



# Emotion crafting: Individuals as agents of their positive emotional experiences

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## Abstract

The literature on emotion regulation (ER) is vast and insightful, but little is known about the proactive regulation of positive emotions. Herein we coin the term emotion crafting (EC), which is defined as proactively aiming to strengthen one's positive emotions through two sequential components: being aware of what can make one feel good (i.e., awareness component) and proactively engaging in behaviors to initiate, maintain, or increase positive emotions (i.e., action component). We present a self-report measure of EC [i.e., the Emotion Crafting Scale (ECS)] and provide details on its discriminant and concurrent validity. Data were collected among a sample of 326 Norwegian adults (49.7% female; *M*<sub>age</sub> = 42.90 years, *SD* = 14.76) who were representative in terms of age (between 18 and 70), gender, and geographical location within Norway. Results yielded evidence for a 2-factor structure consisting of the components Awareness and Action, which related in an expected way to other measures of ER. Subsequent structural equation modeling showed that the awareness component related positively to indicators of well-being and negatively to internalizing symptoms via higher levels of EC action and positive affect, even after controlling for other measures of ER. These promising findings not only support favorable reliability and validity of the ECS, but also underscore the importance of examining proactive regulation of positive emotions as a potential predictor of mental health. Future research is needed to examine the etiological role of EC in individuals' psychological functioning.

**Keywords** Broaden-and-Build Theory · Emotion crafting · Emotion regulation · Positive emotions · Self-Determination Theory

## Introduction

### Emotion crafting: individuals as agents of their positive emotional experiences

Emotion regulation (ER)—the processes individuals use to determine which emotions they have, when they have them, and how they experience or express them (Gross, 2014)—is one of the key determinants of well-being (Aldao et al., 2010; McRae, 2016). Most of the extant research has

focused on how individuals react to (anticipated) emotion-eliciting events, for instance by examining the degree to which individuals seek to reduce the negative emotions resulting from adverse experiences or cognitions (e.g., Van der Kaap-Deeder et al., 2021). Such focusing assumes that people reactively engage in regulatory processes in response to specific emotional events. However, individuals not only respond to (anticipated) emotion-loaded stimuli but can also actively and purposely initiate and direct their emotional experiences. Recently, Martins-Klein et al. (2020) applied the dual mechanisms of control (DMC) theoretical framework to the domain of ER, thereby stating that ER can occur either prior (proactive ER) or after (reactive ER) the onset of an emotional stimulus. Similarly, theories of agency (e.g., Self-Determination Theory, SDT, Deci & Ryan, 2000) maintain that individuals have the innate need to be the authors of their own lives—the ones who proactively and autonomously shape their functioning and life

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circumstances. Despite these theoretical considerations, little is known about the role of proactive ER in individuals' psychological functioning.

Besides the limited knowledge on proactive ER (Martins-Klein et al., 2020), there has also been little theoretical attention devoted to the regulation of positive (compared to negative) emotions (Naragon-Gainey et al., 2017; Tugade & Fredrickson, 2007). This is surprising, given that positive emotions are linked to numerous beneficial outcomes such as better mental and physical health (Lyubomirsky et al., 2005) and because especially pursuing positive emotions (compared to reducing negative emotions) has been found to induce well-being (McRae et al., 2012). To extend existing knowledge, and to put proactive ER on the research agenda, we hereby introduce the construct of *emotion crafting* (EC). EC reflects individuals' ability to apprehend positive emotion-inducing contexts, a prerequisite for proactively pursuing positive emotions through their actions. Such actions may include pursuing pleasant situations or transforming current ones towards being more positive. In this study, we aimed to create and validate a scale assessing individuals' EC (i.e., the Emotion Crafting Scale, ECS) and investigate its discriminant and concurrent validity.

### The importance of positive emotions and their regulation

Individuals tend to maximize the experience of positive emotions to attain certain proxy goals (e.g., to feel good in the moment), but also more distant ones, such as to increase their self-esteem or to become more attractive to other people (Tamir, 2016). Although trying to increase negative feelings such as anger—for instance when preparing for an aggressive game (Tamir et al., 2008)—could be part of their everyday repertoire, people want to increase positive and decrease negative emotions most of the time (with estimates ranging between 70 and 92%; Gross et al., 2006). Such a focus on positive emotion goals is adaptive, given that positive emotions not only contribute to individuals' immediate well-being (Diener et al., 1991), but also their mental, physical, and social functioning over time (see Lyubomirsky et al., 2005 for a review). Such findings align with the Broaden-and-Build Theory (Fredrickson, 1998, 2001; Fredrickson & Joiner, 2002), which states that positive emotions strengthen individuals' psychological resilience through, for instance, fostering their problem-focused coping skills.

Despite the well-established thriving effects of positive emotions, ER research has mostly focused on negative emotions (Naragon-Gainey et al., 2017; Tugade & Fredrickson, 2007), chronicling that adaptive strategies to regulate negative emotions (such as accepting negative emotions) are associated with academic success, better social functioning, higher psychological and physical well-being, and

better cognitive functioning (e.g., Gross, 2014; McLaughlin et al., 2011). Besides the importance of regulating negative emotions, research has shown that the regulation of positive emotions is crucial for individuals' optimal functioning and health (e.g., Garland et al., 2010) and partly independent of their ability to regulate their negative emotions (Quoidbach et al., 2015). In particular, maintaining and enhancing positive emotions have been related to beneficial outcomes such as increased coping, optimism, and life satisfaction and reduced hopelessness and depression (Tugade & Fredrickson, 2007). In contrast, suppressing positive emotions seems typical for individuals with increased depressive or anxiety symptoms (e.g., Carl et al., 2014). To illustrate, Feldman et al. (2008) showed that a higher level of positive rumination (i.e., recurrent thoughts about positive moods and self-qualities) and a lower level of dampening (i.e., strategies to decrease the intensity or duration of positive moods) related to higher self-esteem and less depressive symptoms. Therefore, it is important to identify strategies that could proactively enhance positive emotions and establish a theoretical framework capturing these processes, which we aim to do here.

### Emotion crafting: a proactive view on emotion regulation

Despite the abundant and insightful research on ER (especially with regard to negative emotions), most of these studies have focused on strategies individuals employ to deal reactively with emotional situations they encounter. Recently, there has been a call to investigate proactive ER, referring to ER that occurs deliberately and prior to the onset of an emotional stimulus (Bryant, 2021; Martins-Klein et al., 2020). Such proactive ER also fits within the recent extension of Gross' process model that explicitly includes the proactive regulation of positive emotions. That is, by putting oneself in situations that are expected to increase one's positive emotions (i.e., situation selection), individuals can increase their positive emotions (Quoidbach et al., 2015). Theories of agency, such as the SDT (Deci & Ryan, 2000; see also Bandura, 1989), state that individuals have a natural inclination to seek and create environments or situations that enhance their positive experiences to foster their growth, integration, and optimal functioning. Whether this also applies to the domain of ER, is an issue that has barely been examined so far.

