University of Reading

Wanting to be happy but not knowing how: poor attentional control and emotion-regulation abilities mediate the association between valuing happiness and depression

Article

Published Version

Creative Commons: Attribution 4.0 (CC-BY)

Open access

Mahmoodi Kahriz, B., Bower, J. L., Glover, F. M. G. Q. and Vogt, J. ORCID: https://orcid.org/0000-0002-3178-2805 (2020) Wanting to be happy but not knowing how: poor attentional control and emotion-regulation abilities mediate the association between valuing happiness and depression. Journal of Happiness Studies, 21. pp. 2583-2601. ISSN 1573-7780 doi: 10.1007/s10902-019-00193-9 Available at https://centaur.reading.ac.uk/86701/

It is advisable to refer to the publisher's version if you intend to cite from the work. See Guidance on citing.

To link to this article DOI: http://dx.doi.org/10.1007/s10902-019-00193-9

Publisher: Springer

All outputs in CentAUR are protected by Intellectual Property Rights law,

University of Reading

including copyright law. Copyright and IPR is retained by the creators or other copyright holders. Terms and conditions for use of this material are defined in the End User Agreement.

www.reading.ac.uk/centaur

CentAUR

Central Archive at the University of Reading

Reading's research outputs online

Journal of Happiness Studies
https://doi.org/10.1007/s10902-019-00193-9

RESEARCH PAPER

Wanting to Be Happy but Not Knowing How: Poor Attentional Control and Emotion-Regulation Abilities Mediate the Association Between Valuing Happiness and Depression

Bahram Mahmoodi Kahriz[1] · Joanne L. Bower[2] · Francesca M. G. Q. Glover[3] · Julia Vogt[3]

© The Author(s) 2019

Abstract
Recent studies suggest that valuing happiness is associated with negative psychological health outcomes, including increased depression, in US samples. We aimed to replicate these associations in two studies at a UK university ($N_{\text{study one}} = 151$, and $N_{\text{study two}} = 299$). Importantly, we also investigated the role of emotional attentional control and habitual emotion regulation in the relationship between valuing happiness and depression. In both studies, we found that valuing happiness was related to increased depression, confirming the link between valuing happiness and depression in a Western country outside of the USA. Moreover, our findings indicated that the relationship between valuing happiness and depression was strongest in British, rather than non-British participants or participants of dual nationality. Further, our findings revealed that valuing happiness and depression were indirectly associated via the ability to control attention in emotional situations, perceived ability to savor positive experiences, and the extent to which positive emotions feel intrusive. Specifically, increased valuing happiness was associated with lower emotion attention control and lower savoring of positive experiences, which in turn was related to depressive symptoms. These results show that the impaired ability to respond adaptively to emotional situations and to enjoy positive events may underlie the paradoxical relationship between valuing happiness and low well-being.

Keywords Valuing happiness · Emotion regulation · Emotion attention control · Savoring beliefs · Depression

Electronic supplementary material The online version of this article (https://doi.org/10.1007/s10902-019-00193-9) contains supplementary material, which is available to authorized users.

✉ Bahram Mahmoodi Kahriz
b.mahmoodikahriz@pgr.reading.ac.uk

Extended author information available on the last page of the article

Published online: 26 October 2019

1 Introduction

Happiness is important for functioning and well-being; it promotes goal achievement, facilitates interpersonal interactions, and enhances physical and emotional health (Duckworth et al. 2005; Lyubomirsky et al. 2005). Most people consider happiness an important goal (Rusting and Larsen 1995; Tamir and Ford 2012). However, emerging evidence regarding the impact of valuing happiness on psychological well-being and ill-health is conflicting, and subject to cross-cultural variation, even between samples from different Western countries (Ford et al. 2015a). In the present paper, we aimed to extend this research by investigating whether and why increased valuing of happiness may be associated with psychological ill-health in two studies conducted in the UK.

1.1 Valuing Happiness and its Paradoxical Relations to Psychological Health Outcomes

Models of goal pursuit posit that valuing a goal is crucial to successful goal attainment (Custers and Aarts 2010), thus greater valuing of happiness should lead to better psychological wellbeing. Such models are supported by cross-cultural studies showing greater life satisfaction in countries where positive emotions are highly valued (Bastian et al. 2014), and evidence suggesting positive associations between prioritizing pleasure, life satisfaction (Seligman et al. 2005), and well-being (Catalino et al. 2014). However, valuing happiness has also been shown to paradoxically decrease reported rates of happiness and well-being (Mauss et al. 2011). Excessive value placed on happiness, that is, wanting to feel happy very frequently and to an extensive degree (Ford et al. 2015b), has been positively associated with symptoms of major depression (Ford et al. 2014) and bipolar disorder (Ford et al. 2015b), increased loneliness, and weakness in social connections (Mauss et al. 2012). Such associations appear specific to the excessive valuing of happiness, rather than increased valuing of positive emotions more generally (Ford et al. 2014). These findings have also been experimentally replicated (e.g. Mauss et al. 2011), such that the experimentally induced valuing of happiness resulted in decreased happiness in response to positive stimuli, and increased disappointment in their emotional state. This suggests that extreme valuing of happiness may contribute to the development and maintenance of disorders such as depression (Mauss et al. 2011).

1.2 Emotion-Related Goals and Control of Attention in Emotional Situations

In the present paper, we tested several potential mechanisms by which associations between extreme valuing of happiness and poorer psychological health may occur (cf. Ford and Mauss 2014; McGuirk et al. 2018). First, individuals who place greater importance on achieving happiness may consequently become hypervigilant towards any external and internal emotional events (cf. Ford and Mauss 2014; McGuirk et al. 2018). Indeed, previous research has shown that people's motivations and goals determine their attentional focus. Specifically, people attend to positive events that presumably help them to achieve a desired emotional state but also to negative events that might stop them from achieving this state (Wadlinger and Isaacowitz 2011; Vogt et al. 2017). For instance, people attend to positive events when wanting to feel better (Xing and Isaacowitz 2006). However, people might also pay more attention to negative events. For instance, people pay attention to threat when aiming to avoid it (Vogt et al. 2017). Such goal-driven attention can be

counter-productive because of a dysfunctional attention bias to negative events. For example, aiming to suppress disgust enhances attention to disgust (Vogt and De Houwer 2014; see also Bardeen and Daniel 2017). Applied to the present context, there are several ways how such hypervigilance towards emotional stimuli could lead to depression. For example, people might fail to adaptively control attention and focus on goals and tasks at stake because they are distracted by their feelings or by emotional information in their environment. Such failure in the control of attention most likely will lead to problems in achieving goals and tasks which in turn could lead to increases in depression. Indeed, impaired attentional control has been repeatedly associated with a range of mental health conditions including anxiety and depression (e.g. Barry et al. 2013). Further, heightened attention to negative input has been shown to enhance negative feelings and depression (Van Bockstaele et al. 2014) and impaired attentional control has been shown to limit disengagement from stressful situations (Lenaert et al. 2016). Thus, in the present study we used the emotional attentional control scale (eACS; Lenaert et al. 2016) to assess whether individuals with extreme valuing of happiness may struggle with attentional control (i.e., the ability to focus and shift attention) in negative emotional contexts, leading to increases in depressive symptoms.

