Furthermore, positive reminiscing is found to be correlated with subjective well-being (Bryant et al., 2005).

In an online study by Quoidbach et al. (2010) the unique impact of all four savouring strategies on well-being was assessed. The relative impact of Behavioural Display, Be Present, Capitalizing, and Positive MTT on positive affect and life satisfaction was examined. The results indicated that Be Present and Positive MTT are positively related to positive affect, while Capitalizing is positively related to life satisfaction.

**Savouring regulation diversity and well-being**

Until now, most studies have almost entirely focused on the relationships between specific ERS and well-being to identify overly adaptive and maladaptive ERS (Kobylinska & Kusev, 2019; Quoidbach et al., 2010). However, psychological processes are never completely adaptive or maladaptive (Bonanno & Burton, 2013; Grant & Schwartz, 2011; Troy et al., 2013). The tendency to evaluate ERS as overly effective or ineffective is described as the *fallacy of uniform efficacy* as it fails to take situational and personal influences into account (Bonanno & Burton, 2013).

Increasing studies have now investigated determinants of adaptive ER and the first results suggested that adaptive ER involves a flexible use of different ERS depending on varying situational and personal demands (Bonanno et al., 2004; Bonanno & Burton, 2013; Cheng, 2001). Adaptive ER is defined as a flexible and context-sensitive use of ERS since specific ERS are expected to be more effective in some situations than others (Bonanno & Burton, 2013).

Preliminary findings suggested that greater flexibility is associated with better mental health and better coping (Bonanno et al., 2004; Westphal et al., 2010). The results of four experience sampling studies showed that between-strategy variability, defined as the variability in the use of strategies at one measurement, is associated with a decrease in negative affect (Blanke et al., 2020). Grommisch et al. (2020) reported that both ER repertoire width and the combinations of ERS can influence well-being. Similarly, deficits in ER flexibility are associated with psychological dysfunction for instance seen in affective disorders or the borderline personality disorder (Bonanno & Burton, 2013; Rottenberg et al., 2005). Yet, little is known about ER flexibility and particularly a paucity of insights into savouring flexibility is recognized within the literature (Aldao, 2013; Aldao et al., 2015; Bonanno & Burton, 2013; Kobylinska &

Kusev, 2019).

Considering positive emotion differentiation approaches it is proposed that different positive situations elicit different positive emotions (Shiota et al., 2014). Fredrickson (2009) also distinguished between ten pleasant emotions, which arise in related yet distinct situations. In line with the flexibility hypothesis, applying multiple savouring strategies might promote well-being because the likelihood of effectively up-regulation of more positive emotions in varying positive situations is increased (Kobylinska & Kusev, 2019). Concretely, *savouring regulation diversity*, applying multiple savouring strategies, might be more effective than *savouring regulation specificity*, applying only one savouring strategy. This assumption is supported by the findings of Quoidbach et al. (2010), indicating that cultivating multiple savouring strategies is more beneficial for well-being as a wider range of savouring strategies intensified the relationship with general happiness.

**Savouring in daily life**

A reason for the narrow understanding of savouring strategies and savouring diversity might be that most studies investigated ERS utilising retrospective or experimental research designs, which limited insights into the true properties and performances of ERS (Brockman et al., 2016). ERS are dynamic and flexible processes occurring in the complex daily life and thus must be conceptualized and measured as such and as close in time as possible (Quoidbach et al., 2010). Most retrospective studies relied on global self-reports of dispositional ERS use, disregarding that these measures are based on recalls over extended periods and across several situations rather than on momentary everyday life experiences (Brockman et al., 2016; Grommisch et al., 2020; Gross & John, 2003; Jose et al., 2012; Quoidbach et al., 2010). These global measures limited insights into the direct influence of specific ERS on emotions and well-being (Heiy & Cheavens, 2014). Additionally, experimental designs mostly assessed ERS in controlled and artificial environments, disregarding the complexity of the real-world environment (Burr & Samanez-Larkin, 2020). Therefore, an investigation of savouring as a dynamic momentary process occurring in the real daily lives of individuals is needed (Quoidbach et al., 2010).

*Experience Sampling Method*

The Experience Sampling Method (ESM) is an empirically validated structured research procedure that uses repeated self-report measurements to assess subjective experiences in daily life (Conner & Lehman, 2012; Csikszentmihalyi & Larson, 2014). The assessment occurs in the natural and complex environments of participants, allowing an in-depth analysis of individual micro-level processes as closely in time as possible and giving insights into moment-to-moment changes (Verhagen et al., 2016). ESM provides an ecologically valid tool to assess how savouring strategies unfold in real-life and how they are associated with dynamic contextual variables such as emotions and well-being (Conner & Lehman, 2012; Heiy & Cheavens, 2014).

**Current study**

Increasing studies have highlighted the relevance of savouring positive events and positive emotions. Little yet is known about the associations between the main savouring strategies and emotional well-being within the daily context (Quoidbach et al., 2010). Moreover, following the ER flexibility hypothesis, savouring regulation diversity, relative to savouring regulation specificity, is expected to be most beneficial for emotional well-being (Kobylinska & Kusev, 2019). Preliminary findings supported the advantage of savouring diversity (Quoidbach et al., 2010). Nevertheless, a retrospective study design was used, limiting insights into savouring as a dynamic daily process (Brockman et al., 2016; Quoidbach et al., 2010). Finally, in line with studies reporting a positive influence of positive events and the potential boost of savouring regulation diversity, an interaction of positive events and savouring regulation diversity on emotional well-being is assessed (Kobylinska & Kusev, 2019; Reis & Gable, 2003; Zautra et al., 2002). Accordingly, the following research questions are formulated:

*RQ1: How is the momentary use of Capitalizing, Behavioural Display, Be Present, and Positive MTT associated with emotional well-being?*

*RQ2: How is the momentary use of savouring regulation diversity associated with emotional well-being?*

*RQ3: Does momentary savouring regulation diversity moderate the relation between positive events and emotional well-being?*

**Method**

**Participants**

A convenience sample of 75 participants was recruited from the personal network of the researcher and via the Sona System, which is a research and participant management software available for students at the University of Twente. Convenience sampling, a type of non-random sampling, was used as it allowed to recruit participants that are accessible to the researcher and willing to partake in the study, considering the rather high burden of ESM studies (Conner & Lehman, 2012; Eisele et al., 2020; Etikan et al., 2016). Inclusion criteria for the study were: (a) availability of an Android or IOS smartphone connected to the internet; (b) availability of an email address to receive the study details and instructions; and (c) a sufficient level of English or German language. A priori power analyses to determine the required sample size were not conducted because power analyses in ESM studies depict a complex and yet unresolved issue due to the multilevel modelling (Gabriel et al., 2019; Snijders, 2005). Therefore, it was aimed to include a minimum of 50 participants as the average number of participants for ESM studies has lied around 53 (Van Berkel et al., 2017).

**ESM Protocol**

The study was approved by the Ethics Committee of the Faculty of Behavioural, Management and Social Sciences of the University of Twente (#220220). The Ethica Data platform (https://ethicadata.com/) and the corresponding Ethica Data smartphone application were used to design the ESM study and to collect the data. Ethica Data is a human-subject research platform that enables data collection in real-world contexts, while putting less burden on participants, securing high privacy standards, and providing full offline support (Ethica, 2021).

Prior to the data collection, a three-day pilot study was conducted to test the functionalities of the questionnaires. The study consisted of a baseline survey, assessing sociodemographic characteristics and baseline measures of the relevant constructs, and multiple daily questionnaires measuring the relevant momentary state constructs and contextual variables for 14 days (Dejonckheere & Erbas, 2021; Yearick, 2017). The data collection took place between 11/04/2022 – 24/04/2022 for all participants. In conformity with the typical duration of ESM studies of three days to three weeks, a study period of 14 days was selected (Conner & Lehman, 2012; Van Berkel et al., 2017; Yearick, 2017).

The participants were invited to the study through Ethica Data via email to receive instructions for the registration and participation process. For the registration, the participants were asked to download the Ethica Data application on their private smartphones and to provide active informed consent within the application (Appendix A). The participants completed the baseline survey and the daily questionnaires in the Ethica application. The baseline survey was triggered once in the morning on day one of the study, taking about 20 minutes to complete. A semi-random sampling scheme was used for the daily questionnaires, which is the most used sampling scheme for ESM studies (Dejonckheere & Erbas, 2021). The daily questionnaires were triggered randomly within pre-defined time intervals in the morning (10 a.m. – 12 a.m.), afternoon (3 p.m. – 5 p.m.), and evening (8 p.m. – 10 p.m.) to reduce the anticipation but simultaneously allow an approximate expectation of the momentary assessments, which has resulted in relatively high ecological validity, relatively low participant burden, and reduced negative consequences for compliance (Conner & Lehman, 2012; Dejonckheere & Erbas., 2021). The daily questionnaires took approximately three minutes per measurement occasion to complete.

To increase compliance, reminders were sent. For the baseline survey reminders were sent after seven hours, six days, and after eleven days after the triggering. The baseline survey did not expire for the remainder of the study. The reminders for the daily questionnaires were sent one hour after the triggering and the questionnaires disappeared two hours after they were triggered. In case of technical issues or questions, the researcher was available during the entire data collection. The ESM study design is visualized in Figure 2.

**Figure 2**

*ESM study design including questionnaire type and triggering logic*
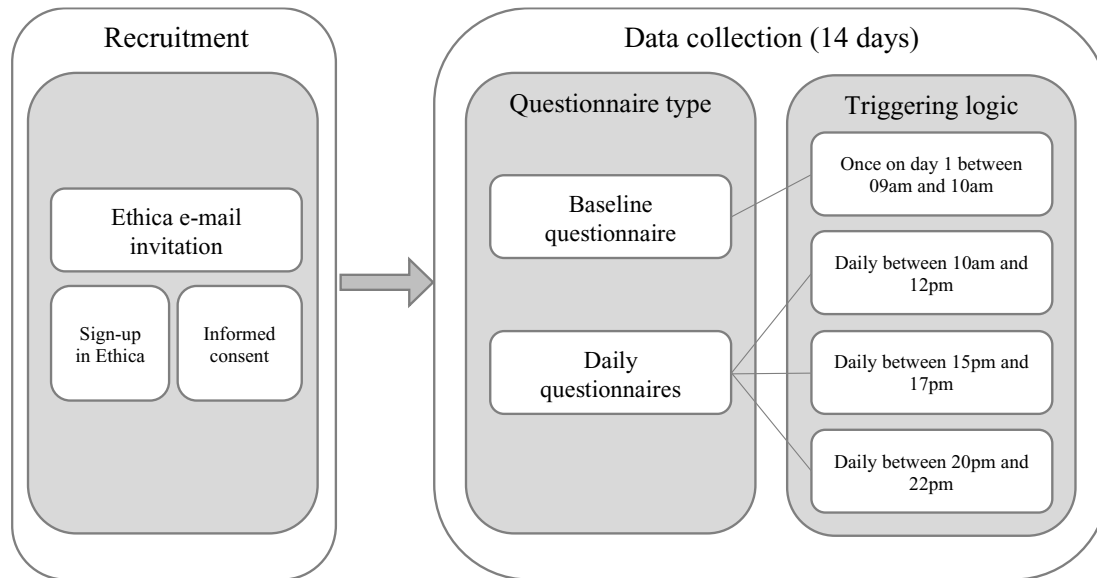


**Measures**

The baseline survey consisted of 42 items and assessed sociodemographic characteristics including age, gender, nationality, occupation, and education level and baseline measures of mental well-being, psychopathology, and savouring (Appendix B). The daily survey is composed of 13 items obtaining momentary state-level assessments of positive events, emotional well-being, and the savouring strategy use (Appendix C). The materials were provided in English and German.

*Baseline measurements*

Mental well-being was measured with the 14-item Mental Health Continuum Short Form (MHC-SF). The MHC-SF consisted of three subscales assessing emotional, social, and psychological well-being (Lamers et al., 2011; Robitschek & Keyes, 2009). Participants were for instance asked to indicate how often during the past month they feel 'satisfied with life'. Items were scored on a 6-point Likert scale ranging from 0 (*never*) to 5 (*every day*), with higher scores indicating higher levels of mental well-being (range 0 to 70). Lamers et al. (2011) reported convergent validity and high internal consistency ($\alpha$=.89) for the total scale. In the current study, Cronbach's alpha was high with .84 for the total score of the MHC-SF.

