Changes in disengagement coping mediate changes in affect following mindfulness-based cognitive therapy in a non-clinical sample

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Past research has shown that mindfulness-based interventions increase positive affect in non-clinical populations. However, the mechanisms underlying this increase are poorly understood. On the basis of previous empirical and theoretical accounts, we hypothesized that a decreased use of disengagement coping strategies in daily life would explain the benefits of a mindfulness-based intervention in terms of increased positive affect. We analysed the data of 75 healthy adult participants (58 women; 17 men) of different ages (M = 49 years old; SD = 13; age range 19–81) who had been randomly allocated to 8-week Mindfulness-Based Cognitive Therapy (MBCT) or to a waitlist control group. The results confirmed our hypothesis: Participants in the MBCT group showed significant improvements in positive affect compared to the control group, with decreased use of disengagement coping styles mediating these improvements. The implications of this study are discussed.

Mindfulness-based interventions (MBIs) are psychological interventions that aim at restoring or enhancing emotional well-being through exercises of mindfulness meditation, in which the participants’ attention is directed towards the sensations, thoughts, and emotions arising in the present moment in a non-judgmental way (Coffey, Hartman, & Fredrickson, 2010). MBIs have shown an exponential growth during the last decades (Cullen, 2011). Research shows that these interventions significantly improve participants’ emotional well-being (i.e., increase positive affect and/or decrease negative affect) in clinical patients suffering from various psychiatric disorders (Cusens, Duggan, Thorne, & Burch, 2010; Evans et al., 2008; Goldin & Gross, 2010; Hofmann, Sawyer, Witt, & Oh, 2010; McManus, Surawy, Muse, Vasquez-Montes, & Williams, 2012). Similarly, research shows that MBIs increase positive affect in individuals who do not suffer from diagnosed psychiatric disorders – that is, in non-clinical population – but who want to increase their emotional well-being (Erbeth & Sedlmeier, 2012; Geschwind, Peeters, Drukker, VanOs, & Wichers, 2011; Jain et al., 2007; Schroevers & Brandsma, 2010; Williams & Penman, 2011). However, the reasons for this improvement are poorly understood. Past research suggests that change in coping style during an MBI – more specifically, a decrease in disengagement coping style – might explain why people who have followed an MBI show increased positive affect (Baer, Smith, & Allen, 2004; Berking, Neacsiu, Comtois, & Linehan, 2009; Chawla & Ostafin, 2007; Weinstein, Brown, & Ryan, 2009). Nevertheless,
previous studies suffer from several limitations and have produced conflicting results. This study aims to overcome some of these past limitations and to clarify the contribution of change in disengagement coping style to the link between MBIs and increased positive affect.

**MBIs and positive affect**

In their meta-analysis on the effects of different types of meditation (e.g., mindfulness-based stress reduction [MBSR], Vipassana, Zen) in non-clinical populations, Erbeth and Sedlmeier (2012) found that mindfulness meditation significantly increased the levels of positive affect in such populations. A study by Jain et al. (2007), for instance, found that non-clinical participants (104 health care and medical students) in a MBSR group showed larger increases in positive affect than participants in a relaxation group and participants in a waitlist control group. Also, Schroevers and Brandsma (2010) found that 64 individuals recruited in the general community who had followed an 8-week course of Mindfulness-Based Cognitive Therapy (MBCT) reported increased positive affect.

Whereas several studies have been conducted on the mediators of change in negative affect following MBIs (Baer, 2003; Brown & Ryan, 2003; Coffey et al., 2010; Crane & Williams, 2010; Jain et al., 2007; Shapiro, Carlson, Astin, & Freeman, 2006; Teasdale, Segal, & Williams, 1995; Van der Velden et al., 2015; Williams, 2010), far less research has been conducted on the mediators of change in positive affect. This study aims at filling this gap.

The role of modern psychology is not only to reduce negative affect, but also to enhance positive affect (Lopez, Teramoto Petrotti, & Snyder, 2015). Positive and negative affects are not two ends of a single continuum, but can be considered as two independent dimensions (Schroevers & Brandsma, 2010; Watson & Clark, 1997). Research shows that positive affect is no less important to study than negative affect: It is a strong predictor of meaning in life (King, Hicks, Krull, & DelGaiso, 2006) and plays a protective role against the development of mental disorders (Davis & Suveg, 2014; Etter, Gauthier, McDade-Montez, Cloitre, & Carlson, 2013; Morris, Bylsma, & Rottenberg, 2009).

