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Coping With the Crisis: A Mindfulness Manipulation Positively Affects the Emotional Regulation of Action Crises

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Supplementary Materials: Data, Materials [see [Index of Supplementary Materials](#)]

Abstract

Action crises are the intrapsychic conflicts people face when hesitating between continuing and giving up on a goal after the accumulation of setbacks. They are detrimental to goal achievement and psychological health. While many predictors of action crises have been identified, including dispositional mindfulness, almost none have been investigated in terms of their helpfulness during an action crisis. This experimental laboratory study tested whether a 15-minute mindfulness meditation influenced the emotional regulation of imagined action crises. Participants ($N = 121$, 105 students, 44 men, $M = 28.26$ years) were randomly assigned to meditate with a body scan meditation recording or to read magazines after identifying their most important current personal goal. Those in the body scan condition reported more adaptive emotion regulation strategies after reading an action crisis scenario personalized with their goal than those in the control, magazine-reading, condition. This effect was found even when controlling for baseline action crisis and baseline autonomous and controlled motivation. No difference between the groups was found in terms of maladaptive emotion regulation. Results suggest that mindfulness training is a promising tool to help people cope with goal-related difficulties such as action crises.



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Keywords

mindfulness meditation, action crises, emotion regulation

Highlights

- Using a brief meditation exercise and personalized action crisis scenarios, this experimental study showed that mindfulness has the potential to help people to cope more adaptively with action crises.
- This finding complements a body of research thus far mostly focused on antecedents and consequences of action crises by investigating factors with the potential to influence the course of action crises *per se*.
- Our findings align with previous ones linking mindfulness, emotion regulation, and action crises.
- Mindfulness offers promise as a regulation strategy to pursue goals more effectively, even when action crises arise.

Action crises arise when people start to hesitate between pursuing an identity-defining personal goal and questioning whether they should pursue it at all (Brandstätter et al., 2013). They can be situated within the Mindset Theory of Action Phases (Gollwitzer, 2012), based on the Rubicon Model (Heckhausen & Gollwitzer, 1987). These models propose four phases of goal pursuit, each associated with its own mindset. People should go from (1) deliberating their goal choices (deliberative mindset), to (2) planning actions to achieve their chosen goal (implemental mindset) before (3) engaging in goal-related actions (action mindset), and (4) finally, once they have completed all the tasks that they set for themselves, reflecting on their goal achievement or lack thereof, and on what they should do next (evaluative mindset).

Action crises occur when the accumulation of setbacks erodes the protective mechanisms, such as goal shielding, of the implemental and action mindsets (Brandstätter et al., 2013), making people oscillate between these and the evaluative mindset during goal pursuit. Such oscillations lead to more doubts, less progress, lower well-being (e.g., reduced life satisfaction, increased depressive symptoms), and often, goal disengagement (Brandstätter et al., 2013; Brandstätter & Herrmann, 2016; Ghassemi et al., 2021; Holding et al., 2017).

Marion-Jetten et al. (2022) proposed, based on Garland et al.'s (2015, 2017) mindfulness-to-meaning theory, that mindful people should be better at reappraising action crises as benign, meaningful, or growth-promoting in the third, action phase, of the Rubicon model.

Mindfulness and Emotion Regulation

There are three defining features of mindfulness: (1) paying attention to, and observing inner and outer events such as thoughts, emotions, and sensations; (2) in the present moment with a (3) non-judgmental and open attitude (Kabat-Zinn, 2003).

Both dispositional mindfulness and mindfulness training have been associated with better emotion regulation (e.g., de Vibe et al., 2018; Heppner et al., 2015). One of the mechanisms of this relation is the acceptance of one's current reality, including emotional states. Mindfulness "involves a focus on the present in concrete ways, which should reduce rumination and reactivity to experienced emotions" (Heppner et al., 2015, p.108). Moreover, mindful people attend to their internal and external experiences with kindness and compassion. This attitude should promote the meaningful re-interpretation of negative events as described by Garland et al. (2015, 2017). Specifically, Garland et al. (2015) proposed "that by modifying how one attends to the cognitive, affective, and interoceptive sequelae of emotion provocation, mindfulness introduces flexibility into the creation of autobiographical meaning, stimulating the natural human capacity to positively reappraise adverse events and savour the positive aspects of experience" (p. 296). Therefore, mindfulness should influence action crises by modifying how people attend to unpleasant and negative emotions and by promoting flexibility in the meaning they attribute to the events that triggered these emotions (i.e., attributing positive meaning or value to events that would have normally automatically triggered negative ones; Garland et al., 2015). In other words, mindfulness should help people to use more adaptive emotion regulation strategies (Garnefski et al., 2001) in the face of an action crisis towards an important personal goal in the action phase of the Rubicon Model. We tested this proposition by having people imagine that they experienced an action crisis for a valued personal goal after having meditated or read magazines.