Trait anxiety was assessed with the General Anxiety Disorder Assessment (GAD-7). The

GAD-7 included seven items screening for generalized anxiety disorder (GAD) and assessing its severity in the past two weeks (e.g., how often have participants been 'feeling nervous, anxious or on edge') (Spitzer et al., 2006). Items were scored on a 4-point Likert scale ranging from 0 (*not at all*) to 3 (*nearly every day*). Higher total scores indicated higher trait anxiety (range 0 to 21). For the general population, almost excellent internal consistency for the German version ($\alpha$=.89; Löwe et al., 2008) and excellent internal consistency for the English version were reported ($\alpha$=.91; Mills et al., 2014). In this study, Cronbach's alpha was acceptable for the GAD-7 with .72.

Trait depression was measured with the Patient Health Questionnaire (PHQ-9). The PHQ-9 consisted of nine items screening for overall depression severity over the last two weeks (e.g., how often have participants been 'feeling down, depressed, or hopeless') (Kroenke et al., 2001; Spitzer et al., 1999). Items were scored on a 4-point Likert scale ranging from 0 (*not at all*) to 3 (*nearly every day*), whereby higher scores indicated higher trait depression (range 0 to 27). High internal consistency was demonstrated for the English version ($\alpha$=.87; Kocalevent et al., 2013) and the German version ($\alpha$=.90; Reich et al., 2018) of the PHQ-9. The scale in this sample showed a Cronbach's alpha of .76 for the total score.

Trait savouring was assessed with the savouring positive emotion scale of the Emotion Regulation Profile-Revised (ERP-R). The savouring positive emotion scale consisted of six scenarios describing positive events that elicit contentment, joy, awe, excitement, pride, and gratitude (Nelis et al., 2011; Quoidbach et al., 2010). For instance, the participants were asked to imagine spending a romantic weekend trip with their partner (joy). For each scenario, the participants were asked to select all responses that accurately reflect their typical behaviours, which allowed the participant to select between one and eight responses for each scenario. The response options consisted of the four main savouring and the four main dampening strategies. One point was credited per savouring strategy and one minus point per dampening strategy for all six scenarios. A total score for up-regulation of positive emotions was determined by summing up all credited points of the six scenarios (range -24 - +24), indicating the overall trait level of positive up-regulation. In addition, individual scores for each savouring and dampening strategy for all scenarios were computed (range 0-6), describing the use of each of the eight ERS. The total ERP-R score showed good reliability ($\alpha$=.84) and satisfactory internal consistency for the up-regulation of positive emotion scale ($\alpha$=.79). The savouring positive emotion scale in this

sample showed a Cronbach's alpha of .83 for the total score.

To date, there are no translations of the savouring positive emotion scale into German. Therefore, the scale was translated into German based on the guidelines for translating a questionnaire by Tsang et al. (2017). First, a forward translation was conducted by two independent translators, specifically one expert bilingual translator aware of the concepts of the scale and one translator unaware of the concepts. The discrepancies were discussed and resolved. Following, a backward translation was conducted to assess the accuracy of the translation by two independent translators not aware of the concepts of the scale. Finally, the prefinal version of the translated scale was pilot tested within the pilot study to ensure that the translated items maintained the same meaning as the original items.

### *ESM measurements*

State emotional well-being was measured with four items assessing positive affect using a 7-point Likert scale ranging from 1 (*not at all*) to 7 (*very much*). The four items assessed positive affect by asking the participants "How 'cheerful', 'enthusiastic', 'satisfied', 'relaxed' do you feel right now?". The items were selected based on former performed ESM studies (Geschwind et al., 2010; Jans-Beken et al., 2019). A mean sum score for positive affect was computed by averaging the positive items. The mean score was used to represent the level of experience of positive emotions at each timepoint. The reliability of the state emotional well-being measure over time was assessed with split-half reliability testing (Hektner et al., 2007). The correlation was $r=.63$, $p<.001$, indicating acceptable reliability.

State savouring was assessed with four binary items asking for the momentary use of each of the four savouring strategies *(yes/no)* and four items measuring the extent of each of the savouring strategies use if participants indicated to have used a savouring strategy. The extent items were in line with the ESM measures used by Brans et al. (2013) and assessed the savouring strategy use using a 6-point Likert scale ranging from 1 *(not very much)* to 6 *(very much)*. The items began with "Within the last two hours …" and ended with "… I have talked about my pleasant feelings/positive experiences with others" (*Capitalizing*), "… I have expressed my positive emotions with nonverbal behaviour (e.g., smiling/other facial expressions/body movement and posture/etc.)" (*Behavioural Display*), "… I have paid my deliberate attention to the present pleasant experiences" (*Be Present*), and "… I have vividly anticipated a future

positive event and/or recalled a past positive event" (*Positive MTT*).

For the state measure of savouring regulation diversity for the second research question, a categorical variable was developed by recoding the momentary use of no savouring strategy to '0', the momentary use of one savouring strategy to '1', and the momentary use of two to four savouring strategies to '2', indicating no savouring strategy use, savouring regulation specificity, and savouring regulation diversity respectively. For the state measure of savouring regulation diversity for the third research question, a dummy variable was developed by recoding the momentary use of no savouring strategy or only one savouring strategy to '0' and the momentary use of two to four savouring strategies to '1', defining no savouring regulation diversity and savouring regulation diversity.

Positive events were assessed with a single-item asking on a 7-point scale between -3 (*very unpleasant*), 0 (*neutral*), and +3 (*very pleasant*): "Think of the most striking event or activity since the last questionnaire. How (un)pleasant was this event or activity?" The single item was retrieved from previous study protocols of Helmich et al. (2020) and Geschwind et al. (2010). The item was slightly adjusted by asking for the most "striking" event and "activity" as it could be difficult for participants to determine what the important event is, especially if there was no concrete event. For the state measure of a positive event, a dummy variable was created by recoding -3 to 0 to a '0' and +1 to +3 to a '1'.

**Data Analyses**

All analyses were conducted in IBM SPSS Statistics 28 and Excel for Microsoft 365 was used to create graphs. First, data preparation and exploration were performed based on the guidelines by Viechtbauer (2021). Next, to obtain standardized regression estimates, z-scores were created for state emotional well-being, state savouring, state positive events, and state savouring regulation diversity. To interpret the standardized regression coefficients and the correlation coefficients, the rule by Cohen (1988) was used, defining the coefficients as weak (<0.3), moderate (0.3-0.5), or strong (>0.50). Furthermore, correlations between the person mean scores per state measure and the mean scores of the trait measures were determined to assess the validity of the state measures.

Subsequently, several analyses were conducted to answer the three research questions. Linear mixed modelling (LMM) analyses using the MIXED command in SPSS were performed

(Myin-Germeys & Kuppens, 2021). LMM analyses were conducted because they account for the hierarchical structure of ESM data (i.e., measurements nested within persons) (Raudenbush et al., 2011) and appropriately handle missing data at random (Jahng et al., 2008). An autoregressive covariance structure (AR1) was selected as it expects correlations between measurements to exponentially decline over time (Barnett et al., 2010).

The first research question was examined by running four univariable LMMs with positive affect as the dependent variable and the state savouring strategies as fixed covariates respectively. In addition, Estimated-Marginal (EM)-means were calculated to create line plots to visualize how the state savouring strategies and positive affect are associated with each other over the course of 14 days and per participant. Furthermore, to visualize the association of the state savouring strategies and positive affect for individual cases, observed scores were used selected from participants with a high person mean (participants 2, 13, 34, 34) and with a low person mean (participants 30, 26, 8, 25) for state Capitalizing, state Behavioural Display, state Be Present, and State Positive MTT and from participants with a high person mean (participant 3) and a low person mean (participant 40) for positive affect to show exemplary individual differences between participants.

To examine the second research question, an LMM was run with the categorical variable of savouring regulation diversity as a fixed factor and positive affect as dependent variable. No savouring strategy use was selected as the reference category. To compare the association of savouring regulation specificity and emotional well-being with the association of savouring regulation diversity and emotional well-being and assess which effect on emotional well-being is stronger, the confidence intervals were compared.

The third research question was tested with a LMM with positive affect as dependent variable and the dummy variables of savouring regulation diversity and positive events as predictors. The interaction term between the dummy variables of savouring regulation diversity and positive events was included to assess if savouring regulation diversity moderated the relationship between positive events and emotional well-being.

## Results

The current study comprised 47 participants from the total sample (*N*=75). Exclusion criteria for the study were: (a) missing data for the baseline questionnaire (*n*=1) and (b) a response rate under the cut-off score of 50% of all daily measures as recommended for ESM data analyses (*n*=27) (Conner & Lehman, 2012). For the final sample (*N*=47), the average momentary response rate was 78.8%, which is considered a good response rate based on the average response rate of 69.9% (Van Berkel et al., 2017). 78.7% of the included participants identified as female and the mean age was 31.26 years (*SD*=14.05) with an age span between 18 and 60 years. Most of the participants had German nationality (95.7%) and were working (55.3%). Further sample characteristics including gender, nationality, employment status, and highest education can be found in Table 1.

**Table 1**

*Sample characteristics (N=47)*

|  |  | *n* | % |
|---|---|---|---|
| Gender | Female | 37 | 78.7 |
|  | Male | 10 | 21.3 |
| Nationality | Dutch | 1 | 2.1 |
|  | German | 45 | 95.7 |
|  | Other | 1 | 2.1 |
| Employment status | Student | 11 | 23.4 |
|  | Student and working | 9 | 19.1 |
|  | Working | 26 | 55.3 |
|  | Other | 1 | 2.0 |
| Highest level education | High school | 32 | 68.1 |
|  | Bachelor | 11 | 23.4 |
|  | Master | 4 | 8.5 |

The means, standard deviations, and correlations of the baseline and ESM measures can be seen in Table 2. The average for the MHC-SF of this sample (*M*=2.83, *SD*=0.66) and the sum scores of the GAD-7 (*M*=7.00, *SD* =3.21), and the PHQ-9 (*M*=6.85, *SD*=4.01) indicated that the

sample had a lower overall mental well-being and higher overall trait anxiety and depression compared to scores obtained in previous studies as seen by the results obtained by Lamers et al. (2011) for the MHC-SF ($M$=3.98, $SD$=0.85), Löwe et al. (2008) for the GAD-7 ($M$=2.95, $SD$=3.41) and Hinz et al. (2016) for the PHQ-9 ($M$=3.3, $SD$=3.65). The mean sum score of the savouring positive emotion scale of the ERP-R in this study ($M$=11.09, $SD$=6.39) was comparable but slightly higher than the mean sum scores found in the study by Nelis et al. (2011) for males ($M$=9.96, $SD$=5.26) and females ($M$=10.87, $SD$=5.98).

The correlations between the person mean scores per state measure and the mean scores of the trait measures were determined to assess the convergent validity of the state measures (see Table 2). The correlation between the trait savouring strategy measures of the savouring positive emotion scale of the ERP-R and the state savouring strategy measures was not significant. This can be interpreted as an indication of questionable validity of the savouring state measures, however, in line with previously performed ESM studies, this could also be explained by the fact that the savouring trait and state measures were rather different in content and nature (Kraiss et al., 2022). All state measures were found to be significantly correlated to each other in meaningful and theoretically congruent ways and the trait measures were correlated to the other trait measures in the expected directions (see Table 2).