In the following paragraphs, we will present preliminary evidence suggesting that reductions in disengagement coping styles partially mediate the effects of MBIs on positive affect (Baer et al., 2004; Berking et al., 2009; Chawla & Ostafin, 2007; Weinstein et al., 2009).

**Mindfulness and coping styles**

Although the typology of coping strategies is vast, recent factorial analysis has divided them into two main groups: Engagement (or ‘approach’) strategies vs. disengagement (or ‘avoidant’) strategies (Connor Smith & Flachsbart, 2007). Engagement strategies include responses that are oriented towards the stressor or one’s reactions to it, such as problem-solving, seeking for social support, or acceptance (i.e., coming to live with the stressor). Disengagement strategies, on the contrary, include responses that are oriented away from the stressor or one’s reactions to it, such as avoidance (i.e., trying to avoid facing the problem, or the thoughts or emotions related to it) or denial. By encouraging awareness of one’s experience in its entirety and acceptance of thoughts and affective states whatever their form may be (Segal, Williams, & Teasdale, 2012), mindfulness meditation prevents
disengagement from difficult experiences when they arise (Fletcher & Hayes, 2005; Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Sears & Kraus, 2009).

Correlational studies show that trait mindfulness shares a negative association with disengagement coping (experiential avoidance; Baer et al., 2004). Also, people with higher levels of trait mindfulness report a decreased use of disengagement coping strategies (experiential avoidance) in reaction to a laboratory stressor (e.g., mental arithmetic task in front of an experimenter) and in the face of daily stressors (e.g., school or job problems, romantic partner conflict, family difficulties; Weinstein et al., 2009). Four studies of Weinstein et al. (2009) using different and complementary methodologies (i.e., laboratory-based and field-based settings, retrospective questionnaires and experience sampling, real-life stressors and manipulated stressors) have all shown that healthy college students with higher levels of trait mindfulness reported less frequent use of disengagement coping strategies (e.g., denial, behavioural disengagement, mental disengagement) when facing stressful experiences (e.g., social evaluation stress, interpersonal conflicts, academic issues, job problems). Within the field of intervention research, one study (Berghmans, Godard, Joly, Tarquinio, & Cuny, 2012) suggests that MBSR reduces disengagement coping strategies such as blame or denial, but this study was conducted on a clinical sample (i.e., patients with diabetes). More research, using sound methodologies, is therefore needed to establish a causal relationship between attendance to a MBI (not only trait mindfulness) and a reduced use of disengagement coping style in non-clinical participants.

**Do changes in disengagement coping style explain changes in positive affect?**

Some authors have hypothesized that disengagement coping strategies have detrimental effects on positive affect (Barlow, Allen, & Choate, 2004; Philippot, 2011). One reason is that disengagement coping style does not allow for difficult experiences to be fully processed, which prevents the full restoration of mood and limits the individual’s subsequent ability to experience positive emotions (Barlow et al., 2004). Another reason is that disengagement coping strategies tend to generalize and to be applied by the individual indiscriminantly to stimuli of predominantly negative valence as well as to stimuli of mixed valence (Rossignol, Joassin, Fish, Philippot, & Maurage, 2012), which limits the possibility to experience positive affect (Philippot, 2011). Indeed, whereas avoiding a situation (or thought, or emotion) of predominantly negative valence does not result in (much of) a loss of positive valence, avoiding a situation (or thought, or emotion) of mixed valence does result in a loss of positive valence. To illustrate, individuals avoiding a social encounter that they would have experienced both as stressful and as pleasurable can end up missing the pleasurable aspects of the situation as well as the stressful ones, resulting in less positive emotions (as well as less negative emotions). (Remember that positive and negative emotions are independent dimensions of affective experiences; Schroevers & Brandsma, 2010.) By encouraging individuals to engage with emotional experiences whatever their valence is (Segal et al., 2012), mindfulness practice might help them take the ‘good’ with the ‘bad’ when facing emotional experience of mixed valence, resulting in increased positive affect.