Based on the need to increase our knowledge about proactive ER and research showing that pursuing positive emotions (instead of solely trying to reduce negative emotions) contributes to well-being (e.g., McRae et al., 2012), we herein coin the term EC. EC is defined as proactively aiming to strengthen one's positive emotions through two sequential mechanisms: awareness and action. That is, in line with

models addressing the principles of behavioral change (e.g., Krebs et al., 2018), we state that awareness is essential in enabling individuals to engage in activities to affect their positive emotions. That is, EC entails both noticing opportunities (e.g., activities, situations, people) that could initiate, maintain, or increase one's positive emotions (i.e., awareness component) with this awareness being a prerequisite for engaging in behaviors to proactively initiate/maintain/increase positive emotions (i.e., action component). To illustrate, a high level of EC is apparent when an individual is aware of the social relationships that foster positive emotions and proactively acts upon this awareness by spending more time with these people (e.g., going to the cinema with a friend that makes them feel good). This link between awareness and action is also in line with many therapeutical approaches such as Dialectical Behavior Therapy (Lynch et al., 2006), Emotion Focused Therapy (Greenberg, 2004), Cognitive Behavioral Therapy (Hofmann et al., 2010), and Interpersonal Therapy (Lipsitz & Markowitz, 2013). Specifically, two techniques within behavioral activation focus on identifying the relation between activities and moods (i.e., activity monitoring) and acting upon this awareness by scheduling positive activities (i.e., activity scheduling), which has been found to be effective in reducing symptoms of psychopathology, most notably depressive disorders (Kanter et al., 2010).

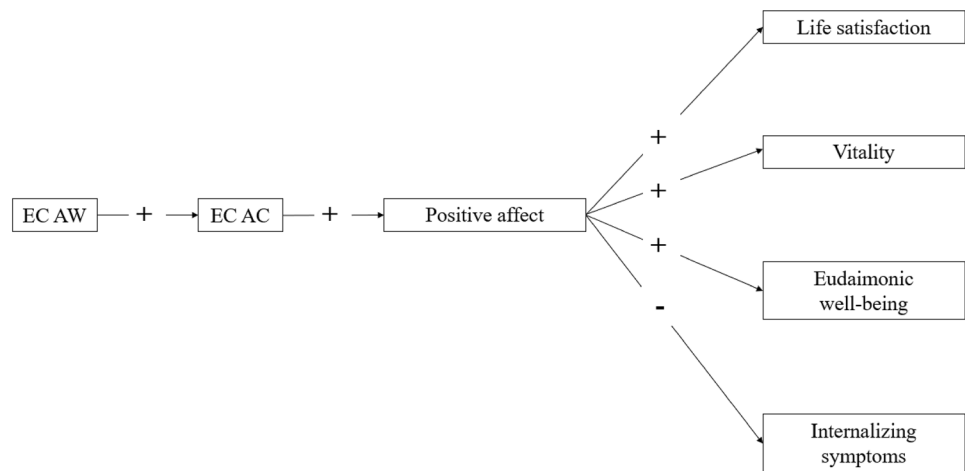
There is also some indirect evidence available pointing towards the potential positive role of EC in the optimal functioning of non-clinically diagnosed individuals. Research on job crafting (i.e., proactively engaging in behaviors to align the work context with one's own interests and values; Rudolph et al., 2017) and need crafting (i.e., proactively creating conditions that satisfy the needs for autonomy, competence, and relatedness; Laporte et al., 2021) demonstrated that these proactive behaviors related to beneficial outcomes such as work engagement, job satisfaction, and performance (for job crafting) and well-being and reduced ill-being (for need crafting). Moreover, research has shown that individuals' savoring beliefs, referring to individuals' perceived control over positive emotions, optimize positive affect. High levels of savoring beliefs indicate that individuals feel able to maintain or "savor" positive emotions, as assessed by items such as "Can enjoy events before they occur" and "Know how to make the most of good time" (Bryant, 2003). Thus, savouring beliefs are related to EC. Yet, whereas the former focuses on individuals' perceived competence in regulating positive emotions, the latter captures the extent to whether individuals are *aware* of positive emotion-inducing contexts and *act* upon this awareness by being embedded in them. Additionally, research has focused on the behaviors and thoughts people engage in to regulate their positive emotions when experiencing positive events, thus reflecting a reactive approach to ER (in contrast with the

proactive focus within EC), which have been called savoring strategies (e.g., positive rumination and self-congratulation; Bryant & Veroff, 2007) or cognitive response-focused ER strategies (Feldman et al., 2008). Both savoring beliefs and reactive or response-focused strategies aimed at enhancing or maintaining positive affect have been shown to promote positive psychological functioning, for instance, life satisfaction, happiness, optimism, relationship satisfaction, and healthy behaviors (see Bryant, 2021 for a review; Nelis et al., 2015). The construct of EC adds to this interesting work focusing on individuals' perceived competence and attempts to reactively savor positive emotions, by examining individuals' proactive behavior aimed at initiating, maintaining, or increasing positive emotions (e.g., deliberately engaging in activities which make one feel good).

### The present study

In the present study, we aimed to put EC on the research agenda by validating the self-report measure developed to assess EC (i.e., the Emotion Crafting Scale; ECS) and to examine the associations of EC with positive affect, well-being, and ill-being. First, we examined the internal structure and reliability of ECS. In line with the measure of need crafting (Laporte et al., 2021) and our conceptualization of EC, we expected to find evidence for a 2-factor model differentiating between the awareness and action component of EC (Hypothesis 1a) with both subscales displaying adequate reliability (Hypothesis 1b). Discriminant validity of the ECS was examined by means of established ER measures, which due to the above theorizing were expected to relate to, but not completely overlap with EC. More specifically, we expected to find a moderately strong relation between EC (both the awareness and action component) and these ER measures, with EC relating positively to adaptive and negatively to maladaptive ER strategies (Hypothesis 2). Further, we aimed to determine the possible mediating role of positive affect in the relations between the EC components and a set of outcomes in an adult sample representative in terms of age (18–70), gender, and geographical location within Norway. Specifically, we hypothesized a two-step mediation model with EC action and positive affect mediating the relation between EC awareness and the outcomes. We expected that awareness of positive emotion-inducing situations would predict engagement in EC action which in turn predicts positive affect, given that the action component aims at maintaining or increasing positive affect. Positive affect, in turn, was expected to relate to indicators of psychological health in accordance with the cascading effects of positive emotions on optimal functioning according to the Broaden-and-Build Theory (Fredrickson, 1998). Specifically, as displayed in Fig. 1, we assumed that individuals scoring high in EC awareness would report higher levels of well-being (i.e.,

**Fig. 1** Hypothesized model depicting the relation from emotion crafting awareness to the outcomes via emotion crafting action and positive affect. Note EC Emotion crafting, AW Awareness, AC Action



life satisfaction, vitality, eudaimonic well-being) and lower levels of internalizing symptoms through higher EC action (i.e., first mediator) and more positive affect (i.e., second mediator) (i.e., concurrent validity; Hypothesis 3a), even after controlling for the other measures of ER (Hypothesis 3b). To further provide evidence for the validity of the ECS, we also examined EC with respect to a broad set of specific positive emotions, namely happiness, satisfaction, enthusiasm, pride, fascination, being loved, and feeling energetic. We expected to find similar results for these emotion-specific versions of the ECS in terms of the internal structure, reliability, and discriminant validity, thereby showing the robustness of EC (Hypothesis 4).

## Method

### Participants and procedure

Participants were recruited through a professional data collection organization (i.e., Norstat) that has access to a panel of 87,000 individuals within Norway. To ensure random selection and representativeness of the members, membership in this panel is by invitation only. Before data collection, the aim was to recruit a sample of 500 individuals. In total, 3585 members were invited to participate in this study through e-mail or push notification in the panel app, thereby also receiving information about the length of the online survey (ca. 20 min) and the incentive. After terminating the data collection (i.e., reaching the target sample size of 500), we realized that due to technical reasons the first 174 participants did not receive the information letter and informed consent. We therefore decided to remove these cases and thus conduct our analyses with the 326 valid responses. At the start of the survey, the retained participants were informed that the data would be processed in a confidential way, that their participation was voluntary,

and that they were entitled to terminate their participation at any moment. All participants completed an informed consent. To ensure that the sample would be representative in terms of age (within the age range of 18–70<sup>1</sup>), gender, and geographical location within Norway, we employed a quota sampling procedure. Participants received 20 Norwegian kroner (NOK; ca. 2 euro) as a compensation for their participation, which they could redeem through, for instance, a variety of gift vouchers, lottery tickets, renting a movie online, or donating to a number of charity organizations. Participants were on average 42.90 years old ( $SD = 14.76$ ; age range 18–70; 49.7% female). Further descriptives of the sample characteristics can be found in Table 1. The sample is comparable (according to Statistics Norway; <https://www.ssb.no/en>) to the overall Norwegian population with regards to gender, marital status and income, except from its higher educational level (i.e., 51.5% vs. 35.3% completed higher education in the current sample vs. the overall population).