1.3 Valuing Happiness and Emotion Regulation Abilities

Valuing happiness to an extreme degree may also be associated with use of emotion regulation strategies that are related to depressive symptoms (Aldao et al. 2010; Ford and Mauss 2014). Emotion regulation is an intrinsic part of emotional responding, encompassing multi-faceted attempts to influence the nature, magnitude, and duration of emotions through heterogeneous actions (Gross 1998). Effective and successful emotion regulation flexibly utilizes strategies targeting both positive and negative emotions (Koole 2009). First evidence suggests that valuing happiness excessively impairs emotion regulation. For instance, inducing social norms that emphasize the importance of happiness promotes rumination over failure (McGuirk et al. 2018). Valuing happiness to an extreme degree is also associated with lower perceived ability to regulate negative emotions effectively (Fergus and Bardeen 2016; Bardeen and Fergus 2019). If people who excessively value happiness feel less able to regulate emotions effectively, they might choose emotion regulation strategies that appear easier. We therefore tested whether excessive valuing of happiness is related to maladaptive emotion regulation strategies such as suppression or avoidance and decreased use of adaptive strategies such as reappraisal and expression because adaptive strategies are perceived as more effortful and difficult (Milyavsky et al. in press).

Relatedly, individuals who inflexibly strive to increase happiness, regardless of context, may adopt strategies such as avoidance or suppression because of their expected short-term benefits, which in the longer term may prove detrimental (e.g. choosing not to study for an exam avoids short-term anxiety, but subsequently increases negative emotions when faced with an exam for which an individual is unprepared). We implemented questionnaires that measure adaptive (reappraisal, expression) and maladaptive emotion regulation strategies (suppression, avoidance) towards both negative and positive emotions because recent evidence suggests that those who endorse more extreme valuing of happiness report using higher levels of both maladaptive and adaptive strategies in response to positive emotions (Gentzler et al. 2016). We also tested whether valuing happiness might be associated with experiencing of positive emotions as intrusive.

Much evidence illustrates how maladaptive emotion regulation strategies could lead to depression. For example, suppression, in which emotional expression or experience is purposefully minimized, has been consistently linked to poorer mental health outcomes than reappraisal, whereby individuals change the way they think about a situation to change their emotional response (e.g. Aldao et al. 2010). Reduced expressivity in response to stimuli (e.g. Renneberg et al. 2005), and increased cognitive and experiential avoidance (Blalock and Joiner 2000; Cribb et al. 2006) are also associated with depression. Further, increased intrusion of positive emotions has been previously linked with symptoms of depression (Bower et al. 2015), and may lead to counterproductive regulation of positive emotions (e.g., avoidance, suppression, dampening) to minimize their disruption in non-emotional domains (e.g., task performance). In study 1, we (pre-) tested our hypotheses. We conducted a second study with a larger sample and additional measures in order to replicate and extend our findings.

2 Study 1

The present study first sought to replicate the previously reported associations between valuing happiness and depressive symptoms (e.g. Ford et al. 2014) in two studies at a UK university. While valuing happiness has been negatively associated with well-being in American participants it has been positively associated with well-being in Russian and East Asian samples, and not associated with well-being in a German sample (Ford et al. 2015a). It is therefore important to test whether the association can be found in other Western countries outside of the USA.

Next, we assessed the atemporal mediating[1] effects of emotional attentional control and several commonly used, adaptive and maladaptive emotion regulation abilities and strategies (Koole 2009; Sheppes 2014) on these associations. Specifically, we assessed participants' level of attentional control in response to external and internal emotional events. Further, we measured participants' use of suppression, in which emotional expression or experience are minimized; reappraisal, whereby emotional experiences are thought of differently, leading to altered emotional responding (Gross 1998) using the Emotion Regulation Questionnaire (ERQ; Gross and John 2003). Since the experience and enjoyment of positive emotions might be most central to the association between valuing happiness and psychological wellbeing (Bryant 2003; Mauss et al. 2011), we implemented an additional questionnaire measuring the regulation of positive emotions, that is, trait expression, avoidance, and intrusiveness (i.e. the extent to which individuals feel that positive emotions interfere with other areas of functioning (Bower et al. 2015) of positive emotions). We hypothesized that valuing happiness will be associated with greater endorsement of lowered emotional attentional control and of maladaptive emotion regulation strategies and abilities, that is, increased avoidance, suppression, and intrusion and reduced expression and reappraisal in response to both negative and positive emotions, which in turn will lead to higher levels of depressive symptoms.

[1] Atemporal mediation analysis is a term used for mediation analysis on cross-sectional data to indicate the correlational rather than longitudinal nature (Winer et al. 2016).

2.1 Method

2.1.1 Participants

Two hundred and three participants were recruited to a study investigating the role of goals, emotion regulation and depression on attention to positive and negative information. One hundred eighty-three of these participants completed the measures relevant to the current study, but after data cleansing (to account for repeated participation),[2] data from 151 individuals (23 males; mean age = 20.8 years, *SD* = 3.2) were analyzed. Participants were undergraduate students, and received course credit for participation. Ethical approval for both studies was provided by the School of Psychology and Clinical Language Sciences Research Ethics Committee at the University of Reading, UK.

2.1.2 Measures

All measures showed good reliability (see Table 1 for Cronbach's alphas).

The Emotional Attentional Control Scale (eACS; Barry et al. 2013) consists of 14-items assessing voluntary control of attention in emotional situations and showed good reliability in the current study (see Table 1). Participants rate items such as 'I am able to put my feelings aside when I need to focus' on a 4-point scale ranging from 0 (*almost never*) to 4 (*always*). Items are summed to provide a total score.

The Valuing Happiness Questionnaire (VH; Mauss et al. 2011) consists of seven items measuring tendency to value happiness (e.g., I would like to be happier than I generally am) that are rated on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly* agree). Items are averaged to generate a mean valuing happiness score.

The Emotion Regulation Questionnaire (ERQ; Gross and John 2003) consists of 10-items measuring use of two emotion regulation strategies: reappraisal (e.g., I control my emotions by changing the way I think about the situation I'm in) and suppression (e.g., I keep my emotions to myself) on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Items in each subscale are summed to generate overall scores for reappraisal and suppression.

The Positive State-Trait Emotion Regulation Questionnaire (STERQ-P; Bower et al. 2015) provides a validated measure of regulation of positive emotions. The 11-item trait scale comprises three subscales: Emotional Intrusion (e.g., My feelings make it difficult to concentrate), Avoidance (e.g., I want to avoid the situation by trying to escape) and Expression (e.g., It is easy for me to show my feelings), measured on a 5-point scale ranging from 1 (*not at all*) to 5 (*very much*). Items in each subscale are summed to provide subscale totals.

Beck's Depression Inventory-Second Edition (BDI-II; Beck et al. 1996) is a 21-item questionnaire measuring current levels of depressive symptoms and is answered on a scale of 0 (e.g. *I do not feel sad*) to 3 (e.g. *I am so sad or unhappy that I cannot stand it*). Answers are summed to create a composite depressive symptom score, with scores of 0–13 indicating minimal, 14–19 mild, 20–28 moderate and 29–63 suggesting severe depression.