Some preliminary research tends to support the hypothesis that a decreased use of disengagement coping strategies in daily life – related to trait mindfulness or to mindfulness practice – results in more positive affect. In the four studies reported by Weinstein et al. (2009), a decreased use of disengagement coping styles partially or fully mediated the link between trait mindfulness and reported levels of well-being,
operationalized as a composite measure of positive affect and life satisfaction or vitality. Moreover, in her published thesis, Weinrib (2012) looked at pre–post differences in affect and coping style in the context of an 8-week MBSR programme conducted with 106 adult participants, and also found that decreases in disengagement coping style (or ‘experiential avoidance’) completely mediated the relation between increased mindfulness and increased positive affect over the MBSR course. However, in a study conducted on 57 liberal arts students, Sears and Kraus (2009) could not replicate these results. When they looked at whether mindfulness interventions (a short one and a longer one) had an effect on positive affect, and whether changes in disengagement coping styles mediated this effect, they could not verify these hypotheses.

It appears therefore that past research has produced inconsistent results. Even if the majority of studies (Baer et al., 2004; Berking et al., 2009; Chawla & Ostafin, 2007; Weinstein et al., 2009) suggest that changes in coping style mediate changes in positive affect following MBIs, one study could not verify this hypothesis (Sears & Kraus, 2009). Moreover, past research suffers from several limitations with regard to the question at stake in this article. First, several studies (Baer et al., 2004; Weinstein et al., 2009) measured mindfulness as a trait, rather than examining the effects of an intervention designed to increase mindfulness. Second, the two studies that did use an intervention were limited by the absence of a control group (Weinrib, 2012) or randomization (Sears & Kraus, 2009), which limits conclusions regarding causality. In one case (Sears & Kraus, 2009), the exact nature and duration of the intervention was not specified, which makes replication impossible. Finally, in these studies (Sears & Kraus, 2009; Weinstein et al., 2009), the population in question was comprised of students, which again limits the generalizability of the results.

The present study
In this study, we tried to overcome past limitations and examined whether decreases in disengagement coping style mediate increases in positive affect following an 8-week mindfulness course. We conducted a study in which participants were randomized to either a full 8-week mindfulness course or a waitlist control group; we used a manualized and standardized MBI (i.e., MBCT); and we tested a sample of 75 healthy adults of different ages (not only young participants).

Our hypotheses were the following: (1) healthy (i.e., non-clinical) individuals who have attended an MBCT programme will show increased positive affect from the beginning to the end of the programme compared with a waitlist control group; (2) healthy individuals who have attended an MBCT programme will report decreased use of disengagement coping strategies in daily life from the beginning to the end of the programme, compared with the waitlist control group; and (3) change in disengagement coping style will mediate the link between the group (MBCT vs. control) and change in positive affect.

Method
Participants
We contacted all individuals (N = 177) who had registered to take part in an 8-week MBCT course at the Oxford Mindfulness Centre, United Kingdom, between September 2013 and August 2014. Eighty-nine individuals expressed interest (50% of the contacted sample),
and 87 were randomly allocated to the conditions. Detailed flow of participants during the study is presented in Figure 1.

The data of 75 adult participants (58 women; 17 men) of different ages ($M = 49$ years old; $SD = 13$; age range 19–81) were analysed. Thirty-six of the participants had been randomly allocated to the MBCT course (treatment group) and 39 of them to the waitlist control group. Participants in the MBCT group attended on average 7.5 ($SD = 1.72$) group sessions and did on average 148 min ($SD = 115$) of formal meditation practice at home per week. The majority of participants in the MBCT group and in the control group had a university education (undergraduate or postgraduate degree: 83%). Detailed participants’ characteristics for both groups are presented in Table 1. Participants had paid £300 for taking part in the 8-week MBCT course and received £15 in exchange for their time completing the questionnaires of the study.

Participants were asked to answer a screening questionnaire before the course in order to assess whether the course was suited for them with regard to the following criteria. Inclusion criteria were being older than 18 and speaking English fluently. Exclusion criteria were a diagnosed psychiatric illness (e.g., depressive disorder, anxiety disorder, psychotic disorder, substance-related disorder), having a major physical impediment (e.g., mobility restriction), experiencing currently a major life stress (e.g., bereavement, loss of home or job), or having started a psychiatric medication treatment (antidepressants, tranquilizers, and mood stabilizers) <3 months before the beginning of the study.