Method

We hypothesized that people who complete a body scan meditation prior to imagining themselves in an action crisis for an important personal goal should report more adaptive, and less maladaptive, emotion regulation strategies than people in a control, magazine-reading, condition. We expected this effect to occur even when controlling for baseline autonomous and controlled goal motivation and baseline action crisis levels.

Autonomous motivation entails pursuing a goal because one feels it is important, valuable, or fun to do so. Controlled motivation entails doing so because of external or internal pressures (Ryan & Deci, 2017). They have numerous consequences, positive and negative respectively, for well-being and affect (see Ryan & Deci, 2017 for a review). Given this and previous research associating goal motivation with action crises (Holding et al., 2017; Marion-Jetten et al., 2022), we determined that they might also influence

how people cope with action crises. For instance, a person with a highly controlled goal might more readily blame themselves or others, that is, use maladaptive coping strategies, due to resentment from feeling pressured to pursue such a goal (e.g., Assor et al., 2004). Baseline levels of action crisis were controlled to ensure that the influence of the scenario would be assessed holding constant the action crisis level that participants had for their personal goals to start with. To test our hypothesis, we conducted an experimental laboratory study, in which we manipulated participants' levels of state mindfulness before inducing a hypothetical action crisis for a personal goal.

Participants

A total of $N = 129$ participants were recruited to achieve a power of .80 with medium effect sizes on follow up analyses (Faul et al., 2007). Of those, 121 participants (75 women, two identifying as other) were kept for the analyses because two skipped questions relating to variables of interest, two did not understand or follow instructions properly and four experienced a technical problem with the audio recordings, which prevented data collection. The mean age was 28.26 years ($SD = 10.79$). Most participants were university students ($n = 105$), and the majority did not meditate on a regular basis (82.6%).

Procedure

We recruited participants with class announcements, posters, and flyers distributed at a large francophone university and through online advertisements. The ostensible goal of the study was to examine the link between focused attention and goals. Interested participants contacted the main experimenter through the study's email address. Participants then received a link to make an appointment as well as information regarding the study.

Once in the laboratory, participants were reminded of the ostensible goal of the study, of its approximate duration, and were asked to turn their cell phone to silent mode before being seated in a cubicle with a computer, a headset, and an opaque box containing magazines. After consenting to participate, participants identified an important and current personal goal before filling out goal-motivation and action crisis measures for it. They were then randomly assigned to a body scan meditation recording or to reading magazines (control condition). Finally, participants read a scenario describing an action crisis towards the goal they had identified earlier, before completing the cognitive emotion regulation questionnaire with the situation described in the scenario in mind and a sociodemographic questionnaire. The study lasted between 20 and 35 minutes for most participants. They were debriefed and compensated (8 CAD) for their time. This study was approved by the university's institutional review board, but was not preregistered.

Mindfulness Manipulation

The mindfulness manipulation was a body scan exercise. We used [Marchiori and Papies' \(2014\)](#) English body scan instructions, which we translated to French. The body scan timing was adjusted so that it would last 15 minutes. A female native French-speaker with meditation experience recorded the instructions. Participants in the control condition were instructed to open the opaque box, in which they would find magazines to read for 15 minutes. The magazine instructions were based on a similar condition used by [Strick and Papies \(2017\)](#). They were also translated into French and the same narrator recorded them. A pilot study revealed that this body scan significantly enhanced state mindfulness compared to a magazine-reading control group (see [Supplementary Materials A](#), “Mindfulness Manipulation”).