**Table 2**

*Means, standard deviations, and inter-correlations among baseline and ESM measures*

| | Mean | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 ERP-R Capitalizing | 3.52 | 1.92 | - | | | | | | | | | | | |
| 2 ERP-R Behavioural Display | 3.65 | 1.50 | .61* | - | | | | | | | | | | |
| 3 ERP-R Be Present | 3.37 | 1.56 | .59* | .50* | - | | | | | | | | | |
| 4 ERP-R Positive MTT | 3.34 | 1.52 | .58* | .47* | .40* | - | | | | | | | | |
| 5 GAD-7[a] | 7.00 | 3.21 | -.34* | -.34* | -.48* | -.21 | - | | | | | | | |
| 6 PHQ-9[a] | 6.85 | 4.01 | -.29* | -.19 | -.46* | -.08 | .55* | - | | | | | | |
| 7 MHC-SF | 2.83 | .66 | .32* | .27* | .26* | .27* | -.33* | -.52* | - | | | | | |
| 8 Positive Affect | 4.45 | .62 | .07 | -.05 | .21 | .13 | -.11 | -.07 | .22 | - | | | | |
| 9 State Capitalizing | 3.93 | .77 | .23 | -.05 | .26 | .01 | -.07 | -.03 | -.05 | .50* | - | | | |
| 10 State Behavioural Display | 3.93 | .65 | .27 | .25 | .28 | .16 | -.08 | .02 | .13 | .49* | .52* | - | | |
| 11 State Be Present | 4.19 | .70 | .29 | -.05 | .12 | .28 | -.15 | -.14 | .09 | .28* | .30* | .35* | - | |
| 12 State Positive MTT | 4.09 | .76 | .22 | .22 | .14 | .20 | -.11 | -.05 | .06 | .37* | .58* | .71* | .38* | - |

[a] Sum scores have been used

*Note.* Significant correlations are marked with an asterisk.

**Association of state savouring and emotional well-being**

*Visual inspection of the associations between the savouring strategies and emotional well-being*

To show the fluctuations of positive affect and the four savouring strategies over time the EM means of the observed scores of positive affect and state Capitalizing, state Behavioural Display, state Be Present, and state Positive MTT were plotted for the 42 measurement points (see Figure 3). The graph showed that positive affect and the four savouring strategies overall tend to covary over time. Next, the EM means of the observed scores of positive affect and state Capitalizing, state Behavioural Display, state Be Present, and state Positive MTT were plotted per participant to visualize how positive affect and the four savouring strategies are associated for each participant (see Figure 4). The line plot illustrated that for most participants positive affect and the four savouring strategies were on similar average levels, suggesting that positive affect and the use of the four savouring strategies are related.
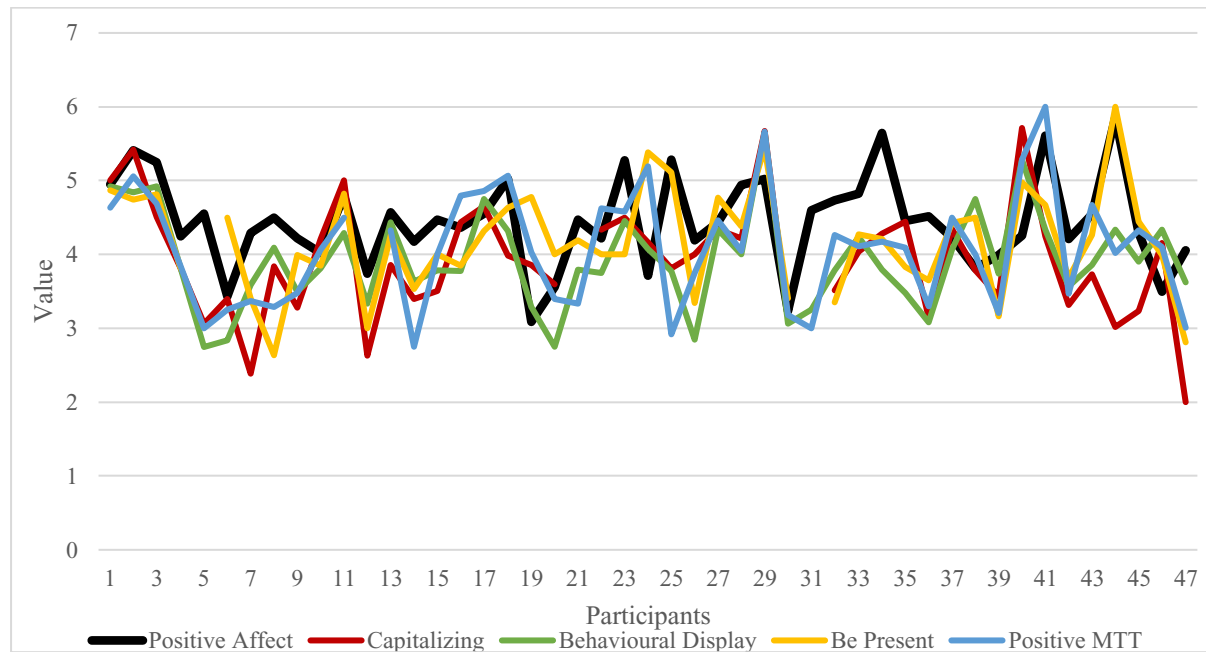
**Figure 3**

*Line plot for estimated marginal means of the observed scores of state Capitalizing, state Behavioural Display, state Be Present, state Positive MTT, and positive affect per measurement point*
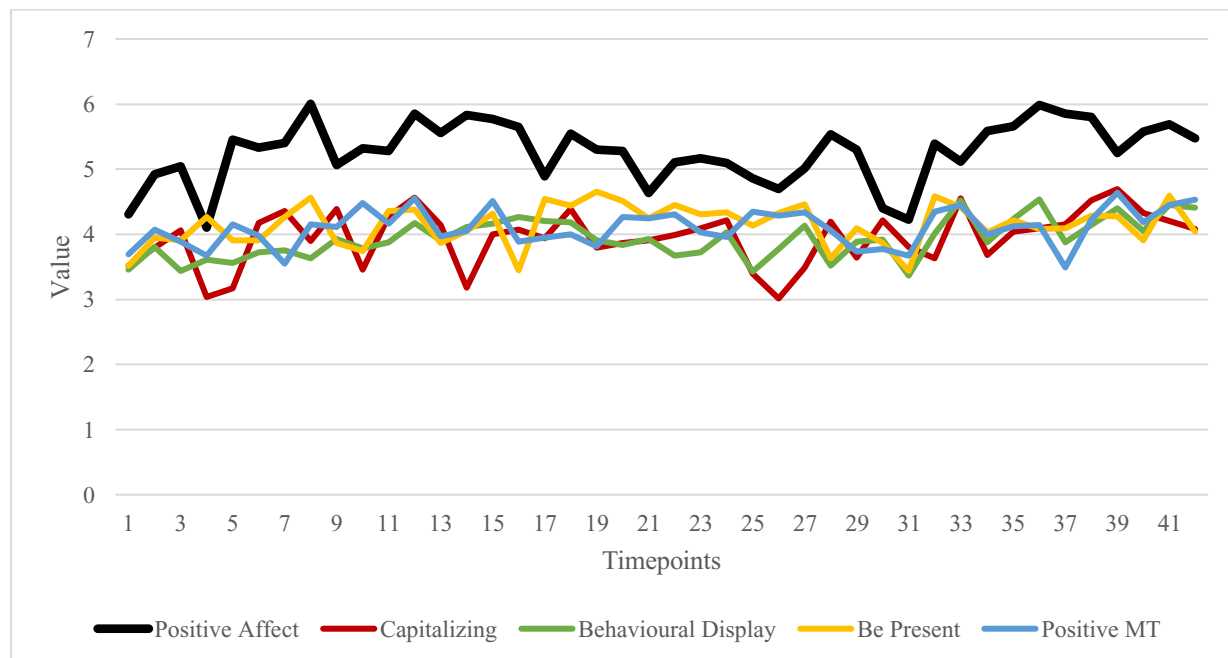
**Figure 4**

*Line plot for estimated marginal means of the observed scores of state Capitalizing, state Behavioural Display, state Be Present, state Positive MTT, and positive affect per participant*



To visualize the fluctuations of positive affect and the four savouring strategies for individual participants the EM means of observed scores of positive affect and state Capitalizing, state Behavioural Display, state Be Present, and state Positive MTT were plotted for the 42 measurement points of individual cases. The none-use of a savouring strategy is visualized with no data point for the savouring strategy, while no response for a measurement point can be identified by a missing value for the savouring strategies and positive affect.

Participants 2, 13, 34, and 34 were plotted with a high person mean score for state Capitalizing, state Behavioural Display, state Be Present, and state Positive MTT respectively (see Figure 5). The line plot for participant 2 indicated that state Capitalizing and positive affect tend to be positively correlated with positive affect being higher at measurement points when state Capitalizing is higher. Likewise, when state Capitalizing was not utilized, positive affect seemed to be the lowest for example seen for the measurement points 5 and 40. The line plot for participant 13 suggested that state Behavioural Display and positive affect were positively correlated as well. Similarly, positive affect tended to be lowest at measurement points when no state Behavioural Display use was reported for instance observed for measurement points 9 and

42. For participant 34 a less obvious visual positive relationship between state Be Present and positive affect is recognized. The line plot showed that positive affect was higher at measurement points where state Be Present was higher. However, it is observed that positive affect also increased while state Be Present remained the same as seen for the measurement points 25 and 26 and 34 and 35. Finally, the line plot for participant 34 indicated a less obvious positive relationship between state Positive MTT and positive affect. It was visible that positive affect was higher in moments when state Positive MTT was higher, albeit an increase and a decrease in positive affect were recognized despite the level of state Positive MTT remaining the same as seen for measurement points 19 and 29.

**Figure 5**

*Line plots visualizing state Capitalizing, state Behavioural Display, state Be Present, and state Positive MTT and positive affect per measurement point for participants 2, 13, 34, and 34*
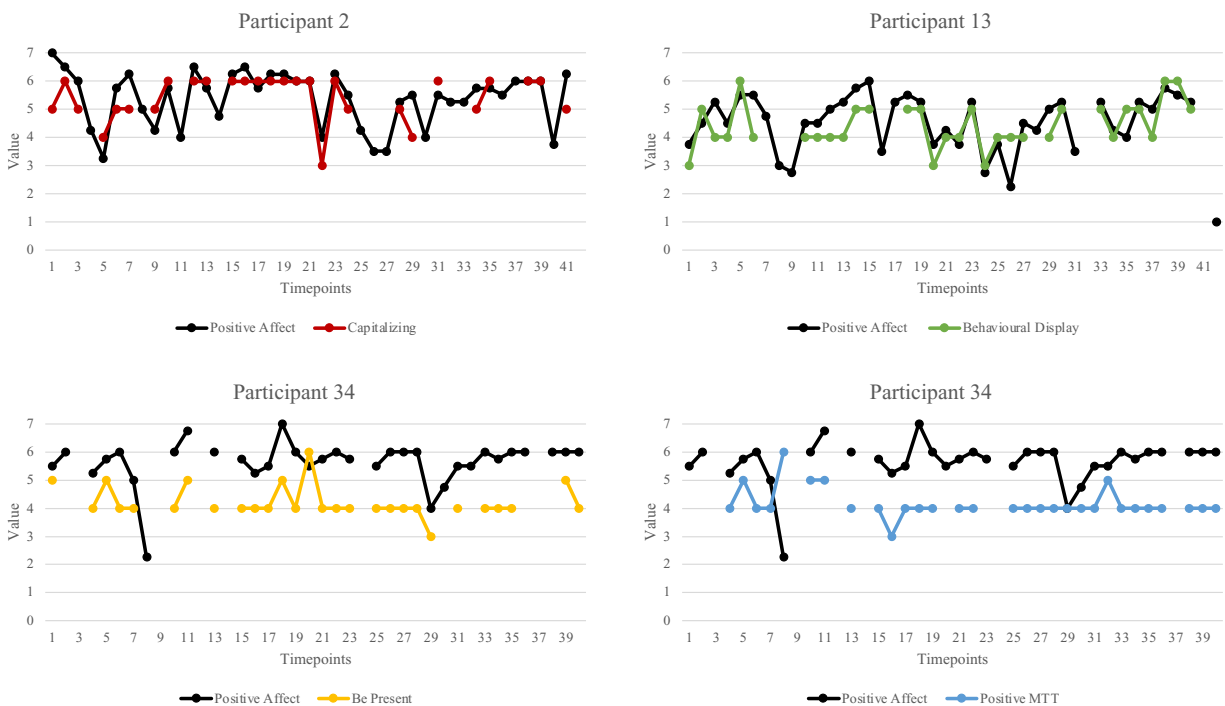


Following, participants 30, 26, 8, and 25 were plotted with a low person mean score for state Capitalizing, state Behavioural Display, state Be Present, and state Positive MTT respectively (see Figure 6). The plot for participant 30 showed that the participant compared to participant 2 (see Figure 5) used state Capitalizing less often and overall showed less positive

affect over time. Moreover, it appeared that at times participant 30 applied state Capitalizing, state Capitalizing and positive affect showed a similar pattern. The plot might also visualize that the lowest negative affect is reported in moments no state Capitalizing was assessed. In the line plot for participant 26, no obvious positive relationship between state Behavioural Display and positive affect is observed. In some moments positive affect tends to be higher when state Behavioural Display is higher, nevertheless, a negative association between state Behavioural Display and positive affect is suggested in other moments as recognized for measurement points 16 to 25. For the line plot of participant 8, no clear relationship between state Be Present and positive affect is recognized. Yet, it might be observed that in moments participant 8 reported using state Be Present, positive affect was increased and in moments no state Be Present is assessed positive affect was decreased. Finally, the plot for participant 25 again did not present a clear relationship between state Positive MTT and positive affect.