**Figure 1.** Participant’s flow.
Mindfulness-based intervention
The intervention was the manualized MBCT 8-week programme (Segal et al., 2012), applied to a non-clinical population. MBCT consists of weekly group sessions as well as of individual practice at home. Each group session lasts 2 hr and consists of guided meditations, enquiry, and exercises based on psycho-educational and cognitive behavioural principles. In addition to the group sessions, participants are asked to practise 45 min of formal mindfulness meditation and 15 min of informal meditation at home, 6 days a week during the 8 weeks of the programme. The 39 participants in the intervention group were divided into two different classes, each taught by two mindfulness teachers meeting UK good practice guidelines (for four mindfulness teachers for the entire study).

Waitlist controls
The MBCT programme planned for the participants in the waitlist control group was the same as the one of the intervention group. Like participants in the intervention group, participants in the waitlist were later to be divided into classes, each taught by two different mindfulness teachers meeting UK good practice guidelines. Every time a class in the treatment group received questionnaires to fill in (e.g., regarding their mood or coping style), a class on a waiting list received the same questionnaires simultaneously.

Table 1. Baseline characteristics of participants in the treatment group and in the control group

<table>
<thead>
<tr>
<th>Variable</th>
<th>MBCT</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender, women: n (%)</td>
<td>23 (63.9)</td>
<td>35 (89.7)</td>
</tr>
<tr>
<td>Age (in years): M (SD)</td>
<td>48.5 (12.8)</td>
<td>49.1 (13.3)</td>
</tr>
<tr>
<td>Level of education (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No examinations taken</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>GCSEs/GNVQs or equivalent</td>
<td>0.0</td>
<td>7.7</td>
</tr>
<tr>
<td>A-levels/O-levels</td>
<td>2.8</td>
<td>5.1</td>
</tr>
<tr>
<td>Undergraduate degree (e.g., BSc, BA)</td>
<td>44.4</td>
<td>33.3</td>
</tr>
<tr>
<td>Postgraduate degree (e.g., MSc, PhD)</td>
<td>41.7</td>
<td>46.2</td>
</tr>
<tr>
<td>Missing information</td>
<td>11.1</td>
<td>7.7</td>
</tr>
<tr>
<td>Baseline positive affect (PANAS-X): M (SD)</td>
<td>2.9 (0.6)</td>
<td>2.9 (0.8)</td>
</tr>
<tr>
<td>Baseline negative affect (PANAS-X): M (SD)</td>
<td>1.8 (0.6)</td>
<td>1.9 (0.6)</td>
</tr>
<tr>
<td>Baseline disengagement coping (CSI-S): M (SD)</td>
<td>2.7 (0.4)</td>
<td>2.8 (0.4)</td>
</tr>
<tr>
<td>Psychotropic medication (%)</td>
<td>5.6</td>
<td>17.9</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>2.8</td>
<td>16.1</td>
</tr>
<tr>
<td>Tranquillizers</td>
<td>0.0</td>
<td>3.1</td>
</tr>
<tr>
<td>Mood stabilizers</td>
<td>5.6</td>
<td>3.1</td>
</tr>
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<td>Previous experience with meditation (%)</td>
<td>55.6</td>
<td>43.6</td>
</tr>
<tr>
<td>Mindfulness</td>
<td>30.6</td>
<td>23.1</td>
</tr>
<tr>
<td>Buddhist</td>
<td>16.7</td>
<td>10.3</td>
</tr>
<tr>
<td>Other</td>
<td>8.3</td>
<td>10.2</td>
</tr>
<tr>
<td>Baseline mindfulness score (FFMQ)</td>
<td>3.3 (0.41)</td>
<td>3.2 (0.5)</td>
</tr>
</tbody>
</table>

Note. MBCT = mindfulness-based cognitive therapy; PANAS-X = Positive and Negative Affect Schedule, Expanded Form; CSI-S = Coping Strategy Inventory – Short Form; FFMQ = Five Facet Mindfulness Questionnaire.
**Coping style**

We selected the 16 items that relate to disengagement coping from the Coping Strategy Inventory – Short Form (Tobin, Holroyd, Reynolds, & Wigal, 1989), a widely used measure of coping styles (Skinner, Edge, Altman, & Sherwood, 2003). The CSI-S assesses four types of disengagement coping strategies, namely problem avoidance (4 items), wishful thinking (4 items), self-criticism (4 items), and social withdrawal (4 items). The items consist of sentences reflecting disengagement coping style. The participant had to indicate how often each sentence applied to them (1 = *never*, 5 = *very often*). Mean was 2.84 (SD = 0.47) and Cronbach’s alpha was .78.