Action Crisis Induction

The action crisis scenario was introduced as a vignette related to participants' goal. The scenario was based on the action crisis scale and other scenarios shown to trigger a cognitive re-evaluation of one's goal ([Brandstätter & Schüler, 2013](#)). It described the participants' goal as important and meaningful, adding that recent efforts made toward it had proven unsuccessful. The scenario described the participants' frustration with this lack of progress as well as their increasing doubts regarding their ability to accomplish the goal. Another study demonstrated that this scenario significantly increased action crises levels compared to a smoother goal scenario (see [Supplementary Materials B](#), “Action Crisis Manipulation”).

Measures

Personal Goal Selection

Participants had to identify their current most important personal goal. We based our French instructions on those of [Koestner et al. \(2002\)](#) to help participants identify their goal. Participants identified personal goals such as “finish my bachelor's degree” and “produce a second film”.

Baseline Goal-Motivation

We used the Perceived Locus of Causality scale (PLOC; [Ryan & Connell, 1989](#); [Sheldon, 2014](#)) to measure autonomous and controlled motivations. The participants rated the reasons for which they were pursuing their goal on a seven-point Likert scale (e.g., “because I really believe this is an important goal”). Autonomous motivation for one's goal was assessed with one item measuring intrinsic motivation, and one measuring identified regulation. Controlled motivation was assessed with two items measuring introjection: one positive and one negative, and one item measuring external regulation. Two French-English bilingual graduate students translated the PLOC. As in previous

research, the mean of intrinsic motivation and identified regulation constituted autonomous motivation, while the mean of introjected and external regulations constituted controlled motivation (Koestner et al., 2008).

Baseline Action Crisis

Brandstätter and Schüler's (2013) Action Crisis Scale assesses the extent to which people experience an action crisis towards a specific goal with six items rated on a five-point Likert scale. Participants had to fill the scale out with their previously identified goal in mind. The scale assesses post-decisional goal conflict, setbacks, implemental disorientation, rumination, disengagement impulses, and procrastination. We translated the English version into French before translating it back into English. In our sample, the Cronbach's alpha was $\alpha = .58$.

Emotion Regulation

The French validation of the Cognitive Emotion Regulation Questionnaire, short form, (Garnefski & Kraaij, 2006; Jermann et al., 2006) assessed participants' emotion regulation of their action crisis. Participants answered the questions regarding how they felt about their goal now (after reading the action crisis scenario). The CERQ has 18 items on nine subscales, which can be grouped into more or less adaptive (maladaptive) cognitive emotion regulation strategies (Garnefski et al., 2001). Items are typically rated on a frequency scale. Considering that our study focused exclusively on the hypothesized action crisis at hand, items were rated on an agree/disagree scale. The adaptive subscale had an alpha of $\alpha = .62$ while the maladaptive subscale had an alpha of $\alpha = .74$.

Results

We conducted our analyses with SPSS (Version 26). A MANCOVA tested for the effect of the conditions (body scan vs. reading) on the adaptive and maladaptive subscales of the cognitive emotion regulation questionnaire while controlling for the effect of baseline goal-motivations and action crisis levels (i.e., measured before any manipulation). Table 1 shows the means, standard deviations, and correlations between the study variables for both conditions.

We first tested whether there was an effect of condition (body scan vs. reading) on both dependent variables. Multivariate homoscedasticity and normality assumptions were met. Using Wilks' lambda, we found significant multivariate effects of the condition, $\Lambda = .94$, $F(2, 115) = 3.75$, $p = .03$, $\eta_p^2 = .06$, and baseline action crisis, $\Lambda = .94$, $F(2, 115) = 3.46$, $p = .035$, $\eta_p^2 = .06$. There was a trending effect for baseline controlled motivation, $\Lambda = .95$, $F(2, 115) = 2.56$, $p = .08$, $\eta_p^2 = .04$, but not for baseline autonomous motivation, $\Lambda = .98$, $F(2, 115) = 1.34$, $p = .27$, $\eta_p^2 = .02$.

Follow up ANCOVAs, presented in Table 2, revealed that those in the body scan condition had higher scores on the adaptive subscale of the CERQ than those in the reading magazines condition. For the control variables, there was a trending effect on the adaptive subscale for baseline controlled goal motivation and baseline action crisis, but not for baseline autonomous goal motivation. There was no significant difference between conditions for the maladaptive subscale of the CERQ. For the control variables, baseline autonomous goal motivation, and baseline action crisis were also not significant. Baseline controlled goal motivation had a trending effect on the maladaptive subscale.