## Measures

### Emotion Crafting Scale

A pool of 12 items to assess EC in English was generated and discussed by six researchers with a high expertise in the domain of ER and the SDT. In doing so, we formulated items that captured a broad perspective on EC, including being aware of which contexts (i.e., activities, people) are inducive of positive emotions (i.e., awareness component; 4 items), as well as deliberately taking action to increase one's positive emotions for instance by seeking out situations that make one feel good or consciously

<sup>1</sup> Individuals above the age of 70 were not invited for this study, as the employed design (i.e., an online survey) is less suitable to reach this population.

**Table 1** Descriptives of the sample characteristics

Characteristic	No	Percentage
Highest completed educational level		
Primary school	16	4.9
Vocational school or another 1–2 year education after upper secondary school	56	17.2
High school	80	24.5
University/college up to 3 years (bachelor's degree)	87	26.7
University/college 4 years or more (master's degree and higher)	81	24.8
Another type of education	6	1.8
Marital status		
Married or cohabitant	185	56.7
Single	82	25.2
Boyfriend/girlfriend	32	9.8
Separated/divorced	21	6.4
Widow(er)	2	0.6
Do not want to disclose this information	4	1.2
Income (range <sup>a</sup> ; in NOK)		
0–100,000	23	7.1
100,001–200,000	13	4.0
200,001–300,000	25	7.7
300,001–400,000	40	12.3
400,001–500,000	50	15.3
500,001–600,000	59	18.1
600,001–700,000	24	7.4
700,001–800,000	12	3.7
800,001–900,000	14	4.3
900,001–1,000,000	3	0.9
1,000,001–1,100,000	2	0.6
1,100,001–1,300,000	9	2.8
1,300,001–1,500,000	1	0.3
1,500,001 or more	3	0.9
Do not want to disclose	48	14.7
Geographical location		
Southeast Norway (i.e., Østlandet)	101	31.0
Westernmost part of Norway (i.e., Vestlandet)	83	25.5
Oslo	40	12.3
Southern Norway (i.e., Sørlandet, Telemark, and Vestfold)	37	11.3
Mid-Norway (i.e., Midt-Norge)	35	10.7
Northern Norway (i.e., Nord-Norge)	30	9.2

<sup>a</sup>Values reported in NOK can be converted to euro by dividing these by 10

thinking about positive memories (i.e., action component; 8 items). Subsequently, these 12 English items were translated into Norwegian by an independent researcher native in Norwegian and fluent in English. The back translation of the Norwegian version was conducted by two scholars (again, native in Norwegian and fluent in English) with a high expertise in developmental psychology and ER, who thoroughly discussed the items to achieve the optimal wording. Finally, besides this general version of the ECS focusing on positive emotions as a whole, we also created

an emotion-specific version capturing seven specific positive emotions, namely happiness, satisfaction, enthusiasm, pride, fascination, being loved, and feeling energetic (see “Appendix 1”). More specifically, for each of the ECS items, there were seven corresponding emotion-specific items capturing the seven emotions listed above. To illustrate, the item “I seek out people who I feel good around” from the general version was adapted to “I seek out people with whom I feel happy/satisfied/enthusiastic/proud/

fascinated/loved/ energetic” for the emotion-specific version (i.e., one item for each of these seven emotions).<sup>2</sup> Participants were instructed to read each of the statements which were stated to be about how they perceive positive emotions and to indicate a number between 1 (*Strongly disagree*) and 5 (*Strongly agree*) that best described how much they in general agree with the statements. Validity and reliability information of this measure is provided in the “Results” section.

## Discriminant validity measures

### Cognitive Emotion Regulation Questionnaire

The short version (18 items; 2 per subscale) of the Cognitive Emotion Regulation Questionnaire (CERQ-short; Garnefski & Kraaij, 2006) was employed to assess a broad set of cognitive ER strategies in response to negative emotions, thereby differentiating between adaptive (five subscales: Positive refocusing, Planning, Positive reappraisal, Putting into perspective and Acceptance) and maladaptive (four subscales: Self-blame, Other-blame, Rumination, Catastrophizing) forms. Example items are: “I think of nicer things than what I have experienced” (Positive refocusing) and “I feel that I am the one to blame for it” (Self-blame). Items were rated on a 5-point Likert scale, ranging from 1 (*Completely disagree*) to 5 (*Completely agree*). In our analyses, we focused on the overall distinction between adaptive ( $\alpha = .80$ ;  $\omega = .79$ ) and maladaptive ( $\alpha = .78$ ;  $\omega = .76$ ) cognitive ER.

### Emotion Regulation Questionnaire: cognitive reappraisal

Cognitive reappraisal is an antecedent-focused ER strategy where individuals reinterpret an emotional event as a way of changing its meaning and emotional impact and was assessed with the Cognitive reappraisal subscale of the

Emotion Regulation Questionnaire (ERQ; Gross & John, 2003). This subscale consists of 6 items (e.g., “When I want to feel less negative emotion (such as sadness or anger), I change what I’m thinking about”) that were rated on a 7-point Likert scale, ranging from 1 (*Completely disagree*) to 7 (*Completely agree*). This scale was found to be reliable ( $\alpha = .85$ ;  $\omega = .85$ ).

### Emotion Regulation Inventory: integrative emotion regulation

Integrative ER refers to being open to, aware of, and intentionally taking interest in emotions and has been linked to positive outcomes such as experienced purpose in life, growth, and acceptance (Benita et al., 2020). Participants’ level of integrative ER was assessed with a subscale (6 items; e.g., “When I experience negative emotions, I usually try to understand why I am feeling this way”) from the Emotion Regulation Inventory (ERI; Roth et al., 2009). Items, focusing on negative emotions in general, were rated on a 5-point Likert scale, ranging from 1 (*Completely disagree*) to 5 (*Completely agree*). This scale was found to be reliable ( $\alpha = .75$ ;  $\omega = .73$ ).

## Outcomes

### Positive and Negative Affect Schedule: positive affect

Positive affect was assessed with a subscale from the Positive and Negative Affect Schedule (Watson et al., 1988). For each of the 10 displayed positive emotions (e.g., inspired, interested, active), participants were asked to indicate, in general, to which degree they experienced this emotion on a 5-point scale of 1 (*Very little or not at all*) to 5 (*Extremely*). This scale was found to be reliable ( $\alpha = .87$ ;  $\omega = .87$ ).

### Satisfaction with Life Scale

Participants’ life satisfaction was assessed with the Satisfaction with Life Scale (Diener et al., 1985), where we due to the need for reducing the length of the survey selected (out of the five) the three most face valid items: “In most ways my life is close to my ideal”, “The conditions of my life are excellent”, and “I am satisfied with my life”. Items were rated on a 7-point Likert scale, ranging from 1 (*Does not fit at all*) to 7 (*Fits perfectly*). This scale showed an excellent reliability ( $\alpha = .91$ ;  $\omega = .91$ ).