[2] The online survey for study 1 allowed repeated participation. Because participants had to create an anonymous code for part 2 of this study, we were able to identify these instances and use the data from the first participation only. Participants in study 2 could only take the survey once.

Table 1 Means, standard deviations, and correlations among variables in studies 1 and 2

	Scale	*M*	*SD*	α	1	2	3	4	5	6	7	8	9	10	11	12
1	VH	3.97 (4.29)	.98 (.91)	.74 (.70)	1											
2	REA	28.94 (27.05)	5.24 (5.48)	.84 (.82)	−.19* (−.16**)	1										
3	SUP	14.67 (14.50)	5.10 (4.77)	.83 (.77)	.35** (.12*)	−.08 (−.01)	1									
4	INT	8.92 (5.54)	3.55 (3.65)	.87 (.84)	.48** (.42**)	−.11 (−.20**)	.24** (.04)	1								
5	AVO	8.48 (4.07)	3.89 (3.81)	.83 (.85)	.17* (.23**)	.09 (−.08)	.13 (.09)	.51** (.58**)	1							
6	EXP	10.17 (7.10)	3.01 (2.64)	.84 (.71)	−.14 (−.12*)	.23** (.18**)	−.50** (−.50**)	−.18* (−.23**)	−.25** (−.40**)	1						
7	eACS	35.42 (32.69)	6.62 (6.39)	.87 (.87)	−.52** (−.43**)	.30** (.42**)	−.18* (−.05)	−.61** (−.54**)	−.10 (−.13*)	.02 (.09)	1					
8	ANT	(9.58)	(7.26)	(.85)	(−.20**)	(.27**)	(−.29**)	(−.21**)	(−.15**)	(.33**)	(.19**)	1				
9	SAV	(7.20)	(8.62)	(.86)	(−.39**)	(.44**)	(−.26**)	(−.33**)	(−.08)	(.32**)	(.47**)	(.69**)	1			
10	REM	(11.09)	(7.61)	(.86)	(−.17**)	(.30**)	(−.23**)	(−.21**)	(−.13*)	(.29**)	(.17**)	(.66**)	(.65**)	1		
11	BDI	7.19 (12.50)	8.44 (10.29)	.93 (.92)	.54** (.38**)	−.37** (−.35**)	.34** (.20**)	.44** (.42**)	.06 (.15**)	−.22** (−.21**)	−.56** (−.52**)	(−.40**)	(−.60**)	(−.39**)	1	
12	ASRM	(3.81)	(3.23)	(.71)	(−.05)	(.10)	(−.08)	(.01)	(.03)	(.12*)	(.13*)	(.19**)	(.27**)	(.18**)	(−.20**)	1

In Study 1, $N = 151$; in Study 2, $N = 299$; Study 2 values appear in parenthesis; VH = Valuing Happiness; REA = Reappraisal; SUP = Suppression; INT = Emotional Intrusion subscale (STERQ-P); AVO = Emotional Avoidance subscale (STERQ-P); EXP = Emotional Expression subscale (STERQ-P); eACS = emotion Attention Control Scale; ANT = Anticipating subscale (SBI); SAV = Savoring the Moment subscale (SBI); REM = Reminiscing subscale (SBI); BDI = Beck Depression Inventory; ASRM = Altman Self-Rating Mania Scale; *$p < .05$; **$p < .01$

Table 2 Standardized and unstandardized estimates and standard errors for all pathways, and bias-corrected bootstrap confidence intervals for the indirect effects

Path	Standardized estimates (β)	Unstandardized estimates (B)	*SE*	BC bootstrap, 95% CIs	*p*
Study 1					
Direct					
VH → BDI (without mediators)	.54	4.65	.87	[2.90, 6.37]	.001
VH → BDI (with mediators)	.26	2.30	.72	[.99, 3.81]	.001
Indirect					
A = VH → BDI (via SUP)	.05	.46	.17	[.18, .91]	.002
B = VH → BDI (via eACS)	.17	1.47	.44	[.77, 2.54]	.001
C = VH → BDI (via eACS and REA)	.03	.28	.12	[.09, .60]	.003
Total Indirect	.25	2.22	.50	[1.36, 3.39]	.001
Total (Direct + Indirect)	.52	4.53	.87	[2.72, 6.15]	.001
Study 2					
Direct					
VH → BDI (without mediators)	.38	4.37	.61	[3.43, 5.42]	.007
VH → BDI (with mediators)	.05	.61	.61	[− .31, 1. 69]	.308
Indirect					
A = VH → BDI (via eACS)	.08	.97	.33	[.45, 1. 51]	.015
B = VH → BDI (via INT)	.02	.33	.18	[.12, .83]	.013
C = VH → BDI (via eACS and INT)	.02	.25	.13	[.09, .59]	.018
D = VH → BDI (via SBI-L)	.12	1.36	.35	[.93, 2.20]	.003
E = VH → BDI (via eACS and SBI-L)	.07	.81	.20	[.57, 1.31]	.002
Total Indirect	.33	3.73	.56	[2.92, 4.83]	.005
Total (Direct + Indirect)	.38	4.35	.61	[3.44, 5.40]	.007

In Study 1, $N = 151$; in Study 2, $N = 299$; BC = Bias-Corrected Bootstrap; CIs = Confidence Intervals; VH = Valuing Happiness; REA = Reappraisal; SUP = Suppression; INT = Emotional Intrusion subscale (STERQ-P); eACS = emotion Attention Control Scale; BDI = Beck Depression Inventory; SBI-L = Latent variable for Savoring Beliefs Inventory (SBI)

2.1.3 Procedure

After filling out the informed consent, participants completed the questionnaires in the order shown above via an online anonymous survey administered using *Qualtrics* (2017) software (www.qualtrics.com).

2.1.4 Statistical Analysis

Descriptive statistics and correlations were computed using SPSS version 22 (IBM 2013), and Structural Equation Models were tested using AMOS (v. 24; Arbuckle 2016). Maximum likelihood was used to estimate model fit, with estimates for indirect effects specified using Visual Basic (Amos, v. 24; Arbuckle 2016). The significance of direct and indirect paths (Preacher and Hayes 2008) were assessed using unstandardized estimates (standardized estimates also presented in Table 2) and bootstrap resampling procedures with 5000

samples (95% bias-corrected bootstrap confidence interval [CI]) (Amos, v. 24; Arbuckle 2016)).[3]

2.1.5 Structural Equation Modeling

We established an initial structural equation model which contained all paths from valuing happiness to eACS and the subscales of ERQ and STERQ and from them to depression (based on the recommendations of recent studies such as Ford et al. 2014, 2015a, b). Due to the poor model fit, pathways were modified based on theoretically driven associations and model modification indices.

2.2 Results

Valuing happiness was significantly positively correlated with depressive symptoms. Table 1 presents descriptive statistics and details of associations between valuing happiness, emotion regulation, and depression for both studies 1 and 2. Below we report direct and indirect pathways and comparisons of indirect paths between valuing happiness and depression (unstandardized estimates (B) reported in text, with both unstandardized (B) and standardized betas (β) provided in Table 2).