At baseline, participants were asked about their usual way of coping with emotionally difficult situations in daily life, filling in the disengagement items of the CSI-S. At the end of the 8-week period, they were asked about their coping style during the last month (past 4 weeks), filling in the same items. Change in disengagement coping style from the beginning to the end of the 8-week period was computed by subtracting baseline disengagement coping style from disengagement coping style at the end of the 8-week period.

**Change in affect**

Change in participants’ positive and negative affect was measured with the corresponding subscales of the Positive and Negative Affect Schedule – Expanded Form (PANAS-X) (Watson & Clark, 1994), a widely used measure for affect (Gray & Watson, 2007). The validity and reliability of the PANAS-X scale has been amply demonstrated (Bagossi, 1993; Watson & Clark, 1994, 1997). At baseline and at week 8, participants indicated how well 60 adjectives described their level of positive and negative affect during the preceding 2 weeks, using a 5-point Likert scale (1 = *very slightly or not at all*, 5 = *extremely*).

Three subscales were used to compute positive affect: Joviality (sample items: happy, joyful, and cheerful), Self-Assurance (sample items: proud, strong, and confident), and Attentiveness (sample items: alert, attentive, and concentrating). Change in positive affect from the beginning to the end of the 8-week period was computed by subtracting baseline positive affect from positive affect at the end of the 8-week period. Change in positive affect was the main focus of this study. Cronbach’s alpha for the positive affect scale was .94 at baseline and .96 at week 8, showing very high internal reliability.

Four subscales were used to compute negative affect: Fear (sample items: afraid, nervous, and jittery), Hostility (sample items: angry, hostile, and irritable), Guilt (sample items: guilty, ashamed, and blameworthy), and Sadness (sample items: sad, blue, and downhearted). Change in negative affect from the beginning to the end of the 8-week period was computed by subtracting baseline negative affect from negative affect at the end of the 8-week period. Cronbach’s alpha for the negative affect scale was .92 at baseline and .95 at week 8, showing high internal reliability.

**Control variables**

The control variables introduced in our analysis were participants’ gender, age, and baseline levels of trait mindfulness. For the latter variable, we used a short version (20 items) of the Five Facet Mindfulness Questionnaire (FFMQ – Short version; Tran, Gluck, & Nader, 2013), derived from the FFMQ of Baer et al. (2008). Trait mindfulness was introduced as a control variable in order to be sure that the effects we observed were due to the intervention solely and not to pre-existing differences in trait mindfulness between
the intervention group and the control group. Gender was introduced as a control variable because there was a higher proportion of women in the control group than in the intervention group (cf. Table 1). Age was introduced because previous research suggests that younger participants are more likely to dropout from MBCT (Crane & Williams, 2010) and because older patients typically have higher levels of trait mindfulness (Weinstein et al., 2009).

Note that participants’ adherence (i.e., class attendance and reported hours of practice at home) was monitored. Also, participants were asked at week 8 about any potential start of a psychotropic medication during the study. Three participants in the control group were excluded for having received an insufficient dose of treatment (see Results section). One participant in the control group reported having started antidepressant medication during the study and was subsequently excluded from the analyses (see Results section).

Procedure
Two weeks before the 8-week period, all participants (i.e., participants randomly allocated to an MBCT class as well as participants randomly allocated to a control group) received an e-mail containing a link to the first series of online questionnaires. They were first asked to complete an online consent form, explaining to them the purposes of the study, the data protection policy, and their rights as participants (notably, the right to stop the study at any point if they wished so, without having to give a reason nor enduring negative consequences). Only if the participants agreed to all the statements (by ticking the corresponding boxes), were they able to access the rest of the questionnaires. Then, they filled in the short version of the Five Facet Mindfulness Questionnaire (Baer et al., 2008), the items of CSI-S coping questionnaire relating to disengagement coping style, the PANAS-X, and questions regarding their demographics (i.e., gender, age, and educational background). Then, at the end of every 2 weeks during the 8-week period (i.e., end of weeks 2, 4, 6, and 8), participants received new online links to answer questions regarding their adherence (days on which they had completed formal and informal practice during the preceding weeks, and the duration of these activities). At the end of week 8, participants were asked to fill in the PANAS-X and CSI-S coping questionnaires again.