### Subjective Vitality Scale

To assess participants’ degree of perceived vitality, we employed the Subjective Vitality Scale (Ryan & Frederick, 1997). Again, we selected three face valid and positively

<sup>2</sup> At the start of the emotion-specific version of the ECS, participants first read definitions of each of the seven emotions ensuring that participants had a clear and similar understanding of the emotions. These definitions were based on comparisons of definitions in English (e.g., Cambridge Dictionary; <https://dictionary.cambridge.org/>) and Norwegian (e.g., Det Norske Akademis Ordbok; the Norwegian Academy Dictionary; <https://naob.no/>) dictionaries. With respect to the order of the two versions of the ECS, participants were randomly selected to either start the survey with filling out the general version and end the survey with the emotion-specific version or vice versa (the order of the other questionnaires was the same across participants). Results of independent samples *t*-tests showed that the order of these two questionnaires did not affect the scores on EC awareness and action for both the general and emotion-specific versions [ $t(324)$  ranging between  $-0.85$  and  $1.62$ ;  $ps > .05$ ], with one exception: participants who first filled out the general version scored higher on EC action ( $M = 3.78$ ;  $SD = 0.71$ ) than those who filled out this questionnaire at the end of the survey ( $M = 3.59$ ;  $SD = 0.77$ ) ( $t(234) = 2.35$ ;  $p = .02$ ).

worded items of this 7-item scale, namely: “I feel alive and vital”, “I nearly always feel alert and awake”, and “I feel energized”. Items were rated on a 7-point Likert scale, ranging from 1 (*Not true at all*) to 7 (*Very true*). This scale had an adequate reliability ( $\alpha = .89$ ;  $\omega = .90$ ).

### Eudaemonic well-being

Two subscales developed by Ryff and Keyes (1995) were included as indicators of eudaemonic well-being: Personal growth (3 items; e.g., “I think it is important to have new experiences that challenge how I think about myself and the world”) and Purpose in life (3 items; e.g., “Some people wander aimlessly through life, but I am not one of them”). Items were rated on a 7-point Likert scale, ranging from 1 (*Strongly disagree*) to 7 (*Strongly agree*). Items from both subscales were averaged to have one overall scale of eudaemonic well-being, which was found to be reliable ( $\alpha = .65$ ;  $\omega = .64$ ).

### Hopkins Symptom Checklist-25

Depressive and anxiety symptoms were assessed with the Hopkins Symptom Checklist-25 (HSCL-25; Derogatis et al., 1974). Example items are “Feelings of worthlessness” (depressive symptoms subscale; 15 items) and “Being scared for no reason” (anxiety symptoms subscale; 10 items). Participants indicated the degree to which each of these symptoms was bothering them in the last 14 days. Their responses were scored on a scale from 1 (*Not at all*) to 4 (*A lot*). Given the high correlation ( $r = .78$ ) between the two subscales, we focused on internalizing symptoms ( $\alpha = .95$ ;  $\omega = .95$ ) as a whole in this study.

### Plan of analyses

First, we investigated the internal structure of the ECS by estimating models (requesting 1 to 4 factors) using MPlus 8.4 (Muthén & Muthén, 1998–2017) through a maximum likelihood estimation with robust standard errors (cfr. Hypothesis 1a). Specifically, after conducting exploratory factor analyses (EFA), we performed confirmatory factor analyses (CFA) for both the general version of the ECS and the emotion-specific version. Second, internal consistencies (Cronbach’s  $\alpha$  and McDonald’s  $\omega$ ) of all subscales were calculated to determine the degree of relatedness between the items (cfr. Hypothesis 1b). Third, we examined the discriminant validity of the ECS by calculating correlations between the ECS (general and emotion-specific) and the other measures of ER (cfr. Hypothesis 2). Fourth, we examined the concurrent validity of the ECS. That is, after examining the relation with the background variables (i.e., gender, marital status, age, education, income, location), we ran a mediation

model with EC awareness (general version) as a predictor of life satisfaction, vitality, eudaemonic well-being, and internalizing symptoms via EC action and positive affect (the significance of direct paths was also examined) (cfr. Hypothesis 3a). This model was repeated, while controlling for the other measures of ER (cfr. Hypothesis 3b). Further, sensitivity analyses were conducted examining the role of the emotion-specific version of the ECS to determine whether the relations between EC and the outcomes could be replicated across seven specific positive emotions (cfr. Hypothesis 4). Bootstrapping (using 1000 draws), a non-parametric resampling procedure, was employed to test the significance of indirect paths. The item-to-construct balance method (Landis et al., 2000), where stronger loading items are combined with weaker loading items, was used to create parcels (as indicators of the latent constructs; number of parcels indicated in parentheses) for positive affect (five), eudaemonic well-being (three), internalizing symptoms (six), adaptive cognitive ER (five), maladaptive cognitive ER (four), cognitive reappraisal (three), and integrative ER (three). The latent constructs of vitality and life satisfaction were indicated by their respective items (each three).

Correlations of .10, .30, and .50 were interpreted, respectively, as small, medium, and large effects (Cohen, 1988). To evaluate model fit, we employed several indices: the  $\chi^2$  test, the comparative fit index (CFI), the Tucker–Lewis Index (TLI), the standardized root mean square residual (SRMR), and the root mean square error of approximation (RMSEA). An acceptable to good fit was indicated by  $\chi^2/df$  ratio of 3 (acceptable)/2 (good) or below, CFI/TLI values of .90 (acceptable)/.95 (good) or above, SRMR values of .10 (acceptable)/.05 (good) or below, and RMSEA values of .08 (acceptable)/.05 (good) or below (Browne & Cudeck, 1992; Hu & Bentler, 1999; Kline, 2015). There were no missing data.

## Results

We first present the results of the internal structure and reliability analyses, followed by the outcomes of the discriminant validity tests. Subsequently, we display the results showing the potential unique relations of EC, controlled for the associations of the other assessments of ER with individuals’ psychological functioning and repeating this analysis with the emotion-specific versions of the ECS.

### Hypothesis 1a: internal structure of the Emotion Crafting Scale

First, an EFA with robust maximum likelihood estimation was performed, thereby requesting a 1 and 2-factor model. Although we also ran an EFA requesting 1 to 4 factors,

**Table 2** Goodness-of-fit Indices of the Structural Equation Models

	$\chi^2/df$	$\chi^2$	<i>df</i>	CFI	TLI	SRMR	RMSEA
EFA							
1-Factor model	5.30	286.41	54	.81	.77	.07	.12
2-Factor model	3.70	159.214	43	.91	.86	.04	.09
2-Factor CFA—General EC	2.02	66.61	33	.96	.95	.04	.06
2-Factor CFA—Emotion-specific EC							
Happiness	2.75	90.59	33	.95	.94	.04	.07
Satisfaction	1.50	49.51	33	.98	.98	.03	.04
Enthusiasm	2.22	73.19	33	.96	.95	.04	.06
Pride	2.55	84.27	33	.96	.95	.04	.07
Fascination	3.24	106.84	33	.93	.91	.05	.08
Being loved	2.72	89.85	33	.96	.94	.04	.07
Feeling energetic	2.49	82.10	33	.96	.94	.04	.07
Concurrent validity models							
Model 1	1.75	895.48	512	.92	.91	.07	.05
Model 2	1.73	1926.09	1111	.89	.88	.08	.05

EC Emotion crafting, CFI Comparative Fit Index, TLI Tucker–Lewis Index, SRMR Standardized Root Mean Square Residual, RMSEA Root Mean Square Error of Approximation