**Figure 6**

*Line plots visualizing state Capitalizing, state Behavioural Display, state Be Present, and state Positive MTT and positive affect per measurement point for participants 30, 26, 8, 25*
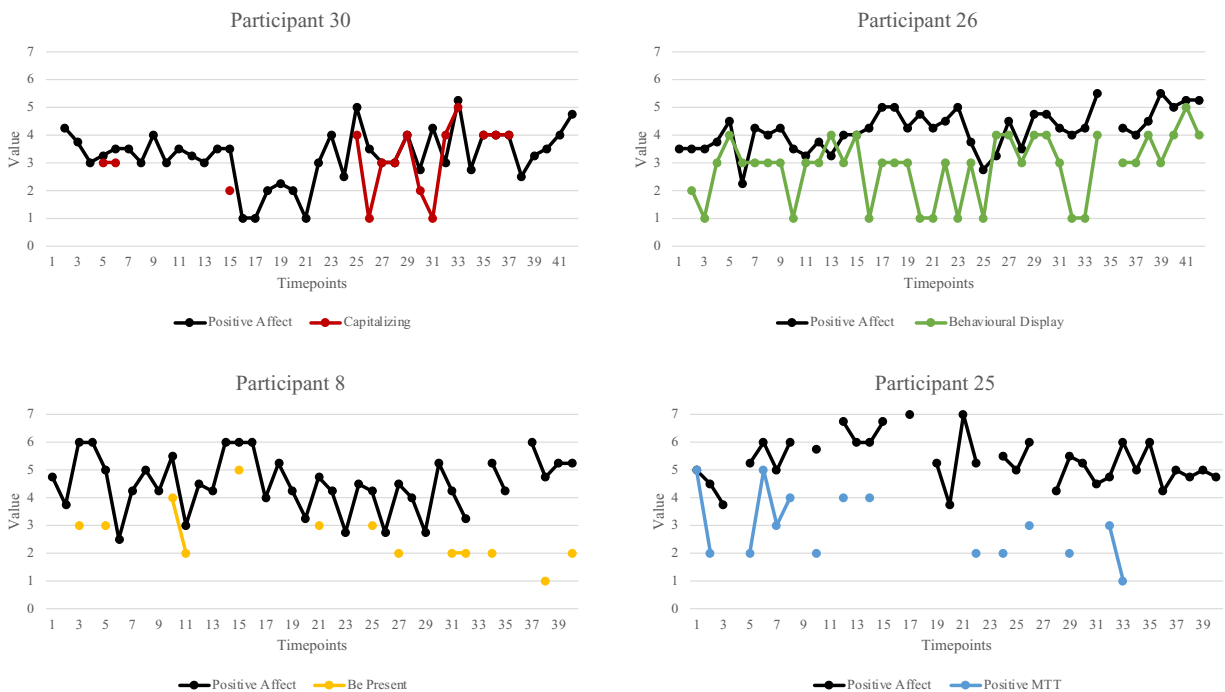


Figure 7 by comparing participant 3, selected based on a high person mean for positive affect, and participant 40, selected based on a low person mean for positive affect, showed that

for participant 3 the scores for the savouring strategies tended to be higher. Moreover, it was observed that the participant with a high person mean score for positive affect overall reported more savouring strategy use than the participant with a low person mean score for positive affect.

**Figure 7**

*Line plots visualizing state Capitalizing, state Behavioural Display, state Be Present, and state Positive MTT and positive affect per measurement point for participants 3 and 40*
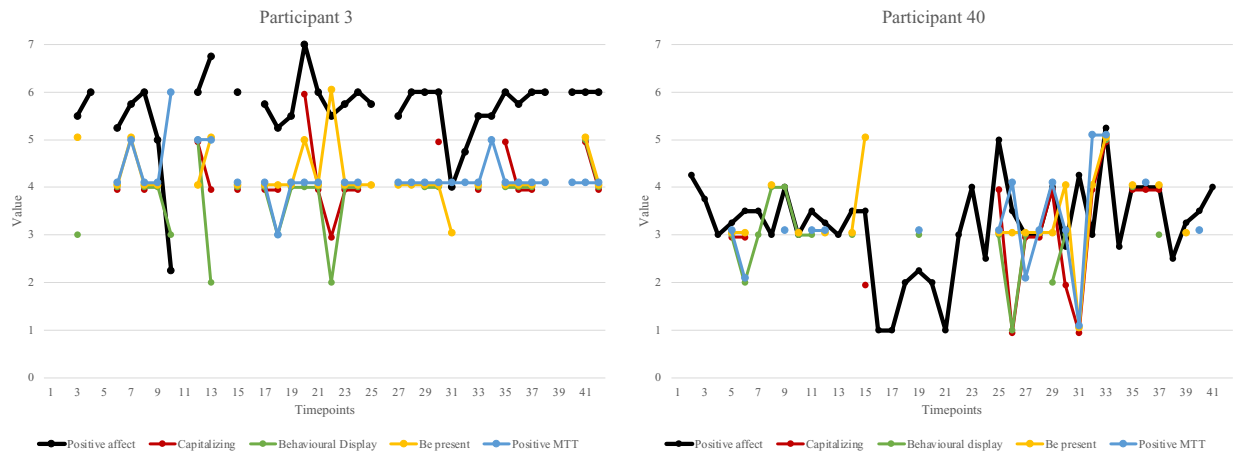


***Statistical inspection of the associations between the savouring strategies and emotional well-being***

State Capitalizing ($B$=0.24, $\beta$=.24, $p$<.001), state Be Present ($B$=0.26, $\beta$=.24, $p$<.001), and state Positive MTT ($B$=0.22, $\beta$=.21, $p$<.001) were shown to be weakly and significantly related to positive affect. State Behavioural Display was moderate and significantly related to positive affect ($B$= 0.33, $\beta$=.32, $p$<.001). The models are summarized in Table 3.

**Table 3**

*Summary of LMMs with state Capitalizing, state Behavioural Display, state Be Present, and state Positive MTT as predictors and positive affect as dependent variable*

| | | | | | | CI 95% | |
| | | | | | | Upper | Lower |
| Parameter | *B* | *β* | *df* | *t* | Sig | Bound | Bound |
|---|---|---|---|---|---|---|---|
| State Capitalizing | 0.24 | .24 | 462.34 | 5.10 | *p*<.001 | 0.16 | 0.32 |
| State Behavioural Display | 0.33 | .32 | 818.33 | 12.07 | *p*<.001 | 0.28 | 0.28 |
| State Be Present | 0.26 | .24 | 461.17 | 6.53 | *p*<.001 | 0.18 | 0.33 |
| State Positive MTT | 0.22 | .21 | 533.65 | 5.75 | *p*<.001 | 0.14 | 0.29 |

*df* Degrees of freedom *CI* Confidence interval of unstandardized estimates

**Association of savouring regulation diversity and emotional well-being**

The association between savouring regulation diversity and positive affect was shown to be positive strong and significant (*B*=1.06, *β*=.90, *p*<.001) and the association between savouring regulation specificity and positive affect was found to be positive moderate and significant (*B*=0.46, *β*=.39, *p*<.001). No savouring strategy use was selected as the reference category. The 95% CI of savouring regulation diversity (95% CI [0.94,1.18]) did not overlap with the 95% CI of savouring regulation specificity (95% CI [0.33,0.59]), indicating that the use of multiple savouring strategies was associated with significantly higher positive affect in contrast to savouring regulation specificity and no savouring strategy use. The findings are summarized in Table 4.

**Table 4**

*Summary of LMM with savouring regulation specificity and savouring regulation diversity as predictors and positive affect as dependent variable*

| Parameter | *B* | *β* | *df* | *t* | Sig | CI 95% Upper Bound | Lower Bound |
|---|---|---|---|---|---|---|---|
| Intercept | 3.88 | -.45 | 63.11 | 41.10 | <.001 | 3.69 | 4.10 |
| Savouring regulation specificity | 0.46 | .39 | 1481.10 | 6.95 | <.001 | 0.33 | 0.59 |
| Savouring regulation diversity | 1.06 | .90 | 1496.30 | 17.54 | <.001 | 0.94 | 1.18 |

*Note. df* Degrees of freedom *CI* Confidence interval of unstandardized estimates

**Interaction effect of positive events and savouring regulation diversity on emotional well-being**

***Visual inspection of the interaction of positive events and savouring regulation diversity***

The model with positive affect as dependent variable and the dummy variables of positive events and savouring regulation diversity as predictors was plotted to visually inspect the interaction effect of positive events and savouring regulation diversity on emotional well-being (see Figure 8). The plot visualized that the lines for the independent variables were not parallel, indicating that both variables interacted with each other and created a combined effect on positive affect. Moreover, the plot suggested that positive affect was highest when a positive event was present and savouring regulation diversity was applied, followed by the no presence of a positive event and the use of savouring regulation diversity, the presence of a positive event and no use of savouring regulation diversity, and the least positive affect was observed if no positive event was present, and no savouring regulation diversity was applied.

**Figure 8**

*Line plot visualizing the interaction of positive events and savouring regulation diversity on positive affect*
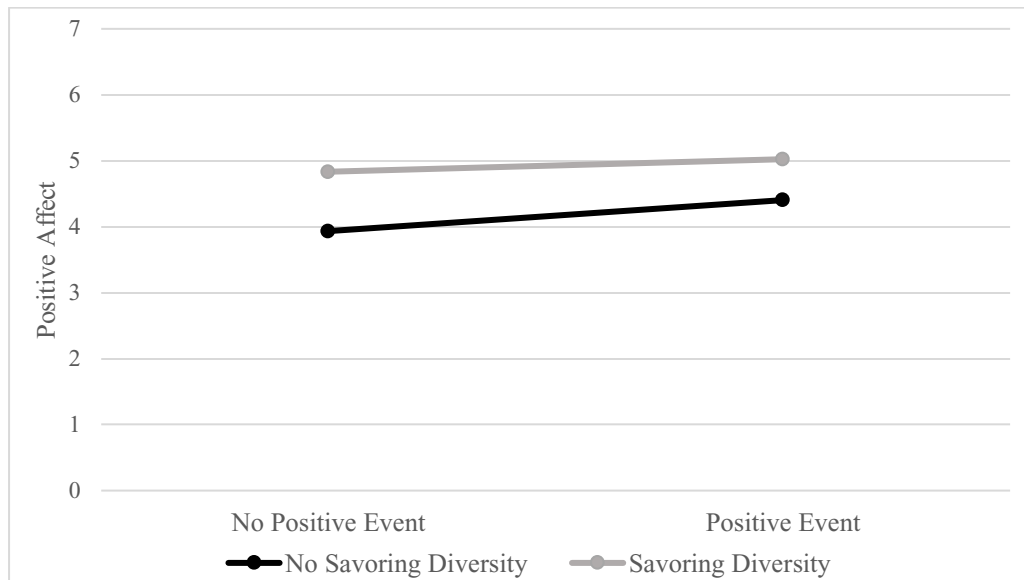


***Statistical inspection of the interaction of positive events and savouring regulation diversity***

Savouring regulation diversity ($B$=0.90, $\beta$=.57, $p$<.001) was shown to be positive and strongly related to positive affect, while positive events were positive and moderate related to positive affect ($B$=0.47, $\beta$=.49, $p$<.001). The interaction effect of positive events and state savouring regulation diversity was significant and negative ($B$=-0.28, $\beta$=-0.05, $p$=.01). The findings of the model are summarized in Table 5.