The procedure was reviewed, and ethics approval was received from the Central University Research Ethics Committee of the University of Oxford.

Analysis
We calculated regression analyses, following the procedures indicated by Aiken and West (1991). The continuous predictor was standardized. Patient change in positive affect from the beginning of the intervention to week 8 was regressed onto the condition (MBCT vs. waitlist control). Gender, age, and baseline trait mindfulness were introduced as control variables.

Participants’ change in affect was nested within the different classes that had been organized (4 MBCT groups + 4 groups of a waiting list), and we first tested whether a multilevel analysis was needed. We followed the procedure indicated by Field (2009). Results indicated that there was no significant change in the $-2 \log$-likelihood when the multilevel structure was taken into account, $\chi^2_{\text{Change}} = 0.00, p > .05$, which indicates that a multilevel approach was not necessary or appropriate.
Results

Data check

Three participants in the treatment group were excluded from the analysis because they had received an insufficient dose of treatment (defined as attendance to less than four of the eight group sessions): One participant had attended only one class, one participant had attended only two classes, and one participant had attended only three classes. Two participants in the control group were excluded from the analysis because one showed an extreme reduction (i.e., $>3$ SDs from the mean) in negative affect from the beginning to the end of the course, and the other started an antidepressant treatment during the course of the study (which might have influenced her negative and positive affects and therefore be a confound in the analysis).

Results

Results confirmed Hypothesis 1: Compared with the waitlist control group, participants who had attended the 8-week MBCT course showed a significant increase in positive affect from T1 (week 0) to T2 (week 8), $b^* = .25$, $p = .030$, $f^2 = .10$ (controlling for gender, age, and baseline trait mindfulness). According to Cohen’s (1988) conventions, the effect size was small to medium.

Results confirmed Hypothesis 2: Compared with the waitlist control group, participants who had attended the 8-week MBCT course showed a significant decrease in disengagement coping style from T1 to T2, $b^* = -.39$, $p = .001$, $f^2 = .31$ (controlling for gender, age, and trait mindfulness before the course). According to Cohen’s (1988) conventions, the effect size was medium.

Results also confirmed Hypothesis 3: The relationship between condition and positive affect was mediated by disengagement coping style. As Figure 2 illustrates, the standardized regression coefficient between condition and disengagement coping style was statistically significant, as was the standardized regression coefficient between disengagement coping style and positive affect. The standardized indirect effect was $(-.86) (-.35) = .30$. We tested the significance of this indirect effect using bootstrapping procedures (Preacher & Hayes, 2004). Unstandardized indirect effects were computed for each of 5,000 bootstrapped samples, and the 95% confidence interval was computed by determining the indirect effects at the 2.5th and 97.5th percentiles. The bootstrapped unstandardized indirect effect was .30, and the 95% confidence interval ranged from 0.12 to 0.55. Thus, the indirect effect was statistically significant.

Figure 2. Standardized regression coefficient for the relationship between condition and positive affect as mediated by disengagement coping. The standardized regression coefficient between condition and positive affect, controlling for disengagement coping, is in parenthesis. Note. $*p < .05$; $**p < .01$. 
Note that allocation to the conditions had no impact on change in negative affect: Compared with the waitlist control group, participants who had attended the 8-week MBCT course showed no significant change in negative affect from T1 (week 0) to T2 (week 8), $b^* = -.11, p = .197, f^2 = .05$ (controlling for gender, age, and baseline trait mindfulness).

**Discussion**

The present study first aimed to confirm that healthy individuals benefit from a MBI in terms of increased positive affect from the beginning to the end of the 8-week intervention and report using less disengagement coping strategies (i.e., problem avoidance, wishful thinking, self-criticism, social withdrawal) when facing difficulties in their daily life. Then, we aimed to test whether a decreased use of disengagement style mediated the link between the intervention and increased positive affect. Results confirmed our hypotheses.