Table 1

Inter-Correlations of the Main Variables, Means and Standard Deviations

Variable	Body scan meditation (experimental) group							Magazine-reading (control) group						
	1	2	3	4	5	<i>M</i>	<i>SD</i>	1	2	3	4	5	<i>M</i>	<i>SD</i>
1. Autonomous Motivation		-.10	-.38**	.11	-.10	6.02	1.02		-.14	-.18	.01	.23	5.83	.95
2. Controlled Motivation			.24*	-.24*	.18	3.46	1.43			.35*	.01	.20	3.35	1.55
3. Action Crisis				.01	.20 [†]	3.03	.72				.26 [†]	.11	3.08	.64
4. Adaptive Emotion Regulation					-.16	3.92	.49					-.13	3.67	.53
5. Maladaptive Emotion Regulation						2.76	.69						2.91	.75

Note. All correlations are two-tailed. Action crises and cognitive emotion regulation were measured on a 5-point scale, goal-motivation was measured on a 7-point scale.

[†] $p < .10$. * $p < .05$. ** $p < .01$.

Table 2

Results of the Analyses of Covariance of Condition on Adaptive and Maladaptive Cognitive Emotion Regulation

Source	Adaptive Emotion Regulation					Maladaptive Emotion Regulation				
	<i>SS</i>	<i>df</i>	<i>F</i>	<i>p</i>	η_p^2	<i>SS</i>	<i>df</i>	<i>F</i>	<i>p</i>	η_p^2
Autonomous Motivation	.34	1	1.32	.25	.01	.47	1	.96	.33	.01
Controlled Motivation	.80	1	3.16	.08 [†]	.03	1.39	1	2.81	.10 [†]	.02
Action Crisis	.90	1	3.53	.06 [†]	.03	1.71	1	2.37	.13	.02
Group (Condition)	1.76	1	6.93	.01**	.06	.71	1	1.44	.23	.01
Error	29.46	116				57.37	116			

Note. *SS* = Sum of squares, *df* = degrees of freedom.

[†] $p < .10$. * $p < .05$. ** $p < .01$.

Discussion

This study tested the influence of a mindfulness exercise on the emotional regulation of visualized action crises. We randomly assigned participants to either meditate with a body scan meditation recording or to read magazines before presenting them with a personalized action crisis scenario. We then compared their mean levels of adaptive and maladaptive emotion regulation strategies regarding the action crisis they visualized with the action crisis scenario. This was done while controlling for their baseline autonomous and controlled goal motivations and action crisis levels. Results show that participants in the body scan condition reported significantly higher levels of adaptive emotion regulation than those in the reading condition. On the other hand, there was no significant difference between the groups regarding maladaptive emotion regulation, despite the control group having a higher mean. This might be due to the brevity of our body scan exercise, which may not have been enough to undo entrenched patterns of maladaptive emotion regulation. Indeed, while acquisition of new responses is relatively easy and can rapidly generalize (e.g., the use of a maladaptive strategy reduced anxiety or stress once and is then applied to multiple situations where it might not work), extinction is more complex and difficult to achieve (Vervoort et al., 2014). This is supported by the fact that while studies found a negative relation between *dispositional* mindfulness and maladaptive emotion regulation (e.g., Parsons et al., 2019), only long-term follow-ups of mindfulness intervention studies, when participants have time to develop and engage with new patterns of coping, have found similar effects. de Vibe et al. (2018) found such an effect six years after a seven-week intervention. This also aligns with neuroimaging evidence showing that mindfulness training (e.g., eight-week mindfulness-based stress reduction programs) changes the brain networks involved in the extinction of conditioned fear, which may trigger maladaptive responses to stressors, through the downregulation of the amygdala (see Hölzel et al., 2011).