**Table 5**

*Summary of LMM with savouring regulation diversity, positive events, and their interaction as predictors and positive affect as dependent variable*

| Parameter | *B* | *β* | *df* | *t* | Sig | CI 95% Upper Bound | Lower Bound |
|---|---|---|---|---|---|---|---|
| Savouring regulation diversity | 0.90 | .57 | 1472.80 | 13.35 | <.001 | 0.76 | 1.03 |
| Positive Events | 0.47 | .49 | 1485.90 | 6.71 | <.001 | 0.33 | 0.60 |
| Savouring regulation diversity*Positive Events | -0.28 | -.05 | 1502.28 | -2.76 | .01 | -0.48 | -0.08 |

*Note. df* Degrees of freedom *CI* Confidence interval of unstandardized estimates

**Discussion**

The objective of this study was to examine the associations between the main savouring strategies, savouring regulation diversity, and emotional well-being and investigate the interaction between positive events and savouring regulation diversity on emotional well-being. Intensive longitudinal data collected in daily life through experience sampling was utilised to conceptualise and assess savouring as a dynamic momentary process. The results indicated that state Capitalizing, state Be Present, and state Positive MTT were weakly related, while state Behavioural Display was moderately related to emotional well-being. Savouring regulation diversity, in contrast to savouring regulation specificity and no savouring, was most beneficial for emotional well-being. The interaction effect of positive events and savouring regulation diversity was significant for emotional well-being.

**Main findings**

***Association state savouring and emotional well-being***

Weak positive associations of state Capitalizing, state Be Present, and state Positive MTT, and positive affect were shown, while a moderate positive association of state Behavioural Display and positive affect was found. These associations indicate that the savouring strategies are related to emotional well-being within the daily context. The results are in line with previous studies.

ESM studies conducted by Langston (1994) revealed a comparable effect size for the association between Capitalizing and well-being as reported in this study. Gable et al. (2018) extended the findings of Langston (1994) in another daily diary study and showed that Capitalizing was associated with increased daily positive affect and well-being. In contrast, the findings of Quoidbach et al. (2010) did not suggest a significant association between Capitalizing and emotional well-being, which might be because the results were based on trait measures of Capitalizing. An explanation for the positive association between Capitalizing and emotional well-being might be that by sharing positive experiences with others, one relives the positive event and recreates the positive emotions (Fredrickson, 2001; Gable et al., 2018).

The results of an experimental study by Erisman and Roemer (2010) indicated that participants in a brief mindfulness intervention described significantly greater positive affect. Additionally, Brown and Ryan (2003) presented that an increase in the level of state mindfulness

resulted in higher levels of positive emotional states. The association reported by Brown and Ryan (2003) was comparable in magnitude to the association found in this study. The findings of Quoidbach et al. (2010) similarly suggested that Be Present is positively related to positive affect. The association may be explained through the fact that individuals increase their awareness of and engagement with the pre-existing positive emotional experience and disregard unrelated thoughts and worries when being present, which enables an increase of the present positive emotions (Erisman & Roemer, 2010; Kahneman et al., 2004; Quoidbach et al., 2010).

The current finding for state Positive MTT is comparable with previous studies examining future positive thinking and positive reminiscing (Bryant et al., 2005; MacLeod & Conway, 2011; Quoidbach et al., 2009; Quoidbach et al., 2010). The results of an experimental study by Quoidbach et al. (2009) revealed a significant increase in happiness for future Positive MTT. The findings of MacLeod and Conway (2011) also showed a weak positive correlation between future positive thinking and positive affect. A similar association between positive reminiscing and positive affect was reported by Bryant et al. (2005). Furthermore, the results of the current study are in line with the outcomes of Quoidbach et al. (2010) revealing that positive affect was positively related to Positive MTT. A rationale for the association between positive future MTT and emotional well-being may be given by the evolutionary perspective, suggesting that future MTT enables individuals to develop plans, which can increase intrinsic motivation and related positive emotions (Boyer, 2008; Suddendorf & Corballis, 2007). An explanation for the positive relation between reminiscing and positive affect might be that through cognitive imagery created by reminiscing, one can recreate the original past positive feelings (Bryant et al., 2005).

The finding for Behavioural Display confirms the expectation of a positive association with emotional well-being. According to Abel and Hester (2002), Behavioural Display in the form of smiling was shown to be positively related to positive emotional states. Moreover, Johnson et al. (2010) presented experimental evidence that frequent similes were related to broadened cognition through increased positive emotions. The facial feedback hypothesis provided further support that facial expressions associated with positive emotions can strengthen positive affect (Buck, 1980).

*Association savouring regulation diversity and emotional well-being*

A moderate positive association for savouring regulation specificity and a strong positive association for savouring regulation diversity was found. In line with the expectations, savouring regulation specificity was more beneficial for positive affect than the use of no savouring strategy and savouring regulation diversity was more beneficial for positive affect than savouring regulation specificity. The results indicate that the momentary use of one specific savouring strategy can positively influence emotional well-being, however, the use of two or more savouring strategies can significantly increase the positive influence on emotional well-being within the daily context.

The findings are congruent with the expectation that savouring regulation specificity is positively related to emotional well-being as outlined by various studies examining the influence of the four savouring strategies and well-being separately (e.g., Erisman & Roemer, 2010; Gable et al., 2018; Johnson et al., 2010; Quoidbach et al., 2010). Nevertheless, based on studies investigating regulation flexibility, savouring regulation diversity was expected to be most beneficial for emotional well-being because by applying multiple savouring strategies varying positive emotions of different positive situations might be targeted more effectively (Blanke et al., 2020; Bonanno et al., 2004; Grommisch et al., 2020). The results are also consistent with the findings of Quoidbach et al. (2010), which indicated that cultivating multiple savouring strategies is more beneficial for overall happiness. Quoidbach et al. (2010) explained the results by suggesting that different savouring strategies can target different facets of well-being.

*Interaction effect of positive events and savouring regulation diversity on emotional well-being*

The interaction effect of positive events and savouring regulation diversity was shown to be significant for positive affect. The interaction effect showed that in the presence of a positive event and by applying savouring regulation diversity, emotional well-being can most positively be influenced within the daily context. This outcome is in line with the expectation that positive events are positively associated with emotional well-being (Lewinsohn & Graf, 1973; Reis & Gable, 2003; Zautra et al., 2002). In line with the flexibility hypothesis, a strengthening effect of savouring regulation diversity for emotional well-being in the presence of a positive event was anticipated because it might allow to more effectively up-regulate different positive emotions elicited by the positive event (Kobylinska & Kusev, 2019; Shiota et al., 2014).

**Strengths and limitations**

A strength is the ecological valid study design. Intensive longitudinal data with a relatively high number of assessment points was collected, capturing savouring as a momentary process (Brockman et al., 2016; Grommisch et al., 2020; Gross & John, 2003; Jose et al., 2012; Quoidbach et al., 2010). Further, a semi-random sampling scheme was used to reduce anticipation but simultaneously allow approximate expectation of the assessments, which results in relatively high ecological validity, relatively low participant burden, and reduced negative consequences for compliance (Conner & Lehman, 2012; Dejonckheere & Erbas., 2021).

Some limitations should be considered when interpreting the current findings. First, the sample showed lower mental well-being and higher mental illness compared to previous studies. A reason for this might be the ongoing insecurities due to the COVID-19 pandemic and the Russian invasion of Ukraine. Although ESM studies do not aim to be representative (Etikan et al., 2016), this should be considered when generalising the current finding because in the presence of depression and anxiety symptoms positive thinking and positive regulation as well as emotional well-being can be decreased (Kennerley et al., 2017). Thus, replication of the results is recommended.

Second, participant feedback might suggest that it was difficult for some participants to reflect upon the momentary use and the use of extent of the savouring strategies. An alternative for future studies to facilitate the evaluation of momentary savouring strategy use might be to provide informative material about savouring before the study and brief participants on what can be considered low, medium, or high momentary use based on participant's trait savouring.

Third, emotional well-being was measured with four specific positive emotions. In this study, it is expected that different savouring strategies might be more effective in up-regulating some positive emotions than others (Kobylinska & Kusev, 2019). By measuring emotional well-being with specific positive emotions, it might be that some savouring strategies positively influenced other positive emotions that were not captured within the current findings. For example, Gable et al. (2018) suggested that the positive emotion 'pride' might be most closely associated with Capitalizing since sharing positive events with others might strengthen one's self-esteem and therewith pride (Lazarus, 1994). Additionally, the savouring strategies might have varying influences on low- and high-arousal positive emotions. For instance, mindfulness is shown to be negatively related to high- and positively related to low-arousal positive emotions

(Chambers et al., 2009; Koopmann-Holm et al., 2013; Sedlmeier et al., 2012), whilst Capitalizing is found to increase high- relative to low-arousal positive emotions (Griffith & Hankin, 2021). Within the present study, emotional well-being was equated with high scores on the four positive emotions measured, however, it might be that a high level of low-arousal positive emotions naturally leads to a low level of high-arousal emotions without an actual decrease in emotional well-being.

Finally, despite the collection of intensive longitudinal data, only correlational and no conclusions about causality or temporal precedence can be made since no cross-lagged panel analyses were conducted (Viechtbauer, 2021). It might be interesting for future studies to examine the directional effects of savouring. A temporal network approach might be valuable as it allows to view well-being as emergent in a network of causally interacting variables (Mkhitaryan et al., 2019). This way, distinct features of the network structure and the relative importance of the interacting variables could be evaluated and because of the explicit representation of time order the directionality between variables over time can be investigated (Bringmann et al., 2022; Jordan et al., 2020).

**Implications**

The results indicate that emotional well-being can be positively up-regulated with different savouring strategies and that the cultivation of multiple savouring strategies is most beneficial for emotional well-being. These findings provide important implications for savouring interventions. By looking at various savouring interventions, savouring is often defined as one strategy rather than the sum of different savouring strategies (Smith et al., 2014). Most savouring interventions focus on reminiscence, savouring the moment, or future anticipation and thus only focus on psychoeducation and practice of one specific savouring strategy. However, in line with the results, the notion of savouring regulation diversity might imply that savouring interventions should aim to define savouring as a multifaceted construct consisting of multiple savouring strategies and should train savouring diversity. This would allow participants to up-regulate varying positive emotions of positive situations more effectively and to be more flexible in the selection of savouring strategies based on contextual demands and limitations (Kobylinska & Kusev, 2019; Quoidbach et al., 2010).

**Future research**

The objective of the present study was to examine savouring strategies and savouring regulation diversity to investigate an optimal use. By looking at the recent literature directions, the relevance of a broad range of contextual factors that may influence an optimal use of ERS is discussed including situational context and personality (Bonanno & Burton, 2013). As already elaborated upon with the flexibility hypothesis, it is expected that some ERS are more effective for some situational demands than others (Kobylinska & Kusev, 2019). Likewise, it is suggested that personality characteristics might be significant determinants of the effectiveness of ERS. First evidence suggested a correlation between the use of specific ERS and personality characteristics (Wang et al., 2009; Purnamaningsih, 2017) as well as how individual differences may influence the effectiveness (Tamir, 2009). Future studies are needed that examine how personality characteristics interact with savouring effectiveness (Kobylinska & Kusev, 2019). Therefore, to further assess an optimal use of savouring the influence of situational and personality characteristics on the effectiveness of savouring strategies should be assessed. In this line, a network approach might be valuable to investigate the interrelationships between savouring and other variables and to examine the relevance and the specific role of savouring strategies and other variables within a larger network of variables (Mkhitaryan et al., 2019).