The structural model tested whether valuing happiness and depression were directly and indirectly associated through emotion regulation strategies. In the first step, the model showed poor fit indices ($\chi 2$ [15] = 176.43, $p = .001$, GFI = .80, RMSEA = .27), but in the next step after theoretically based modifications it indicated excellent fit ($\chi 2$ (4) = 5.44, $p = .24$, GFI = .99, RMSEA = .04). After removing the nonsignificant pathways, the final model (Fig. 1; Table 2) also had an excellent fit, $\chi 2$ (14) = 16.25, $p = .29$, GFI = .97, RMSEA = .03, with a significant direct relationship between valuing happiness and depression both with and without atemporal mediators (B = 2.30, 95% CI [.99, 3.81], $p = .001$ and B = 4.65, 95% CI [2.90, 6.37], $p = .001$ respectively). Emotion attention control (B = 1.47, 95% CI [.77, 2.54], $p = .001$) and suppression (B = .46, 95% CI [.18, .91], $p = .002$) both individually exerted partial mediation over the link between valuing happiness and depression. Increased valuing happiness was associated with greater endorsement of suppression and lower eACS. Both were subsequently associated with increased symptoms of depression. Finally, we found a double mediating effect in which valuing happiness was associated with low eACS which in turn was associated with reduced reappraisal. This was subsequently associated with increased depressive symptoms (B = .28, 95% CI [.09, .60], $p = .003$).

[3] Test of normality assumptions indicated that except for avoidance on STERQ-P and BDI in study 1 all the values of skewness and kurtosis in both studies were within the acceptable range of −1 to 1 (Tabachnick and Fidell 2013). In study 1, the values of skewness and kurtosis of avoidance and BDI were under the acceptable threshold (skewness < 2, kurtosis < 7; Byrne, 2010), respectively. However, Tabachnick and Fidell (2013) suggest that in large samples, the deviation of skewness and kurtosis from normality does not make a substantive difference in analysis, thus no transformations were conducted.

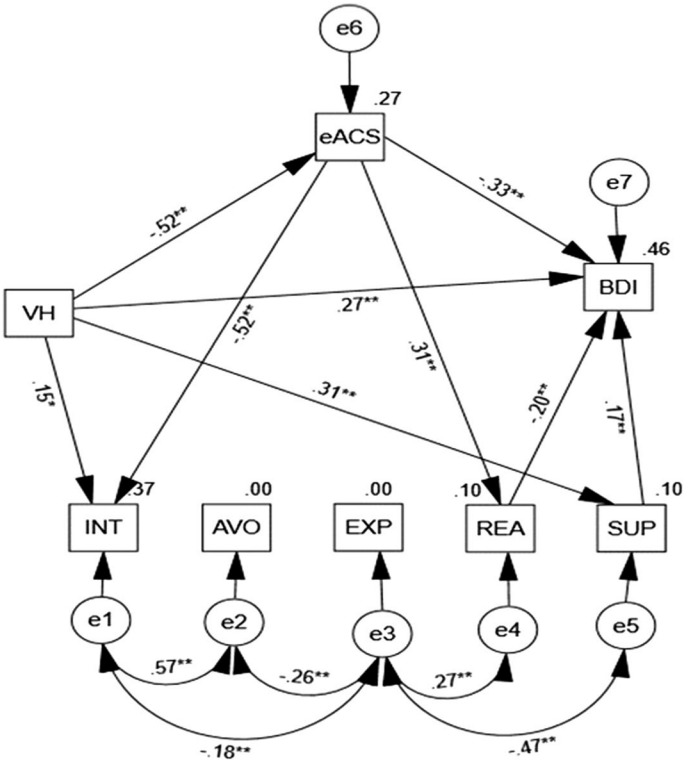

Fig. 1 Structural equation models of study one indicating standardized solutions. Only significant pathways are shown within the models. VH = Valuing Happiness; REA = Reappraisal; SUP = Suppression; INT = Emotional Intrusion subscale (STERQ-P); AVO = Emotional Avoidance subscale (STERQ-P); EXP = Emotional Expression subscale (STER-Q); eACS = emotion Attention Control Scale; BDI = Beck Depression Inventory; *$p < .05$; **$p < .01$

2.3 Conclusion

The present results replicate the association between excessive valuing of happiness and heightened levels of depression in a sample at a British university. Importantly, valuing happiness and depressive symptoms were associated through heightened use of a maladaptive emotion regulation strategy, suppression, and impaired attentional control. Further, there was a cross-sectional double mediation between attentional control and reappraisal: Valuing happiness was associated with poorer attentional control and less use of reappraisal which in turn was associated with increased depressive symptoms. This suggests that valuing happiness is associated with impaired attentional control in response to internal and external emotional events and with dysfunctional use of some of the investigated emotion regulation strategies and abilities.

3 Study 2

In study 2, we used a larger sample to attempt to replicate the findings from study 1. We also controlled for levels of hypomania to exclude the possibility that heightened levels of positive emotions (i.e. symptoms of mania) underlie the association between valuing happiness and depression. Additionally, we assessed participants' nationality to investigate whether effects differ between British participants and those from other countries who are currently residing in the UK.

Finally, we also examined participant's perceived ability to savor positive experiences in their daily lives. The adaptive experience and enjoyment of positive emotions in everyday life may be central to the association between valuing happiness and psychological well-being (Bryant 2003; Mauss et al. 2011). For example, people who report higher levels of savoring in response to positive life events experience more happiness, less depression (Gentzler et al. 2016), and greater life satisfaction (Quoidbach et al. 2010). Indeed, valuing happiness has previously been associated with increased endorsement of savoring in response to positive events (Gentzler et al. 2016), suggesting that valuing happiness should be associated with increased positivity. However, endorsement of strategies does not provide information regarding proficiency of use. Indeed, individuals who value happiness more highly have a lower perceived ability to regulate their negative emotions (Fergus and Bardeen 2016; Bardeen and Fergus 2019) but this remains untested for positive emotions. Further, those who excessively value happiness may set unrealistic standards for the frequency, duration, and intensity of their happiness (Ford and Mauss 2014). For instance, participants who were experimentally induced to value happiness more, enjoyed a positive movie sequence less than those in the control group (Mauss et al. 2011). Thus, these unrealistic happiness goals may result in a reduced perceived ability to savor in response to positive events, similar to the lower perceived ability to regulate negative emotions seen previously (Fergus and Bardeen 2016; Bardeen and Fergus 2019).

We therefore aimed to test whether individuals that value happiness to an extreme degree endorse being less proficient at savoring positive experiences, thus displaying decreased enjoyment of positive emotions in everyday life. To this end, we added an assessment of perceived savoring ability in response to positive life events.

3.1 Method

3.1.1 Participants

Two hundred ninety-nine UK-based undergraduate students (28 males; mean age = 19.56 years, $SD = 2.03$) participated in the study in exchange for course credit. Most participants were British, 73.2% ($N = 219$), and 7% ($N = 21$) indicated that they were of dual nationality. Of the remaining non-British participants, 51% were European (predominantly Eastern European, Irish, and German), 40% were from Asian countries (mainly Malaysia and Middle Eastern countries), 7% were African (predominantly Mauritanians), and 2% were Australian.

3.1.2 Measures

Measures were the same as in study 1, with two additional scales included. All showed good reliability (see Table 1).

