

Mindfulness and Emotion Regulation

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Working Definition: Two Core Components of Mindfulness

„What“

Focus of attention on the experiences that occur from moment to moment.

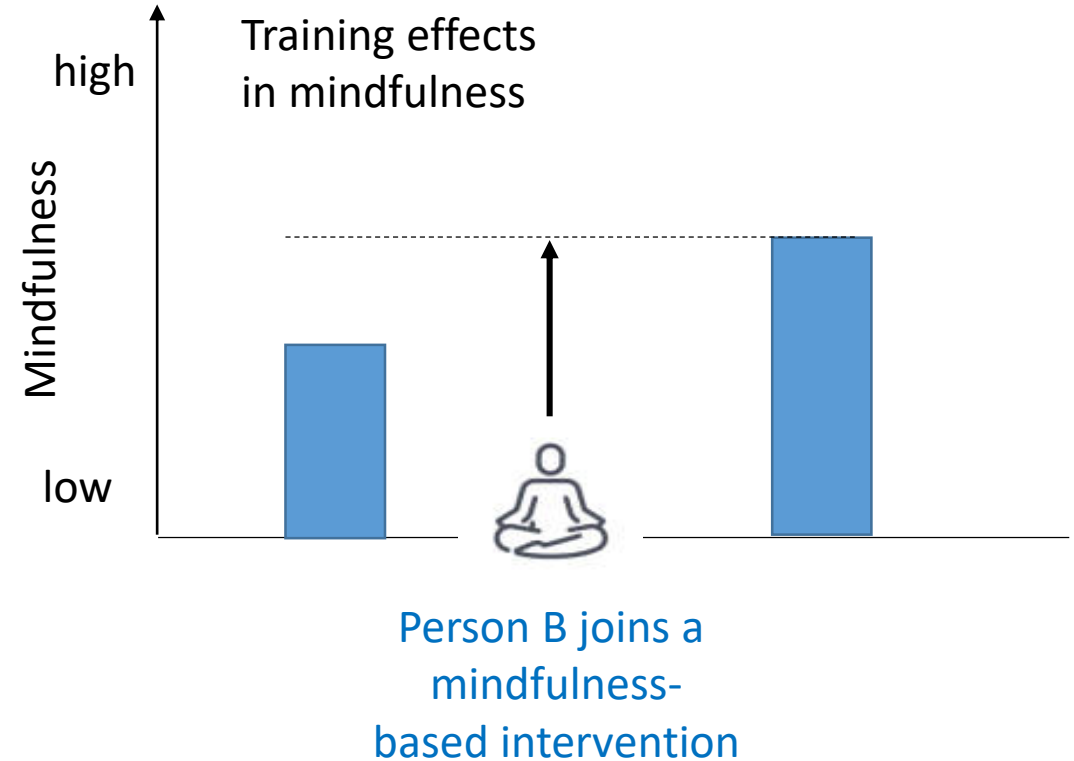
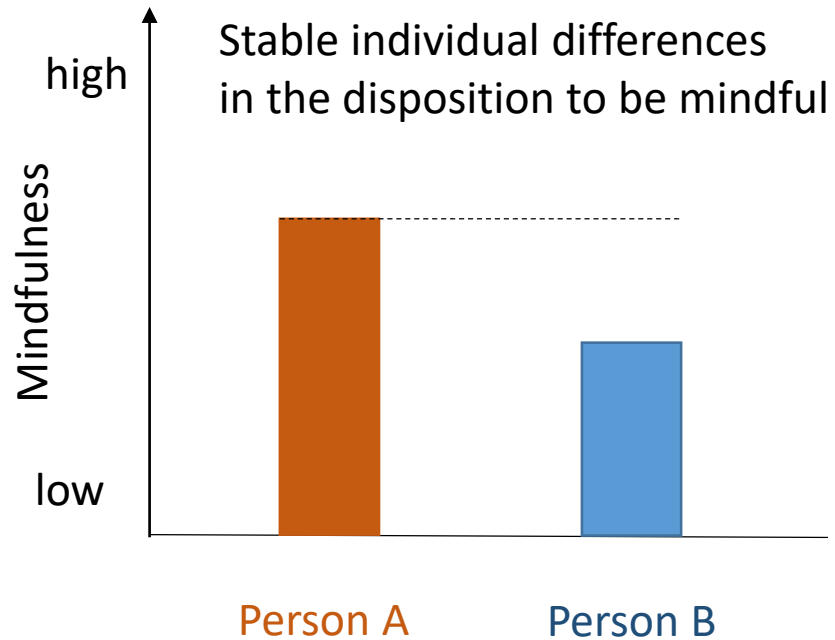
„How“

Nonjudgmentally, with acceptance, acknowledging experiences without identifying with them.

after Bear, 2018 *Current Opinion in Psychology*

Mindfulness Is a State, a Disposition, and It Can Be Trained

The Focus of This Study:



Emotion Regulation

All attempts to influence, which emotions we have, when we have them, and how we experience and express them.