Finally, it might be important to disentangle between- and within-person associations of savouring and emotional well-being as well as the influence of contextual factors at the within-person level. Previous studies showed that there can be great variability between between-person and within-person associations in magnitude and even in direction (Kraiss et al., 2022). Even though positive between-person associations were found for the savouring strategies, savouring regulation diversity, and emotional well-being, substantial inter-individual variability might be expected. It might be that for some people the association between savouring and emotional well-being is stronger or weaker or not present at all, indicating great variability behind the average estimates of the present models and that the benefit of savouring not necessarily account for everyone. Specifically, no conclusion for within-person processes can be drawn based on the between-person level analyses conducted within this study as this can lead to a detrimental error of interference (Curran & Bauer, 2011). Therefore, the analysis of within-person variations might allow getting a full and more accurate understanding of the association between savouring and well-being. In addition, it would allow identifying for whom savouring can be considered a

resource and what best suited savouring profiles relative to personality and situational contexts and regulatory goals can look like (Burr & Samanez-Larkin, 2020; Grommisch et al., 2020).

**Conclusion**

To the knowledge of the author, this is the first ESM study investigating the associations between savouring strategies and emotional well-being as well as the relevance of regulation diversity for savouring. The findings imply that the savouring strategies are positively associated with emotional well-being. Moreover, savouring regulation diversity is most beneficial for emotional well-being. Finally, a significant interaction of positive events and savouring regulation diversity for emotional well-being is found. This study is an important step toward extending the ER literature, as it highlights savouring as an important resource for well-being within the daily context, provides important future directions to examine the relevance of savouring diversity for mental health, and translated the positive emotional regulation scale of the ERP-R to German by following standardised translation guidelines.

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**Appendix A**

**Informed Consent - English and German versions**

**INFORMED CONSENT**

Dear participant,

Thank you for your participation in this study. Before you participate, it is important that you understand the goal of this research and what the study will ask from you. The purpose of this study is to find out how well being is related to several positive psychology constructs. To explore this relationship, I want to measure fluctuations in mental health in daily life to gather a more detailed picture of the dynamics of mental health.

For this study, I will ask you to fill in several questionnaires on your mobile phone. All questionnaires will be completed in the Ethica app. The study will start with a questionnaire concerning your demographics and general mental health. This initial questionnaire will take about 20 minutes to complete. Afterwards, you will receive three daily questionnaires per day for a period of two weeks. Notifications will remind you about the next questionnaire. The questionnaires will be provided in the morning, afternoon, and evening. One daily questionnaire takes approximately 3-4 minutes to complete. It is important that you answer the questionnaires as soon as possible. *Please make sure that you turn on the notifications for the Ethica app on your mobile device*.

The information that I collect from this research project will be kept confidential. This means that only the researchers have insight into your answers. All personal data (such as age, gender etc.) will be anonymized and will not be published and/or given to a third party. Your participation in this study is voluntary. You are free to withdraw from this study at any time and without giving a reason.

**Contact information**

If you have any questions regarding this study, you can contact the researcher of this Project: Lea Faesing (l.m.faesing@student.utwente.nl).

**Mental health support**

If you recognize that you feel uncomfortable due to the reflection on your well-being during the study, below you can find free mental health support offers:

*Mental health support at the University of Twente:*
- https://www.utwente.nl/en/ces/sacc/well-being/
- study adviser

*General mental health support:*
- https://www.who.int/news-room/feature-stories/mental-well-being-resources-for-the-public
- https://krisenchat.de
- https://www.nummergegenkummer.de

**Consent**

I have read and understood the information provided and had the opportunity to ask questions. I understand that my participation is voluntary and that I am able to withdraw at any time, without a reason or cost. I hereby voluntarily agree to take part in this study.

**EINVERSTÄNDNISERKLÄRUNG**

Liebe Teilnehmer:innen,

ich danke Ihnen für Ihre Teilnahme an dieser Studie. Bevor Sie teilnehmen, ist es wichtig, dass Sie sowohl das Ziel als auch die Anforderungen, die diese Studie an Sie stellt, verstehen. Ziel dieser Studie ist es, herauszufinden, wie die mentale Gesundheit mit verschiedenen Konstrukten der positiven Psychologie zusammenhängt. Um diesen Zusammenhang zu erforschen, will ich die Schwankungen der psychischen Gesundheit im Alltag messen, um ein detaillierteres Bild von der Dynamik der psychischen Gesundheit zu erhalten.

Für diese Studie werde ich Sie bitten, mehrere Fragebögen auf Ihrem Mobiltelefon auszufüllen. Alle Fragebögen werden über die Ethica-App ausgefüllt. Die Studie beginnt mit einem Fragebogen zu Ihren demografischen Daten und Ihrer allgemeinen psychischen Gesundheit. Das

Ausfüllen dieses ersten Fragebogens wird etwa 20 Minuten dauern. Danach erhalten Sie über einen Zeitraum von zwei Wochen täglich drei Fragebögen. Sie werden gefragt diese morgens, nachmittags, und abends auszufüllen. Dabei werden Benachrichtigungen Sie an den nächsten Fragebogen erinnern. Das Ausfüllen eines täglichen Fragebogens dauert etwa 3-4 Minuten. Es ist wichtig, dass Sie die Fragebögen so schnell wie möglich beantworten. *Bitte stellen Sie sicher, dass Sie die Benachrichtigungen für die Ethica-App auf Ihrem Mobilgerät einschalte*n.

Die Informationen, die ich im Rahmen dieses Forschungsprojekts sammle, werden vertraulich behandelt. Dies bedeutet, dass nur die Forscherin Einblick in Ihre Antworten haben. Alle persönlichen Daten (wie Alter, Geschlecht usw.) werden anonymisiert und werden nicht veröffentlicht und/oder an Dritte weitergegeben. Ihre Teilnahme an dieser Studie ist freiwillig. Es steht Ihnen frei, jederzeit und ohne Angabe von Gründen von dieser Studie zurücktreten.

**Kontaktinformationen**

Wenn Sie Fragen zu dieser Studie haben, können Sie sich an die Forscherin dieses Projekts Lea Faesing (l.m.faesing@student.utwente.nl) wenden.

**Mentale Gesundheit**

Wenn Sie durch die Selbstreflektion während dieser Studie eine psychische Belastung wahrnehmen, finden Sie anbei Möglichkeiten kostenloser Unterstützung und Beratung:

*Hilfsangebote der Universität Twente:*
- https://www.utwente.nl/en/ces/sacc/well-being/
- study adviser

*Allgemeine Hilfsangebote:*
- https://www.who.int/news-room/feature-stories/mental-well-being-resources-for-the-public
- https://krisenchat.de
- https://www.nummergegenkummer.de

**Einverständniserklärung**

Ich habe die bereitgestellten Informationen gelesen und verstanden und hatte die Möglichkeit, Fragen zu stellen. Ich weiß, dass meine Teilnahme freiwillig ist und dass ich jederzeit ohne Angabe von Gründen und ohne Kosten von der Teilnahme zurücktreten kann. Ich erkläre mich hiermit freiwillig bereit, an dieser Studie teilzunehmen.

**Appendix B**

**Baseline survey – English and German versions**

*Demographics*

- Age: How old are you?
- Gender: What gender do you identify as? Male, female, other
- Nationality: What is your nationality? Dutch German Other
- Occupation: What is your current occupation? Student, Working, Self-employed, studying and working, not working, other
- Highest degree obtained: Middle school (such as MBO, MTS, MEAO or Haupt- oder Realschule), High school (such as HAVO, VWO, HBS or Gymnasium/ Berufsschule/ Berufskolleg), High school, Bachelor, Master, PhD, Other
- SONA- ID

*Mental Health Continuum Short Form*

During the past month, how often did you feel...

1. Happy
2. Interested in life
3. Satisfied with life
4. That you had something important to contribute to society
5. That you belonged to a community
6. That our society is a good place or is becoming a better place, for all people
7. That people are basically good
8. That the way our society works makes sense to you
9. That you liked most parts of your personality
10. Good at managing the responsibilities of your daily life
11. That you had warm and trusting relationships with others
12. That you had experiences that challenged you to grow and become a better person
13. Confident to think or express your own ideas and opinions
14. That your life has a sense of direction or meaning to it

a. Never
b. Once or twice

c. About once a week

d. About 2 or 3 times a week

e. Almost every day

f. Every day


*GAD-7*

Over the last two weeks, how often have you been bothered by the following problems?

1. Feeling nervous, anxious, or on edge

2. Not being able to stop or control worrying

3. Worrying too much about different things

4. Trouble relaxing

5. Being so restless that it is hard to sit still

6. Becoming easily annoyed or irritable

7. Feeling afraid, as if something awful might happen

a. Not at all

b. Several days

c. More than half the days

d. Nearly every day

*PHQ-9*

Over the last 2 weeks, how often have you been bothered by any of the following problems?

1. Little interest or pleasure in doing things

2. Feeling down, depressed, or hopeless

3. Trouble falling or staying asleep, or sleeping too much

4. Feeling tired or having little energy

5. Poor appetite or overeating

6. Feeling bad about yourself or that you are a failure or have let yourself or your family down

7. Trouble concentrating on things, such as reading the newspaper or watching television

8. Moving or speaking so slowly that other people could have noticed. Or the opposite being so fidgety or restless that you have been moving around a lot more than usual

9. Thoughts that you would be better off dead, or of hurting yourself

a. Not at all

b. Several days

c. More than half the days

d. Nearly every day

*Savoring positive emotion scale of the Emotion regulation profile-revised (ERP-R)*

1) *You just finished an important but particularly boring task that you kept postponing (e.g., repainting, spring-cleaning, a good deed, etc.). You feel satisfied and relieved about it. You're pleased with yourself.*

From the following options, please mark in the response sheet the reaction(s) that most accurately reflect your reaction(s) to this type of situation.

a) You don't manage to fully relax. Pretty soon, worries and/or uncompleted tasks fill your mind.

b) You tell or show your friends or relatives what you achieved today.

c) You sigh with relief, and you grant yourself a relaxing moment.

d) You're quite satisfied but you can't help noticing the few negative details of your work (e.g., time spent on the task, small imperfections, finishing touches, etc.).

e) You savour the present moment. You contemplate your work and think about what a good job you have done.

f) You think that getting this work done was some kind of miracle. You usually don't manage to finish tasks that bore you and you think that you won't be able to do it again for a while.

g) You think back on the hours spent on the job. Thanks to your patience and perseverance you've reached your goal. Efforts are always rewarded!

h) You don't give yourself the time to rest and you undertake another task right away.

2) *You have taken part in the latest draw of the national lottery, because there was a major jackpot was at stake. You are at a friend's house, and you ask them if you can watch the results of the draw on TV, even though you are not very optimistic about the result. Excitement starts to rise when you notice, with amazement, that 4 out of 6 of your numbers have been drawn! You have won about US$1500.*

From the following options, please mark in the response sheet the reaction(s) that most accurately reflect your reaction(s) to this type of situation

a) You jump for joy; you express your excitement by repeatedly saying how lucky you are.

b) During the next few days, you consider what you are going to do with this money. You think abouts pending 10 days in a sunny place for your next holiday, going to an expensive restaurant, treating yourself to a day at a spa, etc.

c) You cannot fully enjoy the situation because other things come to your mind (e.g., problems with are lative, atmosphere at work).

d) You share your joy with your friends, you show them the winning ticket, and you call your family to announce the news.

e) You try not to show your emotions; you keep it to yourself because it looks bad to get carried away in front of people. Besides, you don't want your friends to be jealous of you.

f) You feel happy and you celebrate with champagne (for example). It's not every day you win almost a month's salary without doing anything!

g) You think that what you won is ok. However, you can't help thinking that you were so close to winning the major prize! You may also think that this money will not solve your personal problems and that you will be obliged to treat your friends to a nice outing; which would stop you from enjoying all of your win yourself.

h) You think it's too good to be true. Today's luck cannot last forever. You already start to anticipate possible problems in the future.