The Savoring Beliefs Inventory (SBI; Bryant 2003) is a 24-item scale measuring beliefs about savoring ability. It comprises of three subscales: anticipation (e.g., I feel a joy of anticipation when I think about upcoming good things), savoring the moment (e.g., I know how to make the most of a good time) and reminiscence (e.g., I enjoy looking back on happy times from my past) on a 7-point scale ranging from 1 *(strongly disagree)* to 7 *(strongly agree).* Scores from each subscale are summed to give an overall total savoring ability.

Altman Self-Rating Mania Scale (ASRM; Altman et al. 1997) is a 5-item self-report measure that assesses symptoms of mania on a scale of 0 (e.g. *I do not feel more self-confident than usual*) to 4 *(e.g., I feel extremely self-confident all of the time).* Answers are summed to create a composite mania symptom score.

3.1.3 Procedure

After providing informed consent, participants completed questionnaires via online an anonymous survey administered using the University of Reading undergraduate recruitment system (SONA; https://rdg-psychology.sona-systems.com).

3.1.4 Statistical Analysis

Descriptive statistics and correlations were computed using SPSS version 22 (IBM 2013), and Structural Equation Models were tested using AMOS (v. 24; Arbuckle 2016). Maximum likelihood was used to estimate model fit, with estimates for indirect effects specified using Visual Basic (Amos, v. 24; Arbuckle 2016). The significance of direct and indirect paths between independent and dependent variables (Preacher and Hayes 2008) were assessed using unstandardized estimates (standardized estimates also were presented in Table 2) and bootstrap resampling procedures with 5000 samples (95% bias-corrected bootstrap confidence interval [CI]) (Amos, v. 24; Arbuckle 2016)) (see Footnote 2).

The role of nationality as a moderator in the relationship between valuing happiness and depression was tested using the PROCESS macro for SPSS (Hayes 2013; unstandardized estimates (B) reported in text, with both unstandardized estimates (B) and standardized estimates (β) provided in Table 2).

3.1.5 Structural Equation Modeling

In study two we replicated the final model of study one, adding in savoring beliefs, mania and nationality, in which the effects of mania and nationality were controlled. As in study one, step two included the removal of non-significant pathways. In this study, we added new pathways to SBI, avoidance and expression. In addition, new correlations between valuing happiness and measurement errors of anticipating and reminiscing were added to the model. Moreover, we added correlations between measurement errors of emotion regulation strategies and SBI, anticipating and avoidance, eACS and both reminiscing and anticipating to the model. Also, we added a correlation between measurement errors of SBI

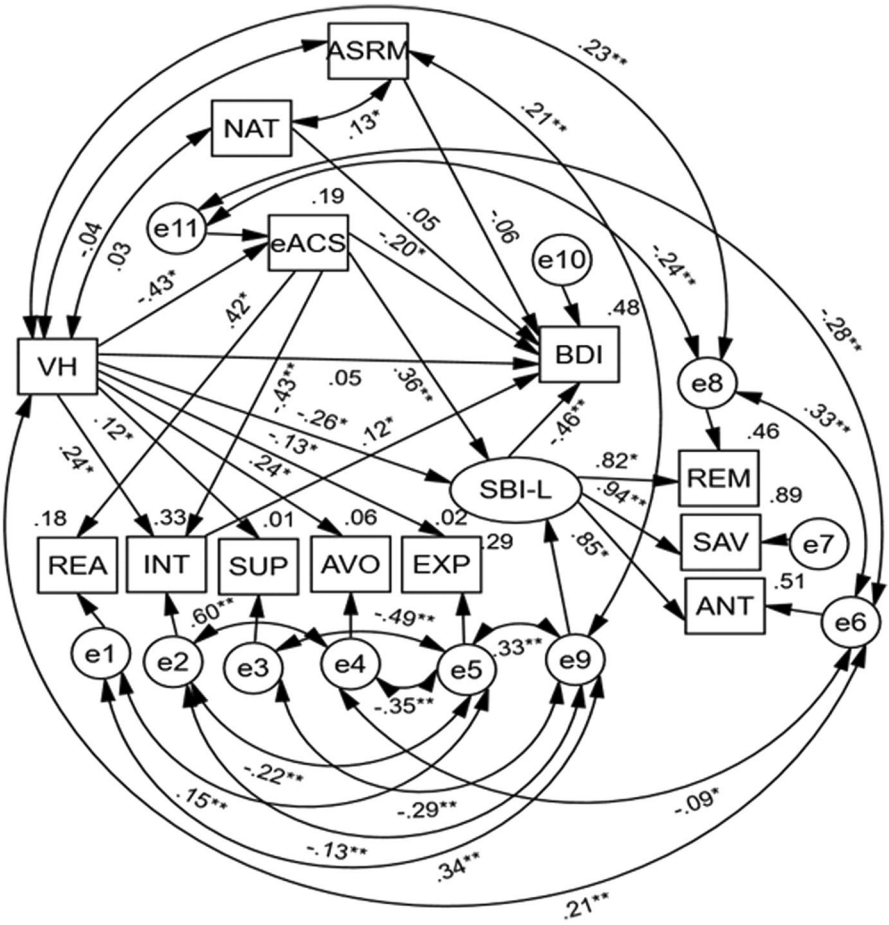

Fig. 2 Structural equation models of study two indicating standardized solutions. Except for the covariates of nationality and ASRM with VH, the direct paths from nationality and ASRM to BDI (used as control variables), and the direct path of VH to BDI, only significant pathways are shown within the models (the direct path of VH to BDI, was initially significant without addition of indirect paths). VH = Valuing Happiness; REA = Reappraisal; SUP = Suppression; INT = Emotional Intrusion subscale (STERQ-P); AVO = Emotional Avoidance subscale (STERQ-P); EXP = Emotional Expression subscale (STER-Q); eACS = emotion Attention Control Scale; BDI = Beck Depression Inventory; SBI-L = Latent variable for Savoring Beliefs Inventory (SBI); ANT = Anticipating subscale (SBI); SAV = Savoring the Moment subscale (SBI); REM = Reminiscing subscale (SBI); NAT = Nationality; ASRM = Altman Self-Rating Mania Scale; *$p < .05$; **$p < .01$

and mania. It should be mentioned that these modifications were based on the associations recommended in previous studies (Bryant 2003; Ford et al. 2015a, b) and modification fit indexes.