**Table 3** Factor loadings, communalities, items means, and standard deviations of the 2-factor CFA

	Awareness	Action	$R^2$	<i>M</i>	<i>SD</i>
I know well who I feel good around	.73		.53	4.28	0.82
I know well which activities make me feel good	.75		.56	4.15	0.88
I am aware of which people I feel good around	.77		.59	4.22	0.83
I deliberately think about things that make me feel good		.65	.42	3.51	1.04
I consciously think about people who I feel good around		.75	.56	3.86	1.03
I deliberately do as many activities as possible which make me feel good		.64	.41	3.14	1.09
When I feel good, I try to prolong the feeling for as long as possible		.66	.43	3.87	0.96
I seek out situations which make me feel good		.78	.62	3.78	0.92
I deliberately make time to think about memories which make me feel good		.55	.31	2.85	1.17
I seek out people who I feel good around		.70	.49	3.78	0.92

the 3- and 4-factor models could not be identified. Results showed that the 2-factor model had a better fit than the 1-factor model, as also indicated by a significantly different  $\chi^2$  statistic ( $\chi^2 = 105.601$ ,  $df = 11$ ,  $p < .001$ ; see also Table 2). With respect to the 2-factor model, the first factor represented the 4 awareness-items (i.e., being aware of contexts that are inductive to positive emotions), whereas the second factor represented the 8 action-items (i.e., proactively engaging in pursuing positive emotions). However, two items had cross-loadings: “I consciously choose to spend time with people who I feel good around” (factor loadings:  $f_1$ : 0.449;  $f_2$ : 0.338) and “I am aware of activities which make me feel good” (factor loadings:  $f_1$ : 0.350;  $f_2$ : 0.450). Therefore, a subsequent CFA was performed without these two items. The items “I know well who I feel good around” and “I am aware of which people I feel good around” (both from the awareness-subscale) were allowed to correlate given the

similarity in wording (i.e., focusing on people who the participant feels good around) and because this significantly improved the fit of the model ( $\chi^2 = 17.997$ ,  $df = 1$ ,  $p < .001$ ).<sup>3</sup> This model showed an adequate fit, as displayed in Table 2. Parameter estimates of this model are presented in Table 3. Standardized factor loadings were between .55 and .78 and were all significant at the  $p < .001$  level. The 2-factor CFA model was also applied to the seven emotion-specific versions of the ECS. As displayed in Table 2, all these models showed an adequate fit to the data.

<sup>3</sup> We compared the fit of this 2-factor CFA with the fit of 1-factor CFAs. Results showed that the 2-factor CFA had a significantly better fit than the 10-item (without the two items that had cross-loadings) 1-factor CFA ( $\chi^2 = 12.922$ ,  $df = 1$ ,  $p < .001$ ) and a 1-factor CFA incorporating all 12 items (AIC = 9034.061 vs. AIC = 7649.340 for the 2-factor CFA model).



### Hypothesis 1b: reliability of the Emotion Crafting Scale

With respect to the reliabilities, both the awareness ( $\alpha = .83$ ;  $\omega = .84$ ) and the action ( $\alpha = .85$ ;  $\omega = .85$ ) subscales of the general ECS were reliable with items of both subscales also showing strong, all above the threshold of .30 (Field, 2018), corrected item-total correlations (i.e., indicating the coherence between the items), varying between .59 and .76 (awareness) and between .54 and .71 (action). Reliabilities of the emotion-specific version of the ECS were similar, with Cronbach's  $\alpha$  and McDonald's  $\omega$  ranging between .83 and .87 for the awareness-subscale and between .85 and .90 for the action-subscale across the seven emotions, with the corrected item-total correlations varying between .57 and .82 and between .52 and .76, respectively.

### Hypothesis 2: discriminant validity of the Emotion Crafting Scale

Next, we examined the relation between EC and the other measures of ER, to determine the discriminant validity of the ECS. As displayed in Table 4, both the awareness- and action-subscale of the general ECS displayed positive correlations (medium effects) with adaptive cognitive ER, cognitive reappraisal, and integrative ER. However, only the awareness-subscale was related, negatively (small effect), to maladaptive cognitive ER. A similar pattern was found for the emotion-specific versions of the ECS and the other ER measures, except for the nonsignificant relations between maladaptive cognitive ER and the awareness-subscale of happiness ( $r = -.11$ ), feeling energetic ( $r = -.11$ ), pride ( $r = -.11$ ), and fascination ( $r = -.10$ ). In sum, these correlational analyses indicate that EC only moderately relates to strategies employed to regulate negative emotions, suggesting no full overlap with them, thus they are separate constructs.

### Hypothesis 3: emotion crafting and psychological functioning

In a next step, we examined the concurrent validity of the ECS. First, we examined the relation between the background characteristics and the outcomes through a MANCOVA (see "Appendix 2"). Through a second MANCOVA we also examined, in an explorative fashion, the relations between these background variables and EC. Only gender related significantly to EC [ $F(2, 259) = 8.60, p < .001, \eta^2 = .06$ ], with women reporting a higher level of both awareness ( $M = 4.20$ ;  $SD = 0.16$ ) and action ( $M = 3.63$ ;  $SD = 0.17$ ) than men (respectively,  $M = 3.86$ ;  $SD = 0.16$  and  $M = 3.28$ ;  $SD = 0.17$ ). Given that these preliminary analyses showed significant differences in the outcomes as a function of the

Table 4 Means, standard deviations and correlations

	M	SD	1	2	3	4	5	6	7	8	9	10
1 EC awareness	4.21	0.73										
2 EC action	3.68	0.75	.61***									
3 Adaptive cognitive ER	3.46	0.61	.49***	.49***								
4 Maladaptive cognitive ER	2.96	0.69	-.19***	.01	-.23***							
5 Cognitive reappraisal	4.49	1.04	.35***	.48***	.57***	-.22***						
6 Integrative ER	3.55	0.71	.30***	.38***	.33***	.05	.30***					
7 Positive affect	3.19	0.64	.48***	.52***	.50***	-.29***	.48***	.19***				
8 Life satisfaction	4.19	1.43	.42***	.36***	.46***	-.37***	.41***	.17**	.60***			
9 Vitality	4.08	1.38	.42***	.39***	.50***	-.35***	.43***	.08	.75***	.66***		
10 Eudemonic well-being	5.00	0.90	.35***	.35***	.30***	-.21***	.35***	.33***	.44***	.33***	.39***	
11 Internalizing symptoms	1.79	0.62	-.31***	-.19***	-.36***	.57***	-.35***	.04	-.48***	-.55***	-.62***	-.28***

EC Emotion crafting, ER Emotion regulation

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

**Table 5** Indirect paths within the concurrent validity models

	95% Confidence interval
Model 1	
EC awareness–EC action–PA–Life satisfaction	[.360, .764]
EC awareness–EC action–PA–Vitality	[.411, .879]
EC awareness–EC action–PA–Eudaemonic well-being	[.137, .395]
EC awareness–EC action–PA–Internalizing symptoms	[–.308, –.139]
Model 2	
EC awareness–EC action–PA–Life satisfaction	[.243, .704]
EC awareness–EC action–PA–Vitality	[.264, .808]
EC awareness–EC action–PA–Eudaemonic well-being	[.078, .307]
EC awareness–EC action–PA–Internalizing symptoms	[–.217, –.060]
Adaptive cognitive ER–PA–Life satisfaction	[.062, .691]
Adaptive cognitive ER–PA–Vitality	[.080, .772]
Adaptive cognitive ER–PA–Eudaemonic well-being	[.029, .277]
Adaptive cognitive ER–PA–Internalizing symptoms	[–.201, –.020]
Maladaptive cognitive ER–PA–Life satisfaction	[–.537, –.151]
Maladaptive cognitive ER–PA–Vitality	[–.607, –.170]
Maladaptive cognitive ER–PA–Eudaemonic well-being	[–.230, –.049]
Maladaptive cognitive ER–PA–Internalizing symptoms	[.043, .158]

EC Emotion crafting, PA Positive affect, ER Emotion regulation

linear combination of the background characteristics of age, gender, education, marital status, and income, we statistically controlled for these variables in the following analyses. In a first structural model, awareness was modelled as a predictor of action, action as a predictor of positive affect, and positive affect in turn as a predictor of the four outcomes. This model showed an adequate fit (see Table 2). As displayed in Fig. 2 (before the slash), awareness related positively to action, with action being associated with higher levels of positive affect. Positive affect, in turn, related to higher levels of well-being and a lower level of internalizing symptoms. All indirect paths from the awareness component through the action component and positive affect to the outcomes were found to be significant (see Table 5).