The present study showed that a short mindfulness exercise, in the form of a body scan meditation, enhanced adaptive emotion regulation following the presentation of a personalized action crisis scenario. This finding provides preliminary support for the proposition that mindfulness might also help people cope with action crises as they are happening in the action phase of the Rubicon Model (Marion-Jetten et al., 2022). It also aligns with previous theoretical propositions and empirical findings by Garland et al. (2015, 2017) that mindfulness meditation increases the use of positive reappraisal coping during stressful events. This finding extends previous research, which had shown that higher dispositional mindfulness helps to prevent action crises (Marion-Jetten et al., 2022), by showing that state mindfulness also helps people regulate their emotions more positively during a visualized action crisis. Our results support further exploration to test the influence of mindfulness on emotion regulation during real, lived, action crises.

As such, a short, 15-minute body scan meditation helped people emotionally appraise an induced, hypothetical, action crisis in an adaptive way. This suggests that mindfulness

training over the course of several weeks (e.g., mindfulness-based stress reduction programs) should also promote the adaptive emotion regulation of real, full-fledged, action crises. Considering that mindfulness training increases dispositional mindfulness over time (Brown et al., 2007), future action crises should also become less likely (Marion-Jetten et al., 2022). Mindfulness training thus appears to be a viable option to both prevent action crises and possibly help cope with those that might still arise.

This research also provides a starting point to study action crises for real personal goals experimentally by building on previous studies using scenarios (i.e., Brandstätter & Schüler, 2013). Indeed, the study reported in *Supplementary Materials B* (“Action Crisis Manipulation”) showed that personalized scenarios could influence action crisis levels for personal goals. Future research should consider expanding and further validating such procedures.

Limitations and Future Directions

While our study is an important first step in empirically testing the effect of state mindfulness on action crisis coping in the action phase of the Rubicon model, the following limitations seem noteworthy.

First, our scales’ internal consistencies were relatively low. In terms of the CERQ, this could be because it measured the regulation of emotions triggered by a scenario, which may have been elicited more easily in some people, but not others. Further, it is comprised of nine subscales of two items each, which measure different emotion regulation strategies that can be grouped, rather than being a two-factor scale.

Second, we compared meditating with a body scan to a reading condition rather than to a sham mindfulness condition. Future studies should integrate such conditions (e.g., Zeidan et al., 2010) into their designs, to test for potential expectancy effects. Further, the main experiment’s design lacked a control condition for the action crisis scenario, although another study validated that the scenario used did enhance action crises when compared to a control scenario. Future studies should replicate and extend the present design by adding such a condition to have a full factorial design.

Finally, future research should test the influence of mindfulness inductions or training with participants experiencing real action crises, rather than experimentally induced ones, which rely on the participants’ visualizing abilities. Indeed, while our results suggest that mindfulness has a positive impact on the emotional regulation of action crises, we are limited in the generalizability of our conclusions since our design used visualized action crises, rather than assess the influence of mindfulness meditation on real ones.

Conclusion

This study provides the first evidence supporting that mindfulness is not only a predictor of action crises but might also influence how people cope with them once they occur. Indeed, participants in the body scan meditation condition showed more adaptive emotion regulation for a visualized action crisis than those in the reading control group. Our research provides initial support for the proposition that mindfulness might help coping with action crises during the action phase of the Rubicon Model.

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Competing Interests: The authors have declared that no competing interests exist.

Ethics Approval: This study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Ethics Committee of Université du Québec à Montréal (No. 2909).

Data Availability: For this article, data is freely available (Marion-Jetten, Schattke, & Taylor, 2022).

Supplementary Materials

For this article, the following Supplementary Materials are available via the PsychArchives repository (for access see [Index of Supplementary Materials](#) below).

- Codebooks and data for the main experiment and the studies A and B.
- Description of the studies validating the mindfulness (Study A) and action crisis (Study B) manipulations. Manipulation materials (e.g., scripts) are also included.

Index of Supplementary Materials

Marion-Jetten, A. S., Schattke, K., & Taylor, G. (2022). *Supplementary materials to "Coping with the crisis: A mindfulness manipulation positively affects the emotional regulation of action crises"* [Data, codebooks]. PsychOpen GOLD. <https://doi.org/10.23668/psycharchives.5587>

Marion-Jetten, A. S., Schattke, K., & Taylor, G. (2022). *Supplementary materials to "Coping with the crisis: A mindfulness manipulation positively affects the emotional regulation of action crises"* [Materials]. PsychOpen GOLD. <https://doi.org/10.23668/psycharchives.5586>

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