3) *You spend a romantic weekend with your partner. The setting is wonderful. Your partner is on great form and you feel particularly happy!*

From the following options, please mark in the response sheet the reaction(s) that most accurately reflect your reaction(s) to this type of situation

a) Despite the weekend being very pleasant, you cannot help resenting the few negative details that prevent your break from being perfect.

b) You try to enjoy the moment fully and put everything else out of your mind.

c) The weekend is perfect. It's too good to be true. You dread it all coming crashing down when you get home.

d) You have a great time and are not afraid to express your joy by laughing, joking, hugging your partner, etc.

e) Once on your own after the weekend, you reminisce of the happy time together, and of the things that make your relationship so precious.

f) You are having a good time, but for various reasons (e.g. fear of making a fool of yourself, it's not your style, guilt, etc.) you try not to get too carried away by your emotions, and therefore try to contain your happiness.

g) Over the following few days, you share the memory of this good time with your family (or write it up in your diary).

h) The weekend is perfect. However, you struggle to completely forget your personal concerns (e.g., work, family, etc.).

4) *During the last day of your holiday abroad, you go out for a walk with friends. After a few hours walking, you come across a waterfall entirely by chance. The scenery is magnificent and wild: water, greenery in abundance, sunset, sounds, etc. You are completely dazzled by the splendour of the landscape.*

From the following options, please mark in the response sheet the reaction(s) that most accurately reflect your reaction(s) to this type of situation.

a) The scenery is idyllic; although it's a pity that your feet are hurting, that it's a little bit chilly, or that there are mosquitoes. These petty drawbacks prevent you from fully enjoying the circumstances.

b) You express your delight and admiration in your own way (e.g. you express your ecstasy, you shoutout loud, you shed a tear, you jump into the waterfall, etc.).

c) The scene is magnificent, but you contain your emotions. You'd rather show self-control in public.

d) During the next few days, you enjoy thinking back on the splendour of the place and/or looking at your photos again.

e) You share your emotion with your companions. Over the next few days, you recommend this place to everyone around you.

f) The fun is spoiled by the thought that it is the last day of your holiday, and that it will be a long time before such a moment happens again.

g) You allow all your senses to be imbued by the place so that you can fully enjoy this moment.

h) The setting is gorgeous, but on the way back home you still think about the evening meal to prepare and/or the prospect of going back to work tomorrow.

5) *After months of relentless work, you have at last obtained the diploma or promotion you were dreaming about. It wasn't easy and you have done really well to have got this far - you are very proud of yourself. Relatives and friends have organised a party in your honour.*

From the following options, please mark in the response sheet the reaction(s) that most accurately reflect your reaction(s) to this type of situation.

a) During the party you cannot prevent other thoughts from coming into your mind (e.g. dread regarding your new status, personal concerns, etc.).

b) Over the next few days, you frequently think back on your success, the efforts and personal merit you have demonstrated, the pride of certain of your relatives, your prospects for the future, etc.

c) Even though everybody is congratulating you, you don't think that you deserve it. It was probably a stroke of luck and may not happen again.

d) You are proud of yourself and allow yourself to show it (e.g., shouts/tears of joy, gestures of victory, etc.).

e) In spite of the pleasure of having been successful, a part of you can't help thinking that you could have done better.

f) It is your hour of glory and you enjoy it fully. You have worked hard, and you do deserve this praise.

g) You are proud of yourself but for various reasons (e.g., fear of making a fool of yourself, modesty, reserve, etc.) you hold back from expressing your pride and fully celebrating your success.

h) During the next few days you tell everyone around the good news and share your success with your family and friends.

6) *A friend of yours has just won a fantastic trip for two people to a paradise island. They ask you if you would like to go with them. You actually need a holiday, and you are extremely grateful.*

From the following options, please mark in the response sheet the reaction(s) that most accurately reflect your reaction(s) to this type of situation.

a) Even though you are pleased with this offer, your current preoccupations (e.g., personal or job-related concerns, stress, etc.) prevent you from taking advantage of it right now.

b) You allow yourself to show your gratitude and affection (e.g., thanks, hugs, invitation to a restaurant, etc.)

c) Even before you leave, you are already dreading coming back to reality. This week away will soon begone, and you will certainly not have such a good holiday again for ages.

d) You fully enjoy the offer.

e) You are very grateful to your friend. However, over the next few days, you can't help thinking of certain negative features that prevent you from being entirely happy (e.g., this is not really the place you would have chosen, the dates oblige you to reorganize your schedule, you will have to pay your friend back, etc.).

f) You think how lucky you are to have such a good friend, and you realise that this offer strengthens your friendship. You start to anticipate the pleasant things you will be able to do during this trip.

g) You tell your friends and family about the trip, and you praise the generosity of your friend.

h) You wish you could fully express your gratitude, but various reasons (e.g. embarrassment, fear of making afool of yourself, shyness, etc.) prevent you from being demonstrative.

*Demografien*

Alter: Wie alt sind Sie?

Nationalität: Welcher Nationalität gehören Sie an? Niederländisch, Deutsch, sonstiges

Geschlecht: Mit welchem Geschlecht identifizieren Sie sich? Männlich, weiblich, divers

Tätigkeit: Welcher Tätigkeit gehen Sie nach? Studieren, Angestellt, Selbstständig, Studieren und Arbeiten, Nicht arbeitend, Sonstiges

Welches ist der höchste Abschluss, den Sie erworben haben? *Falls Sie derzeit immatrikuliert sind, kreuzen Sie den höchsten bereits erworbenen Abschluss an.* Weiterführende Schule (z.B. Haupt- oder Realschule), Weterführende Schule (z.B. Gymnasium, Berufsschule/Berufskolleg), Bachelor, Master oder Diplom, Promotion, Sonstiges

SONA

*MHC-SF*

*I*m letzten Monat, wie oft hatten Sie das Gefühl,

1. dass Sie glücklich waren?

2. dass Sie Interesse am Leben hatten?

3. dass Sie zufrieden waren?

4. dass Sie einen wichtigen gesellschaftlichen Beitrag geleistet haben?

5. dass Sie zu einer Gemeinschaft gehörten (z.B. einer sozialen Gruppe,  Ihrer Nachbarschaft oder Ihrer Stadt)?

6. dass unsere Gesellschaft besser für Ihre Bürger wird?

7. dass Menschen von Natur aus gut sind?

8. dass Sie verstehen, wie unsere Gesellschaft funktioniert?

9. dass Sie die meisten Aspekte Ihrer Persönlichkeit wertschätzen?

10. dass Sie Ihre täglichen Aufgaben und Verpflichtungen gut erfüllen  konnten?

11. dass Sie warme und vertraute Beziehungen zu anderen haben?

12. dass Sie sich entwickeln oder ein besserer Mensch werden?

13. dass Sie selbstbewusst Ihre eigenen Ideen und Gedanken gedacht und  geäußert haben?

14. dass Ihr Leben Richtung und Sinn hat.

a. Nie

b. 1-2 mal im Monat

c. 1 mal in der Woche

d. 2-3 in der Woche

e. Fast täglich

f. täglich

*GAD-7*

Wie oft fühlten Sie sich im Verlauf der letzten 2 Wochen durch die folgenden Beschwerden beeinträchtigt?

1. Nervosität, Ängstlichkeit oder Anspannung

2. Nicht in der Lage sein, Sorgen zu stoppen oder zu kontrollieren

3. Übermäßige Sorgen bezüglich verschiedener Angelegenheiten

4. Schwierigkeiten zu entspannen

5. Rastlosigkeit, so dass Stillsitzen schwer fällt

6. Schnelle Verärgerung oder Gereiztheit

7. Gefühl der Angst, so als würde etwas Schlimmes passieren

- Überhaupt nicht
- An einzelnen Tagen
- An mehr als der Hälfte der Tage
- Beinahe jeden Tag

*PHQ-9*

Wie oft fühlten Sie sich im Verlauf der letzten 2 Wochen durch die folgenden Beschwerden beeinträchtigt?

1. Wenig Interesse oder Freude an Ihren Tätigkeiten
2. Niedergeschlagenheit, Schwermut oder Hoffnungslosigkeit.
3. Schwierigkeiten ein- oder durchzuschlafen oder vermehrter Schlaf
4. Müdigkeit oder Gefühl, keine Energie zu haben
5. Verminderter Appetit oder übermäßiges Bedürfnis zu essen
6. Schlechte Meinung von sich selbst; Gefühl, ein Versager zu sein oder die Familie enttäuscht zu haben
7. Schwierigkeiten, sich auf etwas zu konzentrieren, z.B. beim Zeitunglesen oder Fernsehen
8. Waren Ihre Bewegungen oder Ihre Sprache so verlangsamt, dass es auch anderen auffallen würde? Oder waren Sie im Gegenteil „zappelig" oder ruhelos und hatten dadurch einen stärkeren Bewegungsdrang als sonst?
9. Gedanken, dass Sie lieber tot wären oder sich Leid zufügen möchten

- Überhaupt nicht
- An einzelnen Tagen
- An mehr als der Hälfte der Tage
- Beinahe jeden Tag

*Savoring positive emotion scale of the Emotion regulation profile-revised (ERP-R)*

1) *Sie haben gerade eine wichtige, aber besonders langweilige Aufgabe erledigt, die Sie immer wieder verschoben haben (z.B. Neulackierung, Frühjahrsputz, eine gute Tat, etc.). Sie fühlen sich zufrieden und erleichtert darüber. Sie sind mit sich selbst zufrieden.*

Bitte kreuzen Sie aus den folgenden Optionen im Antwortbogen die Reaktion(en) an, die Ihre Reaktion(en) auf diese Art von Situation am ehesten Widerspiegeln.

a) Sie schaffen es nicht, sich vollständig zu entspannen. Schon bald füllen Sorgen und/oder unerledigte Aufhaben Ihre Gedanken.

b) Sie erzählen oder zeigen Ihren Freunden oder Verwandten, was Sie heute erreicht haben.

c) Sie atmen erleichtert auf und gönnen sich einen entspannten Moment.

d) Sie sind ziemlich zufrieden, aber Sie können nicht umhin, die wenigen negativen Details Ihrer Arbeit zu bemerken (z.B. Zeitaufwand für die Aufgabe, kleine Unvollkommenheiten, Feinschliff usw.).

e) Sie genießen den gegenwärtigen Moment. Sie betrachten Ihre Arbeit und denken darüber nach, was für eine gute Arbeit Sie geleistet haben.

f) Sie denken, dass es eine Art Wunder war, diese Arbeit zu erledigen. Sie schaffen es meist nicht, Aufgaben zu erledigen, die Sie langweiligen und Sie denken, dass Sie es eine Weile nicht nochmal schaffen werden.

g) Sie denken an die Arbeitsstunden zurück. Dank Ihrer Geduld und Ausdauer haben Sie ihr Ziel erreicht. Bemühungen werden immer belohnt!

h) Sie gönnen sich keine Ruhepause und übernehmen gleiche eine andere Aufgabe.

2) *Sie haben an der letzten Ziehung der nationalen Lotterie teilgenommen, weil es um einen großen Jackpot ging. Sie sind bei einem Freund zu Hause und fragen ihn, ob Sie sich die Ergebnisse der Ziehung im Fernsehen ansehen können, obwohl Sie dem Ergebnis nicht sehr optimistisch gegenüberstehen. Die Aufregung steigt, wenn Sie mit Erstaunen feststellen, dass 4 von 6 Ihrer Zahlen gezogen wurden! Sie haben etwa 1500 US-Dollar gewonnen.*

Bitte kreuzen Sie aus den folgenden Optionen im Antwortbogen die Reaktion(en) an, die Ihre Reaktion(en) auf diese Art von Situation am ehesten Widerspiegeln.

a) Sie hüpfen vor Freude; Sie drücken Ihre Aufregung aus, indem Sie wiederholt sagen, wie viel Glück Sie haben.

b) Sie überlegen sich in den nächsten Tagen, was Sie mit diesem Geld machen. Sie denken darüber nach, für Ihren nächsten Urlaub 10 Tage an einem sonnigen Ort zu verbringen, in ein teures Restaurant zu gehen, sich einen Tag in einem Spa zu gönnen usw.

c) Sie können die Situation nicht voll genießen, weil Ihnen andere Dinge einfallen (z. B. Probleme mit dem Lativ, Arbeitsatmosphäre).

d) Sie teilen Ihre Freude mit Ihren Freunden, zeigen ihnen das Gewinnlos und rufen Ihre Familie an, um die Neuigkeiten zu verkünden.

e) Sie versuchen, Ihre Gefühle nicht zu zeigen; Sie behalten es für sich, weil es schlecht aussieht, sich vor Leuten hinreißen zu lassen. Außerdem wollen Sie nicht, dass Ihre Freunde eifersüchtig auf Sie sind.

f) Sie fühlen sich glücklich und feiern (zum Beispiel) mit Champagner. Es ist nicht jeden Tag, dass Sie fast ein Monatsgehalt gewinnen, ohne etwas zu tun!

g) Sie denken, dass das, was Sie gewonnen haben, in Ordnung ist. Sie können sich jedoch des Gedankens nicht erwehren, dass Sie dem Gewinn des Hauptpreises so nahe waren! Sie denken vielleicht auch, dass dieses Geld Ihre persönlichen Probleme nicht lösen wird und dass Sie gezwungen sein werden, Ihren Freunden einen schönen Ausflug zu machen; was Sie daran hindern würde, Ihren gesamten Gewinn selbst zu genießen.

h) Sie denken, es ist zu schön, um wahr zu sein. Das heutige Glück kann nicht ewig dauern. Sie beginnen bereits, mögliche Probleme in der Zukunft zu antizipieren.