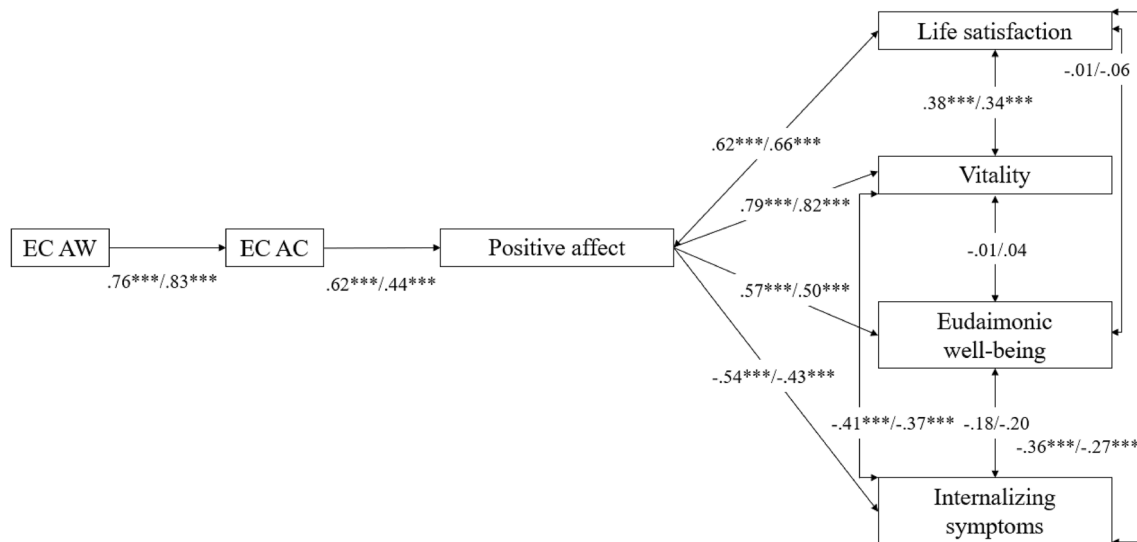
In a second structural model, we built upon the previous model and added adaptive and maladaptive cognitive ER, cognitive reappraisal, and integrative ER as predictors of positive affect, to examine the unique predictive value of EC. This model showed an adequate fit (see Table 2). As displayed in Fig. 2 (after the slash), previous findings were maintained in this model.<sup>4</sup> Results further showed

that adaptive ( $\beta = .25$ ;  $p = .02$ ) and maladaptive ( $\beta = -.27$ ,  $p < .001$ ) cognitive ER both related to positive affect, whereas cognitive reappraisal ( $\beta = .10$ ;  $p = .23$ ) and integrative ER ( $\beta = -.12$ ;  $p = .13$ ) were unrelated. There were also two direct paths: integrative ER was found to be positively associated with eudaemonic well-being ( $\beta = .37$ ;  $p < .001$ ), whereas maladaptive cognitive ER related positively to internalizing symptoms ( $\beta = .43$ ;  $p < .001$ ). Significant indirect paths are reported in Table 5.

#### Hypothesis 4: emotion-specific emotion crafting

Next, to further examine the validity of the ECS and in an effort to replicate the above findings, we examined the role of the seven specific emotions as assessed with the emotion-specific version of the ECS. Building on the previous structural model (i.e., EC awareness–EC action–positive affect–outcomes, controlling for the other ER measures), we replaced the two subscales of the general version of the ECS with the two corresponding subscales of each of the seven emotions of the emotion-specific version in separate models (thus seven models in total, one for each emotion). Results are displayed in Fig. 3. Overall, the findings were similar to the model capturing general EC, with awareness relating positively to action, and action relating positively to positive affect (except for enthusiasm and feeling energetic). The relation from positive affect to the outcomes (i.e., life satisfaction, vitality, eudaemonic well-being, internalizing symptoms) and the correlations between the outcomes were highly similar to the previous model. Additionally, seven

<sup>4</sup> This model was re-ran, thereby controlling for the order of the general and emotion-specific version of the ECS. Results were highly similar to those reported in Fig. 2. EC awareness strongly related to EC action ( $\beta = .82$ ) which, in turn, related to positive affect ( $\beta = .44$ ). Positive affect related to life satisfaction ( $\beta = .66$ ), vitality ( $\beta = .82$ ), eudaemonic well-being ( $\beta = .50$ ), and internalizing symptoms ( $\beta = -.43$ ), all  $p$ s  $< .001$ . Order was unrelated to EC action ( $\beta = -.05$ ;  $p = .30$ ).



**Fig. 2** Structural model depicting the relation from emotion crafting awareness to the outcomes via emotion crafting action and positive affect. *Note* Standardized coefficients appearing before and after the slash refer to, respectively, the model without and with the other emo-

tion regulation measures as control variables. Factor loadings of the measurement part and the associations of the other emotion regulation measures are not shown for reasons of clarity. *EC* Emotion crafting, *AW* Awareness, *AC* Action. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

direct effects were found with three models indicating a positive relation from awareness to life satisfaction. Two models also indicated a direct positive association between awareness and positive affect. Notably, fascination awareness and pride action related negatively to vitality. Given that bivariate correlations showed these two variables to be positively correlated with vitality ( $r = .40$  and  $.42$ , respectively;  $p < .001$ ), these findings likely imply suppressing effects. Overall, path analyses indicate that the associations found for general EC could be replicated across seven specific positive emotions.