3.2 Results

Valuing happiness was significantly positively correlated with depressive but not mania symptoms. The structural model tested the same pathways as study 1, with savoring beliefs

Table 3 Interaction of valuing happiness and nationality predicting depression

Parameter	Standardized estimates (β)	Unstandardized estimates (B)	*SE*	*t*	*p*	95% CI (unstandardized)
Predictors of depression						
VH	.36	4.08	.59	6.85	.001	[2.91, 5.25]
NAT	.06	.68	.89	. 76	.44	[− 1.08, 2.45]
VH x NAT	− .21	− 2.46	1.08	− 2.27	.023	[− 4.59, − .33]
ASRM	− .05	− .62	.16	− 3.69	.001	[− .95, − .29]
Conditional effects of valuing happiness on depression between nationalities						
British	.43	4.91	.65	7.46	.001	[3.62, 6.21]
Non-British	.36	4.08	.59	6.85	.001	[2.91, 5.25]
Dual-nationality	.22	2.59	.93	2.76	.006	[.74, 4.44]

N = 299; Regression analysis included mania as a covariate. VH = Valuing Happiness; NAT = Nationality; ASRM = Altman Self-Rating Mania Scale; 95% CI = Confidence Intervals

as additional mediator and nationality and mania as control variables. The model demonstrated a good fit, $\chi 2$ (41) = 53.12, $p = .09$, GFI = .97, RMSEA = .03 (Fig. 2; Table 2). The direct relationship between valuing happiness and depression was initially significant (B = 4.37, 95% CI [3.43, 5.42], $p = .007$; see also Table 2), but became insignificant with the addition of mediators (B = .61, 95% CI [− .31, 1. 69], $p = .308$). Analysis of indirect pathways indicated that eACS (B = .97, 95% CI [.45, 1. 51], $p = .015$), intrusion (B = .33, 95% CI [.12, 83], $p = .013$), and savoring beliefs (B = 1.36, 95% CI [.93, 2.20], $p = .003$), all individually mediated the effects of valuing happiness on depression.

In addition, the study demonstrated a double mediation effect of eACS and intrusion on the relationship between valuing happiness and depression (B = .25, 95% CI [.09, 59], $p = .018$), in which valuing happiness was associated with low levels of eACS and increased emotional intrusion, which was associated with heightened depression. We similarly found a double mediation effect of eACS and savoring beliefs on the association between valuing happiness and depression (B = .81, 95% CI [.57, 1.31], $p = .002$), in which valuing happiness was associated with low levels of eACS and reduced perceived savoring ability, which was associated with increased depression.

The control variables mania (B = − .188, 95% CI [− .47, .06], $p = .211$) and nationality (B = 90, 95% CI [− .74, 2.45], $p = .342$) did not have significant effects on depression. In addition, the covariations between mania and valuing happiness (B = − .11, 95% CI [− .38, .12], $p = .329$) and nationality and valuing happiness (B = .01, 95% CI [− .02, .06], $p = .482$) were not significant.

3.2.1 Effects of Nationality on the Relationship Between Valuing Happiness and Depression

As shown in Table 3 and Fig. 3, nationality significantly moderated the relationship between valuing happiness and depression (F (1, 294) = 5.16, $p < .05$, $\Delta R^2 = .014$). Specifically, the relationship between valuing happiness and depression was more pronounced positive for British participants (B = 4.91, 95% CI [3.62, 6.21], $p = 0.001$), compared to non-British (B = 4.08, 95% CI [2.91, 5.25], $p = 0.001$) and dual-nationality participants (B = 2.59, 95% CI [.74, 4.44], $p = 0.006$).

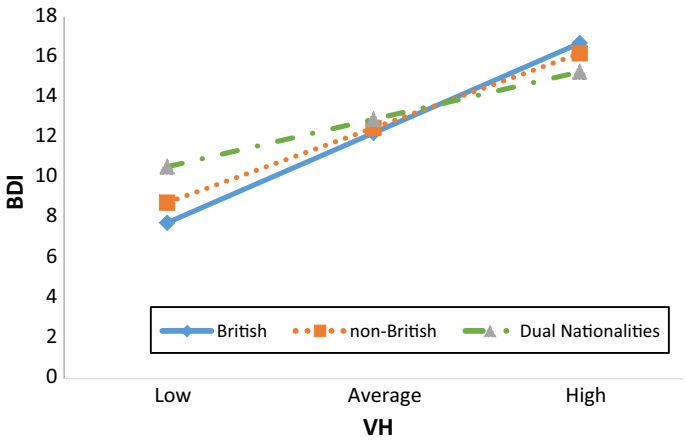

Fig. 3 Depression as a function of participants' nationality (British, non-British and dual nationality) and valuing happiness (low, medium and high). Values depict estimates at ± 1 SD for levels of valuing happiness

4 General Discussion

Our results revealed significant associations between valuing happiness and depressive symptoms in two studies conducted at a university in the UK. These are the first studies to replicate such relationships in a Western country outside of the USA. Further analyses found strongest associations between valuing happiness and depressive symptoms in British, rather than non-British participants or those of dual nationality. This supports the assumption that associations between valuing happiness and low well-being are culturally bound (Ford et al. 2015a; Tsai 2007). One reason for this may be the increased value placed on *high-arousal* positive emotions in Western cultures (Gruber et al. 2011). The discrepancies between ideal and actual levels of high-arousal positive emotions may lead to more negative psychological outcomes such as depression, which is not replicated in Eastern cultures (Gruber et al. 2011). Additionally, people in Western cultures are more motivated to define happiness in terms of personal achievements and outcomes, creating an individual, rather than social focus (Gruber et al. 2011). Consequently, this reduced social connection may lead to lower well-being and more negative psychosocial outcomes such as loneliness in Western countries (Mauss et al. 2012). In contrast, in cultures that promote socially engaged definitions of happiness (e.g. "helping others" and "spending time with friends and family") valuing happiness is associated with increased well-being (Ford et al. 2015a). For example, in Russia or East Asia valuing happiness was positively associated with wellbeing while it was not associated with wellbeing in a German sample (Ford et al. 2015a). Future work could explore this assumption further through experimentally manipulating valuing of happiness in response to a range of different positive emotions and emotion-inducing stimuli.

In study 1, the association between valuing happiness and depressive symptoms was partially and atemporally mediated by lower emotional attentional control and maladaptive use of emotion regulation strategies such as the heightened use of suppression and lowered use of reappraisal as measured by the ERQ. After testing a much larger sample and including an additional measure of savoring responses to positive situations we found a full, atemporal mediation of this association in study 2. Specifically, we found

that increased endorsement of valuing happiness was associated with lower attentional control (eACS) in response to external and internal emotional events. Further, we also found that the association between valuing happiness and depression was fully mediated through two double mediations: eACS and increased emotional intrusion of positive emotions; and eACS and reduced perceived savoring ability. Unlike study one, there was not a significant indirect association between valuing happiness and depression via suppression and reappraisal in the second study. Further supplementary investigation of correlations between the emotion regulation measures indicated that perceived savoring ability was strongly correlated with reappraisal and suppression (Table S1). Hence it is likely that these non-significant findings are due to the substantial shared variance between these measures.

Importantly, the results from both studies highlight a strong role for impaired eACS in the relationship between valuing happiness and depressive symptoms. Emotional attentional control refers to the ability to direct and focus attention in the presence of emotions (Barry et al. 2013). Impaired eACS reflects distraction by both internal emotional events and external emotional stimuli. The result suggests that people who excessively value happiness might monitor both positive and negative emotional events to a maladaptive degree. This will most likely impair achievement of focal tasks and goals or will induce negative affective states when hypervigilance to negative content occurs (Lenaert et al. 2016; Van Bockstaele et al. 2014). We hope that future research will extend this finding by using tasks that measure actual attention allocation to emotional events as part of a valuing happiness manipulation.