3) *Sie verbringen ein romantisches Wochenende mit Ihrem Partner. Die Atmosphäre ist wunderbar. Ihr Partner ist in Hochform und Sie fühlen sich besonders wohl!*

Bitte kreuzen Sie aus den folgenden Optionen im Antwortbogen die Reaktion(en) an, die Ihre Reaktion(en) auf diese Art von Situation am ehesten Widerspiegeln.

a) Obwohl das Wochenende sehr angenehm war, können Sie nicht umhin, sich über die wenigen negativen Details zu ärgern, die Ihren Urlaub daran hindern, perfekt zu werden.

b) Sie versuchen, den Moment in vollen Zügen zu genießen und alles andere aus Ihrem Kopf zu verdrängen.

c) Das Wochenende ist perfekt. Es ist zu schön, um wahr zu sein. Sie fürchten, dass alles zusammenbricht, wenn Sie nach Hause kommen.

d) Sie haben eine tolle Zeit und haben keine Angst, Ihre Freude auszudrücken, indem Sie lachen, scherzen, Ihren Partner umarmen usw.

e) Wenn Sie nach dem Wochenende alleine sind, erinnern Sie sich an die glückliche gemeinsame Zeit und an die Dinge, die Ihre Beziehung so wertvoll machen.

f) Sie haben eine gute Zeit, aber aus verschiedenen Gründen (z. B. Angst, sich lächerlich zu machen, es ist nicht Ihr Stil, Schuldgefühle usw.) versuchen Sie, sich nicht zu sehr von Ihren Emotionen mitreißen zu lassen und versuchen daher, Ihre Freude einzudämmen.

g) In den folgenden Tagen teilen Sie die Erinnerung an diese schöne Zeit mit Ihrer Familie (oder schreiben sie in Ihr Tagebuch).

h) Das Wochenende ist perfekt. Es fällt Ihnen jedoch schwer, Ihre persönlichen Sorgen (z. B. Arbeit, Familie usw.) vollständig zu vergessen.


4) *Am letzten Tag Ihres Auslandsurlaubs gehen Sie mit Freunden spazieren. Nach ein paar Stunden Wanderung stoßen Sie rein zufällig auf einen Wasserfall. Die Landschaft ist großartig und wild: Wasser, viel Grün, Sonnenuntergang, Geräusche usw. Sie werden von der Pracht der Landschaft völlig geblendet.*


Bitte kreuzen Sie aus den folgenden Optionen im Antwortbogen die Reaktion(en) an, die Ihre Reaktion(en) auf diese Art von Situation am ehesten Widerspiegeln.

a) Die Landschaft ist idyllisch; obwohl es schade ist, dass Ihre Füße schmerzen, dass es ein bisschen kühl ist oder dass es Mücken gibt. Diese kleinen Nachteile hindern Sie daran, die Umstände voll zu genießen.

b) Sie drücken Ihre Freude und Bewunderung auf Ihre eigene Art aus (z. B. Sie drücken Ihre Ekstase aus, Sie schreien laut, Sie vergießen eine Träne, Sie springen in den Wasserfall usw.).

c) Die Szene ist großartig, aber Sie halten Ihre Emotionen zurück. Sie zeigen lieber Selbstbeherrschung in der Öffentlichkeit.

d) Sie denken in den nächsten Tagen gerne an die Pracht des Ortes zurück und/oder schauen sich Ihre Fotos noch einmal an.

e) Sie teilen Ihre Emotionen mit Ihren Gefährten. In den nächsten Tagen empfehlen Sie diesen Ort jedem um Sie herum.

f) Der Spaß wird durch den Gedanken verdorben, dass es der letzte Tag Ihres Urlaubs ist und dass es lange dauern wird, bis sich ein solcher Moment wiederholt.

g) Sie lassen all Ihre Sinne von dem Ort durchdringen, um diesen Moment in vollen Zügen genießen zu können.

h) Die Umgebung ist wunderschön, aber auf dem Heimweg denken Sie noch an das vorzubereitende Abendessen und/oder die Aussicht, morgen wieder zur Arbeit zu gehen.

*5) Nach Monaten unermüdlicher Arbeit haben Sie endlich das Diplom oder die Beförderung erhalten, von der Sie geträumt haben. Es war nicht einfach und Sie haben es wirklich gut gemacht, so weit gekommen zu sein – Sie sind sehr stolz auf sich. Verwandte und Freunde haben Ihnen zu Ehren eine Party organisiert.*

Bitte kreuzen Sie aus den folgenden Optionen im Antwortbogen die Reaktion(en) an, die Ihre Reaktion(en) auf diese Art von Situation am ehesten Widerspiegeln.

a) Während der Party können Sie nicht verhindern, dass Ihnen andere Gedanken in den Sinn kommen (z. B. Angst vor Ihrem neuen Status, persönliche Sorgen usw.).

b) Sie denken in den nächsten Tagen häufig an Ihren Erfolg, Ihre erbrachten Leistungen und persönlichen Verdienste, den Stolz mancher Ihrer Angehörigen, Ihre Zukunftsperspektiven usw.

c) Obwohl Ihnen alle gratulieren, denken Sie nicht, dass Sie es verdient haben. Es war wahrscheinlich ein Glücksfall und wird vielleicht nicht wieder vorkommen.

d) Sie sind stolz auf sich und erlauben sich, dies auch zu zeigen (z. B. Freudenschreie/-tränen, Siegesgesten etc.).

e) Trotz der Freude über den Erfolg kommt ein Teil von Ihnen nicht umhin zu denken, dass Sie es hätten besser machen können.

f) Es ist Ihre Sternstunde und Sie genießen sie in vollen Zügen. Sie haben hart gearbeitet, und Sie verdienen dieses Lob.

g) Sie sind stolz auf sich, halten sich aber aus verschiedenen Gründen (z. B. Angst, sich lächerlich zu machen, Bescheidenheit, Zurückhaltung etc.) zurück, Ihren Stolz auszudrücken und Ihren Erfolg voll zu feiern.

h) In den nächsten Tagen erzählen Sie allen die gute Nachricht und teilen Ihren Erfolg mit Ihrer Familie und Ihren Freunden.

*6) Ein Freund von Ihnen hat gerade eine fantastische Reise für zwei Personen zu einer paradiesischen Insel gewonnen. Er fragt Sie, ob Sie mitkommen möchten. Sie brauchen Urlaub und sind dafür sehr dankbar.*

Bitte kreuzen Sie aus den folgenden Optionen im Antwortbogen die Reaktion(en) an, die Ihre Reaktion(en) auf diese Art von Situation am ehesten Widerspiegeln.

a) Auch wenn Sie sich über dieses Angebot freuen, hindern Sie Ihre derzeitigen Sorgen (z. B. private oder berufliche Sorgen, Stress usw.) daran, es jetzt zu nutzen.

b) Sie erlauben sich, Ihre Dankbarkeit und Zuneigung zu zeigen (z. B. Dank, Umarmung, Einladung ins Restaurant etc.)

c) Schon bevor Sie gehen, fürchten Sie sich davor, in die Realität zurückzukehren. Diese Woche ist bald vorbei, und Sie werden sicherlich ewig keinen so schönen Urlaub mehr haben.

d) Sie genießen das Angebot voll und ganz.

e) Sie sind Ihrem Freund sehr dankbar. In den nächsten Tagen kommen Sie jedoch nicht umhin, an bestimmte negative Merkmale zu denken, die Sie daran hindern, rundum glücklich zu sein (z.B. dies ist nicht wirklich der Ort, den Sie gewählt hätten, der Zeitraum zwingt Sie ihren Zeitplan neu zu organisieren, Sie müssen es Ihren Freund zurückzahlen usw.).

f) Sie denken, wie glücklich Sie sind, einen so guten Freund zu haben, und Sie merken, dass dieses Angebot Ihre Freundschaft stärkt. Sie fangen an, die angenehmen Dinge zu antizipieren, die Sie während dieser Reise tun werden.

g) Sie erzählen Ihren Freunden und Ihrer Familie von der Reise und loben die Großzügigkeit Ihres Freundes.

h) Sie wünschen sich, Ihre Dankbarkeit voll ausdrücken zu können, aber verschiedene Gründe (z. B. Verlegenheit, Angst, sich lächerlich zu machen, Schüchternheit etc.) hindern Sie daran, demonstrativ zu sein.

**Appendix C**

**Daily survey – English and German versions**

*Below you can find several questions about your current feelings. Please try to indicate how you felt right before you started to answer the questionnaire!*

*Positive affect*

- How *cheerful* do you feel right now?

- How *enthusiastic* do you feel right now?

- How *satisfied* do you feel right now?

- How *relaxed* do you feel right now?

- 1 (not at all) to 7 (very much)

  *Positive event*

  Think of the most striking event or activity since the last questionnaire. How (un)pleasant was this event or activity?

- -3 (very unpleasant) to +3 (very pleasant)

  *Savouring*

(1) Since the previous measurement, I have talked about my feelings with others. *(Capitalizing)*

(2) Since the previous measurement, I have expressed my positive emotions with nonverbal behaviour. *(Behavioural Display)*

(3) Since the previous measurement, I have paid my attention to the present pleasant experiences. *(Being Present)*

(4) Since the previous measurement, I have anticipated a future positive event and/ or recalled a past positive event. (*Positive Mental Time Travel*)

- Yes/No?

- If yes: To what extent did you engage in the above-described statement since the previous sampling moment? 1 (not very much) – 6 (very much)

  Im Folgenden finden Sie einige Fragen zu Ihren derzeitigen Gefühlen. Bitte versuchen Sie anzugeben, wie Sie sich gefühlt haben, kurz bevor Sie mit der Beantwortung des Fragebogens begonnen haben!

  *Positiver Affekt*


- Wie fröhlich fühlen Sie sich im Augenblick?

- Wie begeistert fühlen Sie sich im Augenblick?

- Wie zufriedenfühlen Sie sich im Augenblick?

- Wie entspannt fühlen Sie sich im Augenblick?

- 1(gar nicht) bis 7 (sehr stark)


*Positive Events*

Denken Sie an das auffälligste Ereignis oder die auffälligste Aktivität seit dem letzten

Fragebogen. Wie (un)angenehm war dieses Ereignis oder diese Aktivität?

- -3(sehr unangenehm) bis +3 (sehr angenehm)

*Savouring*

(1) Seit der letzten Messung habe ich mit anderen über meine Gefühle gesprochen. *(Capitalizing)*

(2) Seit der letzten Messung habe ich meinen angenehmen Gefühlen nonverbalen Ausdruck

verliehen. (*Behavioural Display*)

(3) Seit der letzten Messung habe ich augenblicklichen angenehmen Gefühlen Aufmerksamkeit

geschenkt. *(Being present)*

(4) Seit der letzten Messung habe ich mir positive Ereignisse in der Zukunft vorgestellt und/oder

mich an positive Ereignisse aus der Vergangenheit erinnert. *(Positive Mental Time Travel)*

- Ja/Nein?

- Wenn Ja: In welchen Maß haben Sie das beschriebene Verhalten gezeigt? 1 (Nicht sehr stark) – 6

(Sehr stark)