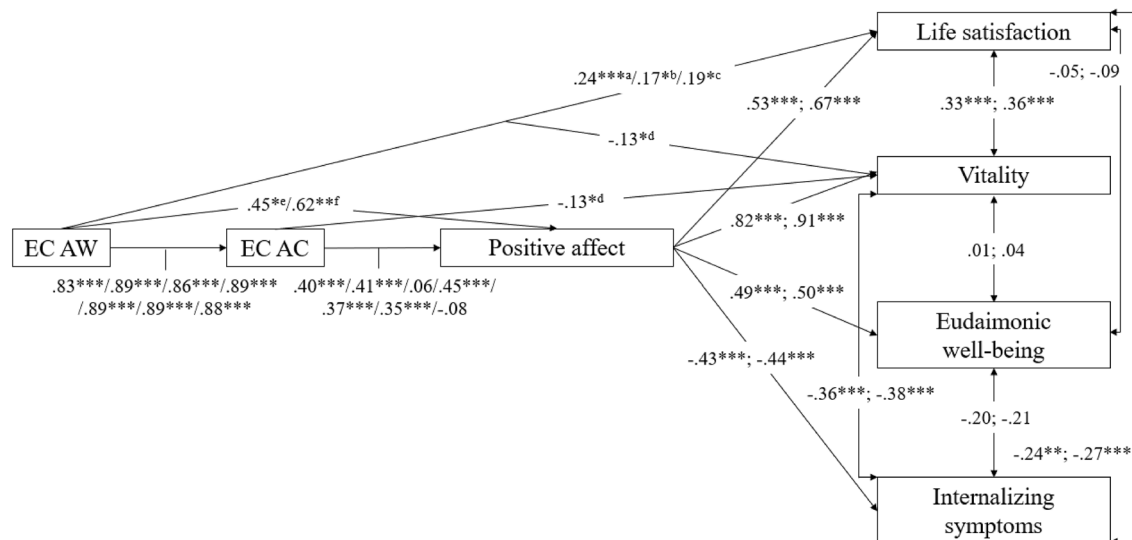
## Discussion

Despite the well-known benefits of positive emotions and the importance of individuals' agency (Deci & Ryan, 2000), the proactive regulation of positive emotions has only recently begun to receive theoretical attention (Bryant, 2021; Martins-Klein et al., 2020). In an effort to add empirical evidence to this recent call for the examination of proactive ER, we coined the concept of EC and aimed to develop and validate the ECS and determine its relations with indicators of well-being and ill-being. Results showed that EC consisted of the two components awareness and action, with each subscale showing an adequate reliability. Both components related positively (medium effect sizes) to the adaptive regulation of negative emotions, thereby displaying sufficient discriminant validity. Most importantly, we found the awareness component to be indirectly related to higher

levels of well-being and a lower level of internalizing problems through increased EC action and positive affect. These associations remained significant even after controlling for the other measures of ER.

### Internal structure, reliability, and discriminant validity of the Emotion Crafting Scale

Regarding the internal structure of the ECS, and as theorized, we found evidence for two factors, namely awareness and action. This finding accords with the measure of need crafting (Laporte et al., 2021) and indicates that individuals first need to be aware of what situations are potentially inducive of positive emotions before they can take action in terms of initiating, maintaining, or increasing their positive emotions. Besides finding these two components of EC to be reliable, the ECS demonstrated only moderate correlations with measures of adaptive ER concerning negative emotions, which indicates that EC and these other components of ER are to some extent separable concepts. Although both focus on the regulation of emotions, EC uniquely focuses on positive emotions and the proactive regulation of these. Overall, these findings (i.e., internal structure, reliability, and discriminant validity) were replicated when examining the emotion-specific version of ECS, focusing specifically on the emotions of happiness, satisfaction, enthusiasm, pride, fascination, being loved, and feeling energetic. In sum, our results show that EC can be meaningfully differentiated from the regulation of negative emotions, which is in line with previous research showing the regulation of



**Fig. 3** Structural model depicting the emotion-specific relation from emotion crafting awareness to the outcomes via emotion crafting action and positive affect. *Note* Standardized coefficients are reported for the models with, respectively, happiness, satisfaction, enthusiasm, pride, fascination, being loved, and feeling energetic as indicators of EC. Factor loadings of the measurement part and the associations of the other emotion regulation measures are not shown for reasons of

clarity. With respect to the relations from positive affect to the outcomes and the correlations between the outcomes, the range of coefficients across the seven models is reported. *EC* Emotion crafting, *AW* Awareness, *AC* Action, *NS* not significant. <sup>a–f</sup>Refer to EC related to, respectively, happiness, satisfaction, being loved, fascination, enthusiasm, and feeling energetic. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

positive and negative emotions to be related but independent processes (Quoidbach et al., 2015). Thus, individuals might differ in their capabilities to regulate either positive or negative emotions, with for instance some individuals struggling especially with the regulation of positive emotions but not of negative emotions. More research is needed to examine the interplay between the regulation of positive (including EC) and negative emotions, especially among mental disorders (e.g., depression; Vanderlind et al., 2020).

### Emotion crafting and its relation with well-being and ill-being

In line with research showing the high value people attach to positive emotions (Tamir, 2016), the diverse and longstanding benefits of such emotions (Lyubomirsky et al., 2005), and the positive effects of crafting one's surroundings to optimize one's mental health (e.g., Rudolph et al., 2017), we found the awareness component of EC to relate to more well-being and less ill-being through increased EC action and positive affect. These findings were overall replicated when focusing on the specific positive emotions of happiness, satisfaction, enthusiasm, pride, fascination, being loved, and feeling energetic compared to positive emotions in general. Awareness can therefore be seen as a prerequisite for action EC, which in turn can enhance optimal psychological functioning. Additionally, focusing on positive affect

as a mechanism between EC action and psychological functioning, results showed that proactively seeking out activities to initiate, maintain or increase one's positive emotions first and foremost relates to a higher level of positive emotions. Such positive emotions, in turn, not only contribute to individuals' well-being but also relate just as strongly to a lower level of ill-being. This is in line with the undoing hypothesis stating that positive emotions undo or correct the aftereffects of negative emotions (Fredrickson & Levenson, 1998). Fredrickson et al. (2000), for instance, showed that individuals experiencing anxiety-induced cardiovascular reactivity displayed a faster cardiovascular recovery after viewing positive mood-inducing (compared to neutral or sad) films. Future research employing longitudinal or experimental designs are, however, needed to shed more light on the temporal sequencing in these relations (i.e., EC awareness–EC action–positive affect–outcomes).

Pointing out the unique predictive value of EC, we found that the associations of EC with the indicators of psychological functioning remained significant even after controlling for adaptive and maladaptive cognitive ER, cognitive reappraisal, and integrative ER. Given the importance of the pursuit of positive emotions (compared to trying to reduce negative emotions) for individuals' well-being (McRae et al., 2012), EC seems to be a promising concept that can be used in interventions aimed at increasing well-being.

Interestingly, gender was the only sociodemographic variable being associated with EC. Women reported, on average,

more EC awareness and action than men. These findings could be seen in light of the meta-analysis of Chaplin and Aldao (2013) showing that girls express somewhat more positive emotions than boys. This may partly be due to higher EC action, on the assumption that, as we argue here, experiencing (and subsequently expressing) an emotion requires awareness and action to materialize it. However, this link should be interpreted with caution as we cannot draw definite conclusions on the role of gender in emotion development and understanding (e.g., the recognition of facial emotion; Forni-Santos & Osório, 2015). Relatedly, it is interesting to note that although women scored higher on EC, they also reported a higher level of internalizing symptoms (with such symptoms relating negatively to EC). These findings are in line with studies showing that women experience more depressive symptoms than men, with this gender gap having a multifactorial etiology (Salk et al., 2017). This study highlights that EC might be a protective factor for depression in especially women, although future studies need to consider multiple mechanisms (e.g., both positive and negative ER) to explain the relation more fully between gender and internalizing symptoms. Note also that we did not find any age-effects in EC. Based on the socioemotional selectivity theory (Löckenhoff & Carstensen, 2004), one would expect older individuals to report more EC as they are presumed to be more sensitive to contexts that have the potential to induce positive emotions and to proactively regulate their positive emotions. However, this study focused mainly on early and middle adulthood, while not including more elder individuals. To thoroughly examine possible changes in EC when transitioning to late adulthood, future research is necessary.

### Limitations and directions for future research

This study had several important limitations. We employed a cross-sectional design, thus future longitudinal and experimental research is needed to determine the causal mediational sequencing where EC awareness is the distal and EC action the proximal antecedent of positive affect and relevant outcomes. Nevertheless, reciprocal relations are also expected, as it is equally likely that positive affect also enables individuals to better understand which situations are positive for them (i.e., awareness EC) and seek such situations (i.e., action), indicating a selection effect. Indeed, previous research has shown, in line with the Broaden-and-Build Theory, that induced positive emotions broaden individuals' attention and thought-action repertoire (Fredrickson & Joiner, 2018) which might also foster awareness of positive emotion-inducing situations.