Interestingly, the findings from both studies suggest that this type of executive control is not only impaired when valuing happiness to an extreme degree but might also be required for the successful implementation of other emotion regulation abilities and strategies (cf. Ochsner and Gross 2005; Rothbart et al. 2014). However, it is also possible that poor eACS may be the result of ineffective emotion regulation. For instance, previous research suggests that individuals who valued happiness more, also reported increased endorsement of all emotion regulation strategies (regardless of effectiveness; Gentzler et al. 2016). Excessively valuing happiness may result in selection of inappropriate emotion regulation strategies, or inadequate implementation of appropriate emotion regulation, resulting in emotions becoming overwhelming (cf. Bardeen and Fergus 2016; Bardeen and Fergus 2019). In such instances, the ability to control attention in the face of these emotions may become compromised. If such emotions are negative, an inability to direct attention away from precipitating factors, or towards positive events may subsequently be associated with increased depressive symptoms.

Further, the results highlight the importance of people's perceived ability to enjoy positive emotions or situations. Despite previous evidence suggesting valuing happiness is associated with increased use of savoring (Gentzler et al. 2016), our findings show that perceived savoring ability is reduced when valuing of happiness is high. As with attentional control, mechanisms underlying such effects require further investigation. Potentially, a perceived inability to regulate positive emotions leads individuals to adopt a 'kitchen sink' approach, in which they try an abundance of regulation strategies in the hope that something will be beneficial (cf. Gentzler et al. 2016) without being successful or perceiving to be successful at any of these strategies. Conversely, increased valuing of happiness may be associated with unrealistic expectations for positive emotions (Ford and Mauss 2014), thus inability to attain these unrealistic standards may result in a lower perceived ability to savor. This mechanism also has empirical support from experimental research in which induced valuing of happiness impaired reactions to positive situations (Mauss et al. 2011).

Our models also support the presence of a double, atemporal mediation of eACS and emotional intrusion in the relationship between valuing happiness and depressive symptoms. Both constructs measure the extent to which emotions interfere with other aspects of an individual's functioning, making their co-occurrence within the model unsurprising. However, the emotional attentional control questionnaire (Barry et al. 2013) focuses predominantly on negative emotions, and has no items directly addressing positive emotional events. Conversely, the intrusion subscale within the STERQ-P focuses exclusively on positive emotions (Bower et al. 2015). Taken together, these suggest that valuing happiness may result in greater emotional interference in the functioning of other domains (including attention), regardless of the valence of the emotional stimuli.

5 Limitations

There are several limitations to our research that future studies should address. First, our samples were limited to mostly female undergraduate students which restricts the generalization of the findings. However, previous studies did not find gender effects associated with valuing happiness (Mauss et al. 2011). Second, our research was cross-sectional, preventing robust causal inferences. For example, as explained above, it is possible that compromised eACS could also be the result of maladaptive emotion regulation resulting in emotions becoming overwhelming. Similarly, the association between valuing happiness and depression may be bidirectional, as depressed individuals who experience low levels of happiness may place higher importance on becoming happier again. Therefore, further longitudinal and multi-method experimental work is needed to understand the mechanisms underlying these associations (cf. Cole and Maxwell 2003; Maxwell and Cole 2007). It is, however, important to notice that our results were consistent across two studies, and in line with previous findings.

6 Conclusion

In sum, the present research suggests that valuing happiness and depressive symptoms were associated indirectly through impaired emotional attentional control and maladaptive emotion regulation strategies (e.g., reduced ability to savor positive experiences and high levels of intrusion of positive emotions) in two studies conducted in the UK. We hope that future research will further investigate how emotion-related values and goals impact cognitive and regulatory processes in response to emotional events. Ultimately, this line of work may help to improve the prevention and treatment of affective disorders such as depression.

Open Access This article is distributed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made.

References

Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review, 30,* 217–237.

Altman, E. G., Hedeker, D., Peterson, J. L., & Davis, J. M. (1997). The Altman Self-Rating Mania Scale. *Biological Psychiatry, 42,* 948–955.

Arbuckle, J. L. (2016). *AMOS 24 user's guide*. Crawfordville, FL: Amos Development Corporation.

Bardeen, J. R., & Daniel, T. A. (2017). An eye-tracking examination of emotion regulation difficulties, cognitive reappraisal, and expressive suppression as predictors of attentional bias and pupillary reactivity to threat stimuli. *Cognitive Therapy & Research, 41,* 853–866.

Bardeen, J. R., & Fergus, T. A. (2019). Emotion regulation self-efficacy mediates the relation between happiness emotion goals and depressive symptoms: A cross-lagged panel design. *Emotion*. https://doi.org/10.1037/emo0000592

Bardeen, J. R., & Fergus, T. A. (2016). The interactive effect of cognitive fusion and experiential avoidance on anxiety, depression, stress and posttraumatic stress symptoms. *Journal of Contextual Behavioral Science*, *5*, 1–6. https://doi.org/10.1016/j.jcbs.2016.02.002.

Barry, T. J., Hermans, D., Lenaert, B., Debeer, E., & Griffith, J. W. (2013). The eACS: Attentional control in the presence of emotion. *Personality and Individual Differences, 55,* 777–782.

Bastian, B., Kuppens, P., De Roover, K., & Diener, E. (2014). Is valuing positive emotion associated with life satisfaction? *Emotion, 14,* 639–645.

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for the Beck Depression Inventory-II*. San Antonio: Psychological Corporation.

Blalock, J. A., & Joiner, T. E. (2000). Interaction of cognitive avoidance coping and stress in predicting depression/anxiety. *Cognitive Therapy and Research, 24,* 47–65.

Bower, J., Christakou, A. & Steel, C. (2015). Development of the State Trait Emotion Regulation Questionnaire (STERQ). In *British Association for Behavioural and Cognitive Psychotherapies (2015). 43rd annual conference Warwick abstract book*, University of Warwick.

Bryant, F. B. (2003). Savoring Beliefs Inventory (SBI): A scale for measuring beliefs about savouring. *Journal of Mental Health, 12,* 175–196.

Byrne, B. M. (2010). *Structural equation modeling with AMOS* (2nd ed.). New York: Routledge.

Catalino, L. I., Algoe, S. B., & Fredrickson, B. L. (2014). Prioritizing positivity: An effective approach to pursuing happiness? *Emotion, 14,* 1155–1161.

Cole, D. A., & Maxwell, S. E. (2003). Testing mediational models with longitudinal data: Questions and tips in the use of structural equation modeling. *Journal of Abnormal Psychology, 112,* 558–577.

Cribb, G., Moulds, M. L., & Carter, S. (2006). Rumination and experiential avoidance in depression. *Behaviour Change, 23,* 165–176.

Custers, R., & Aarts, H. (2010). The unconscious will: How the pursuit of goals operates outside of conscious awareness. *Science, 329,* 47–50.

Duckworth, A. L., Steen, T. A., & Seligman, M. E. P. (2005). Positive psychology in clinical practice. *Annual Review of Clinical Psychology, 1,* 629–651.

Fergus, T. A., & Bardeen, J. R. (2016). Negative mood regulation expectancies moderate the association between happiness emotion goals and depressive symptoms. *Personality and Individual Differences, 100,* 23–27.

Ford, B. Q., Dmitrieva, J. O., Heller, D., Chentsova-Dutton, Y., Grossmann, I., Tamir, M., et al. (2015a). Culture shapes whether the pursuit of happiness predicts higher or lower well-being. *Journal of Experimental Psychology: General, 144,* 1053–1062.