Although some preliminary results existed in the literature (Baer et al., 2004; Berking et al., 2009; Chawla & Ostafin, 2007; Weinstein et al., 2009), this study was the first one to test the hypothesis that a decreased use of disengagement style mediates the link between a MBI and increased positive affect in a randomized study and using an 8-week manualized intervention. Our results add to the literature on the mechanisms of change of MBIs on affect. Whereas much research attention has been dedicated to the mechanisms of change of MBIs on negative affect (Baer, 2003; Brown & Ryan, 2003; Coffey et al., 2010; Crane & Williams, 2010; Jain et al., 2007; Shapiro et al., 2006; Teasdale et al., 1995; Williams, 2010), far less research attention has been given to potential mechanism of change of MBIs on positive affect (Baer et al., 2004; Berking et al., 2009; Chawla & Ostafin, 2007; Weinstein et al., 2009).

The potential impact of our results is important. In confirming the role of changes in disengagement coping style over the course of MBCT, they give a better understanding of the action of MBIs on positive affect. Research on positive affect in healthy sample is important because positive affect is a strong predictor of meaning in life (King et al., 2006) and plays a protective role against the development of mental disorders (Davis & Suveg, 2014; Etter et al., 2013; Morris et al., 2009). In the future, study results such as the ones presented in this article might help us design interventions that are more targeted to the needs of the participants. To illustrate, developers and mindfulness teachers might choose, for instance, to measure baseline disengagement coping at an indication of the participant’s needed dose of treatment. Participants with lower scores would then receive more intensive or longer interventions; conversely, participants with higher scores would receive less intensive or shorter interventions. Altogether, such tailoring to the needs of the participants would increase the efficacy and reduce the costs of such interventions.

Note that allocation to the MBCT group or to the control group had no impact on change in negative affect over the 8-week period. This comes as no surprise as participants selected for this study were healthy individuals, who were expected to show low baseline levels of negative affect and no room for change in the negative affect variable. These expectations were confirmed by the analysis.

**Limitations**

Some limitations must be pointed out. Our sample was composed mostly of women. This seems to correspond to the demographics of people who attend MBIs (Weinrib, 2012).
However, it limits its generalizability. Also, people in our sample were better educated than the average population. Moreover, participants in our study were not screened for psychiatric disorder; they had to indicate themselves whether they had been diagnosed with a psychiatric disorder or whether this was not the case. Note, however, that participants were screened for baseline positive affect and baseline negative affect. This makes unlikely that a patient presenting a psychiatric disorder associated with a high level of emotional distress (e.g., major depression, social phobia, and generalized anxiety disorder) was included in the study.

We did not measure engagement coping styles, which might have also changed as well following MBCT. The reason was that previous research could not establish consistently that mindfulness is associated with a greater use of engagement coping strategies (Weinstein et al., 2009); also, the association is smaller than that between mindfulness and decreased disengagement coping. However, future research might consider whether, in parallel to a decrease in disengagement coping styles, healthy individuals who follow a MBI show an increase in engagement coping style.

Finally, we should remember that change in disengagement coping style can be observed in other psycho-educative interventions (e.g., progressive exposure to feared material in cognitive behavioural therapy) and is therefore not specific to mindfulness. As Weinrib (2012, p. 15) writes:

Mindfulness-based therapies aim to increase acceptance and reduce experiential avoidance through the particular skills and exercises that are characteristic of mindfulness training. These are by no means the only methods of addressing problematic avoidance and other therapeutic modalities have targeted experiential avoidance using their own methods. Indeed, decreasing experiential avoidance may be a common pathway that unites many therapeutic approaches to reducing human suffering.

More research is needed to know whether other mechanisms of action distinguish mindfulness from other psycho-educative interventions when it comes to increasing positive affect in healthy individuals.

Conclusions
This study showed that increases in positive affect following MBCT are explained by decreases in the use of disengagement coping style when facing daily stressors. This study adds to the literature on the mechanisms of action of mindfulness on positive affect. It reveals a relatively simple mechanism though which MBCT improves positive affect in non-clinical populations.

References


Received 3 April 2015; revised version received 9 August 2015