Another limitation is the relatively small number of items (i.e., three) to assess awareness EC. We initially constructed

four items (with one showing a cross-loading) for this subscale as awareness EC is, compared to action EC, a relatively straightforward construct. More specifically, it assesses individuals' awareness of potentially positive emotion-inducing situations and is therefore more easily captured than specific actions people undertake to proactively regulate their positive emotions. Nonetheless, future research could construct and include more awareness EC items, given that two items focused on other people as a potential source of awareness (i.e., "I know well who I feel good around" and "I am aware of which people I feel good around") and only one on activities (i.e., "I know well which activities make me feel good").

Further, as we assessed EC in a quite broad manner with participants reporting how much they in general agree with each statement (e.g., "I seek out situations which make me feel good"), our findings might not generalize to specific situations. For instance, there are studies showing that excessive or situation-inappropriate positive affect can be indicative of maladaptive functioning (Villanueva et al., 2021). In her review, Gruber (2011) described that positive emotion persistence, or the continuous activation of positive emotions across (even inappropriate) contexts, is typical for individuals with bipolar disorder. It is therefore important for future research to examine EC in a more situation-specific manner, for instance through experience sampling methodology, to determine in which situations EC is beneficial. We also acknowledge that by relying on self-reported action instead of observational measures of action, our action measure might be subject to a range of biases. For instance, when people think about whether they seek out situations that make them feel good, they might not consider culturally unaccepted ways to achieve instantly positive emotions or about upholding positive emotions through drug use, gambling, or continuing with pleasurable activities at the expense of important activities with little immediate reward (e.g., doing household chores, saving money). Indeed, much psychological ill-being, social misery, and negative emotions stem from pursuing immediate reward over long term gains. It is also possible that reports about awareness and action stem, in part, from the overall outlook of the person or from a reversed order of effect; having predominantly positive emotions leading the individual to conclude that (s)he is responsible for this state of mind by noticing and pursuing positive emotions.

Moreover, we focused mainly on high arousal emotions (i.e., enthusiasm, pride, fascination, being loved, and feeling energetic), with only happiness (moderate arousal) and satisfaction (moderately low arousal) representing lower arousal positive emotions. Future research needs to examine whether the positive associations of EC also apply to other, especially low arousal, emotions (see also the circumplex model of affect; Posner et al., 2005) such as calmness. Additionally, we only compared the ECS to measures capturing the

regulation of negative emotions, precluding conclusions on how EC differs from other indicators of positive ER. Future research needs to establish the unique predictive value of EC when controlling for other forms of positive ER such as positive rumination (Feldman et al., 2008) and emotional awareness or clarity with respect to positive emotions (Gratz & Roemer, 2004; Weiss et al., 2015).

Finally, this study was conducted in Norway and results may not generalize to countries which differ in individualism–collectivism and equality–hierarchy values (Triandis & Gelfand, 1998). Differences between countries on these dimensions have already been shown to impact ER, with for instance more hierarchical countries scoring higher on the use of emotion suppression (Matsumoto et al., 2008). Also, positive emotions might be differently perceived across cultures and ethnicities (note that we did not obtain information on participants' ethnicity in our study). To illustrate, individuals in the United States focus greatly on positive emotions and minimize negative emotions, whereas in Japan a balance between positive and negative emotions is highly valued (Miyamoto & Ryff, 2011). Thus, future research needs to examine the effects of EC across diverse cultures and include participants with diverse ethnicities. Additionally, there might be selection bias. Specifically, those responding immediately to the survey (and thus being included) might not be comparable to those who did not fill out the survey, thus limiting the generalizability of these findings.

## Conclusion

This research advances knowledge on ER, by proposing that individuals are not just regulators but also forethought planners of their own positive emotional experiences. Specifically, we found that being aware of contexts that are inductive to positive emotions was associated with actively engaging in EC which, in turn, was associated with a higher level of well-being and a lower level of ill-being through increased positive affect. As these results were upheld even after controlling for measures of other important ER indicators, and when examining seven specific positive emotions, they provide a strong call for more research on the proactive regulation of positive emotions.

## Appendix 1: The emotion-specific version of the Emotion Crafting Scale

Below are some statements about seven emotions (i.e., happiness, satisfaction, enthusiasm, pride, fascination, being loved, and feeling energetic). Read the statements below and indicate a number between 1 (“strongly

disagree”) and 5 (“strongly agree”) that best describes how much you in general agree with each of these statements.

### Definitions:

**Happiness:** *A feeling of joy, pleasure, or harmony.*

**Satisfaction:** *A feeling of well-being evoked by fulfilled desires, expectations, or needs.*

**Enthusiasm:** *A feeling of intense and eager excitement or commitment.*

**Pride:** *A feeling of deep joy or satisfaction that comes from one's own achievements, or from having qualities or possessions that are widely admired.*

**Fascination:** *A strong feeling of wanting to know or learn more about something or someone.*

**Being loved:** *An experience of feeling loved by others, where one feels valued, appreciated and understood.*

**Energetic:** *To feel lively, motivated, and able to perform demanding tasks.*

1. I deliberately think about things that make me feel ... **happy/satisfied/enthusiastic/proud/fascinated/loved/energetic**
2. I know well which activities make me feel... **happy/satisfied/enthusiastic/proud/fascinated/loved/energetic**
3. I consciously think about people with whom I feel ... **happy/satisfied/enthusiastic/proud/fascinated/loved/energetic**
4. I deliberately do as many activities as possible in which I feel ... **happy/satisfied/enthusiastic/proud/fascinated/loved/energetic**
5. I know well with whom I feel... **happy/satisfied/enthusiastic/proud/fascinated/loved/energetic**
6. When I feel this emotion, I try to prolong the feeling for as long as possible. **happy/satisfied/enthusiastic/proud/fascinated/loved/energetic**
7. I seek out situations in which I feel... **happy/satisfied/enthusiastic/proud/fascinated/loved/energetic**
8. I am aware of people with whom I feel... **happy/satisfied/enthusiastic/proud/fascinated/loved/energetic**
9. I deliberately make time to think about memories which make me feel... **happy/satisfied/enthusiastic/proud/fascinated/loved/energetic**
10. I seek out people with whom I feel... **happy/satisfied/enthusiastic/proud/fascinated/loved/energetic**

## Appendix 2: Supplementary analyses

A MANCOVA was performed with gender, marital status, and location as fixed factors, age, education and income as covariates, and positive affect, life satisfaction, vitality, eudaemonic well-being, and internalizing symptoms

as outcomes. Results showed that age [ $F(5, 256) = 6.38, p < .001, \eta^2 = .11$ ], gender [ $F(5, 256) = 4.95, p < .001, \eta^2 = .09$ ], marital status [ $F(20, 850) = 2.81, p < .001, \eta^2 = .05$ ], education [ $F(5, 256) = 2.26, p = .049, \eta^2 = .04$ ], and income [ $F(5, 256) = 3.39, p = .006, \eta^2 = .06$ ] significantly related to the outcomes, whereas location was unrelated [ $F(25, 952) = 0.79, p = .76, \eta^2 = .02$ ]. Specifically, age related positively to vitality and eudaemonic well-being, and negatively to internalizing symptoms, whereas educational level was positively related to eudaemonic well-being. Further, individuals with a higher income reported higher levels of life satisfaction, vitality, and eudaemonic well-being and a lower level of internalizing problems. Women reported more internalizing symptoms than men. Finally, married or cohabiting individuals experienced more life satisfaction than those who reported being single or having a boyfriend/girlfriend.

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**Data availability** The data that support the findings of this study are available from the corresponding author upon request.

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