Ford, B. Q., & Mauss, I. B. (2014). The paradoxical effects of pursuing positive emotion: When and why wanting to feel happy backfires. In J. Gruber & J. T. Moskowitz (Eds.), *Positive emotion: Integrating the light sides and dark sides* (pp. 363–381). Oxford, UK: Oxford University Press.

Ford, B. Q., Mauss, I. B., & Gruber, J. (2015b). Valuing happiness is associated with bipolar disorder. *Emotion, 15,* 211–222.

Ford, B. Q., Shallcross, A. J., Mauss, I. B., Floerke, V. A., & Gruber, J. (2014). If you seek it, it won't come: Valuing happiness is associated with symptoms and diagnosis of depression. *Journal of Social and Clinical Psychology, 93,* 891–906.

Gentzler, A. L., Palmer, C. A., & Ramsey, M. A. (2016). Savoring with intent: Investigating types of and motives for responses to positive events. *Journal of Happiness Studies, 17,* 937–958.

Gross, J. J. (1998). Antecedent-and response-focused emotion regulation: Divergent consequences for experience, expression, and physiology. *Journal of Personality and Social Psychology, 74,* 224–237.

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85,* 348–362.

Gruber, J., Mauss, I. B., & Tamir, M. (2011). A dark side of happiness? How, when, and why happiness is not always good. *Perspectives on Psychological Science, 6,* 222–233.
Hayes, A. F. (2013). *An introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: Guilford Press.
IBM Corp. (2013). *IBM SPSS statistics for windows (version 22) [computer software]*. Armonk, NY: IBM Corp.
Koole, S. L. (2009). The psychology of emotion regulation: An integrative review. *Cognition and Emotion, 23,* 4–41.
Lenaert, B., Barry, T. J., Schruers, K., Vervliet, B., & Hermans, D. (2016). Emotional attentional control predicts changes in diurnal cortisol secretion following exposure to a prolonged psychosocial stressor. *Psychoneuroendocrinology, 63,* 291–295.
Luhmann, M., Necka, E. A., Schönbrodt, F. D., & Hawkley, L. C. (2016). Is valuing happiness associated with lower well-being? A factor-level analysis using the Valuing Happiness Scale. *Journal of Research in Personality, 60,* 46–50.
Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin, 131,* 803–855.
Mauss, I. B., Savino, N. S., Anderson, C. L., Weisbuch, M., Tamir, M., & Laudenslager, M. L. (2012). The pursuit of happiness can be lonely. *Emotion, 12,* 908–912.
Mauss, I. B., Tamir, M., Anderson, C. L., & Savino, N. S. (2011). Can seeking happiness make people unhappy? Paradoxical effects of valuing happiness. *Emotion, 11,* 807–815.
Maxwell, S. E., & Cole, D. A. (2007). Bias in cross-sectional analyses of longitudinal mediation. *Psychological Methods, 12,* 23–44.
McGuirk, L., Kuppens, P., Kingston, R., & Bastian, B. (2018). Does a culture of happiness increase rumination over failure? *Emotion, 18,* 755–764.
Milyavsky, M., Webber, D., Fernandez, J. R., Kruglanski, A. W., Goldenberg, A., Suri, G., & Gross, J. J. (2019). To reappraise or not to reappraise? Emotion regulation choice and cognitive energetics. *Emotion*, *19*, 964-981.
Ochsner, K. N., & Gross, J. J. (2005). The cognitive control of emotion. *Trends in Cognitive Sciences, 9,* 242–249. https://doi.org/10.1016/j.tics.2005.03.010.
Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40,* 879–891.
Qualtrics. (2017). *Survey research suite: Research core*™. Provo, Utah, USA. http://www.qualtrics.com. Accessed 10 Feb 2017.
Quoidbach, J., Berry, E. V., Hansenne, M., & Mikolajczak, M. (2010). Positive emotion regulation and well-being: Comparing the impact of eight savoring and dampening strategies. *Personality and Individual Differences, 49,* 368–373.
Renneberg, B., Heyn, K., Gebhard, R., & Bachmann, S. (2005). Facial expression of emotions in borderline personality disorder and depression. *Journal of Behavior Therapy and Experimental Psychiatry, 36,* 183–196.
Rothbart, M. K., Sheese, B. E., & Posner, M. I. (2014). Temperament and emotion regulation. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 305–320). New York: Guilford Press.
Rusting, C. L., & Larsen, R. J. (1995). Moods as sources of stimulation: Relationships between personality and desired mood states. *Personality and Individual Differences, 18,* 321–329.
Seligman, M. P., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress. *American Psychologist, 60,* 410–421.
Sheppes, G. (2014). Emotion regulation choice: Theory and findings. In J. J. Gross (Ed.), *Handbook of emotion regulation* (2nd ed., pp. 126–139). New York: Guilford Press.
Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Boston, MA: Pearson.
Tamir, M., & Ford, B. Q. (2012). When feeling bad is expected to be good: Emotion regulation and outcome expectancies in social conflicts. *Emotion, 12,* 807–816.
Tsai, J. L. (2007). Ideal affect: Cultural causes and behavioural consequences. *Perspectives on Psychological Science, 2,* 242–259.
van Bockstaele, B., Verschuere, B., Tibboel, H., de Houwer, J., Crombez, G., & Koster, E. H. W. (2014). A review of current evidence for the causal impact of attentional bias on fear and anxiety. *Psychological Bulletin, 140,* 682–721.
Vogt, J., & De Houwer, J. (2014). Emotion regulation meets emotional attention: The influence of emotion suppression on emotional attention depends on the nature of the distracters. *Emotion, 14,* 840–845.
Vogt, J., Koster, E., & De Houwer, J. (2017). Safety first: Instrumentality for reaching safety determines attention allocation under threat. *Emotion, 17,* 528–537.

Wadlinger, H. A., & Isaacowitz, D. M. (2011). Fixing our focus: Training attention to regulate emotion. *Personality and Social Psychology Review, 15,* 75–102.

Winer, E. S., Cervone, D., Bryant, J., McKinney, C., Liu, R. T., & Nadorff, M. R. (2016). Distinguishing mediational models and analyses in clinical psychology: Atemporal associations do not imply causation. *Journal of Clinical Psychology, 72,* 947–955.

Xing, C., & Isaacowitz, D. M. (2006). Aiming at happiness: How motivation affects attention to and memory for emotional images. *Motivation and Emotion, 30,* 249–256.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Affiliations

Bahram Mahmoodi Kahriz[1] · Joanne L. Bower[2] · Francesca M. G. Q. Glover[3] · Julia Vogt[3]

Joanne L. Bower
joanne.bower@dmu.ac.uk

Francesca M. G. Q. Glover
f.glover@reading.ac.uk

Julia Vogt
j.vogt@reading.ac.uk

[1] Henley Business School, University of Reading, Whiteknights, Reading RG6 6UD, UK

[2] School of Applied Social Sciences, De Montfort University, Hawthorn Building, The Newarke, Leicester LE2 7BY, UK

[3] School of Psychology and Clinical Language Sciences, Earley Gate, University of Reading, Whiteknights, Reading RG6 6AL, UK