Five Strategy-Families

Situation
Selection

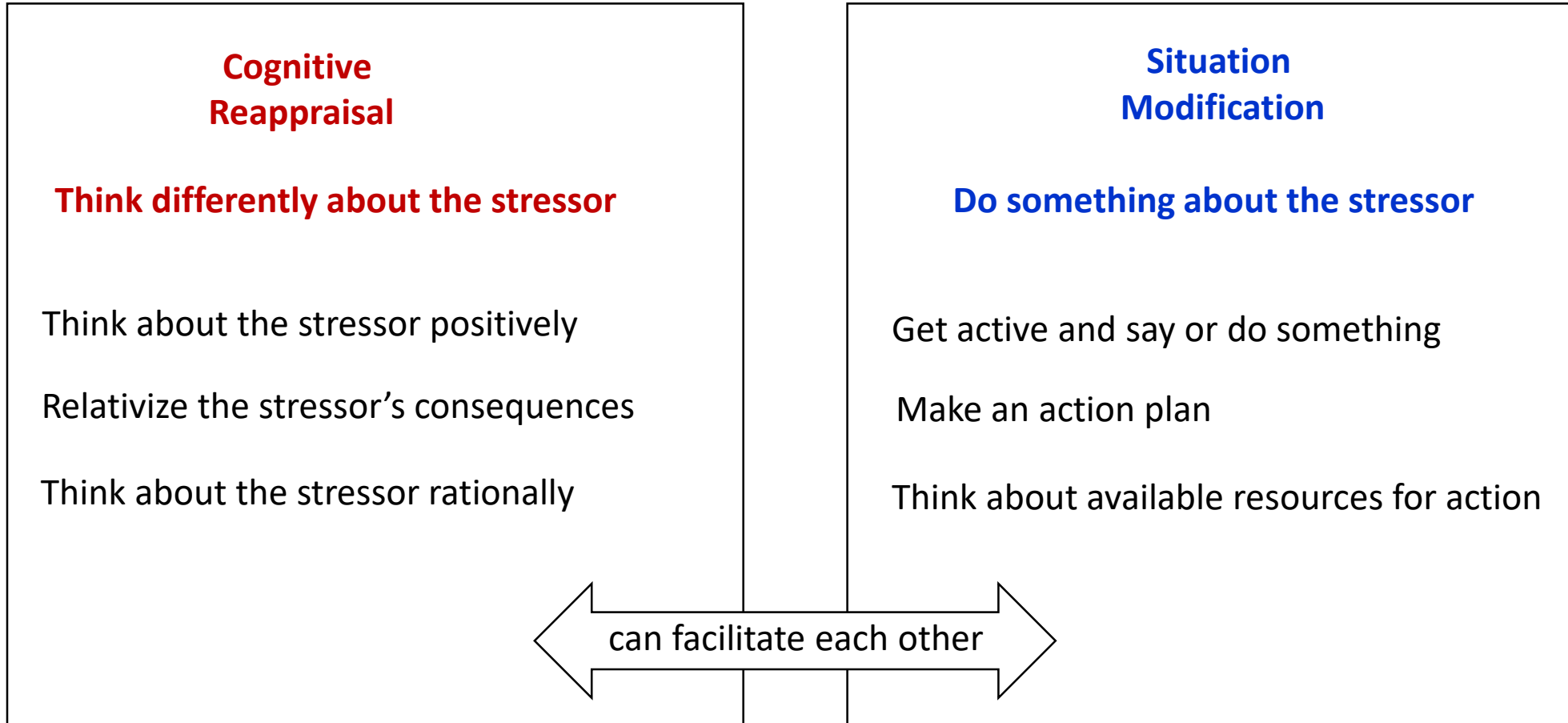
Situation
Modification

Attention
Deployment

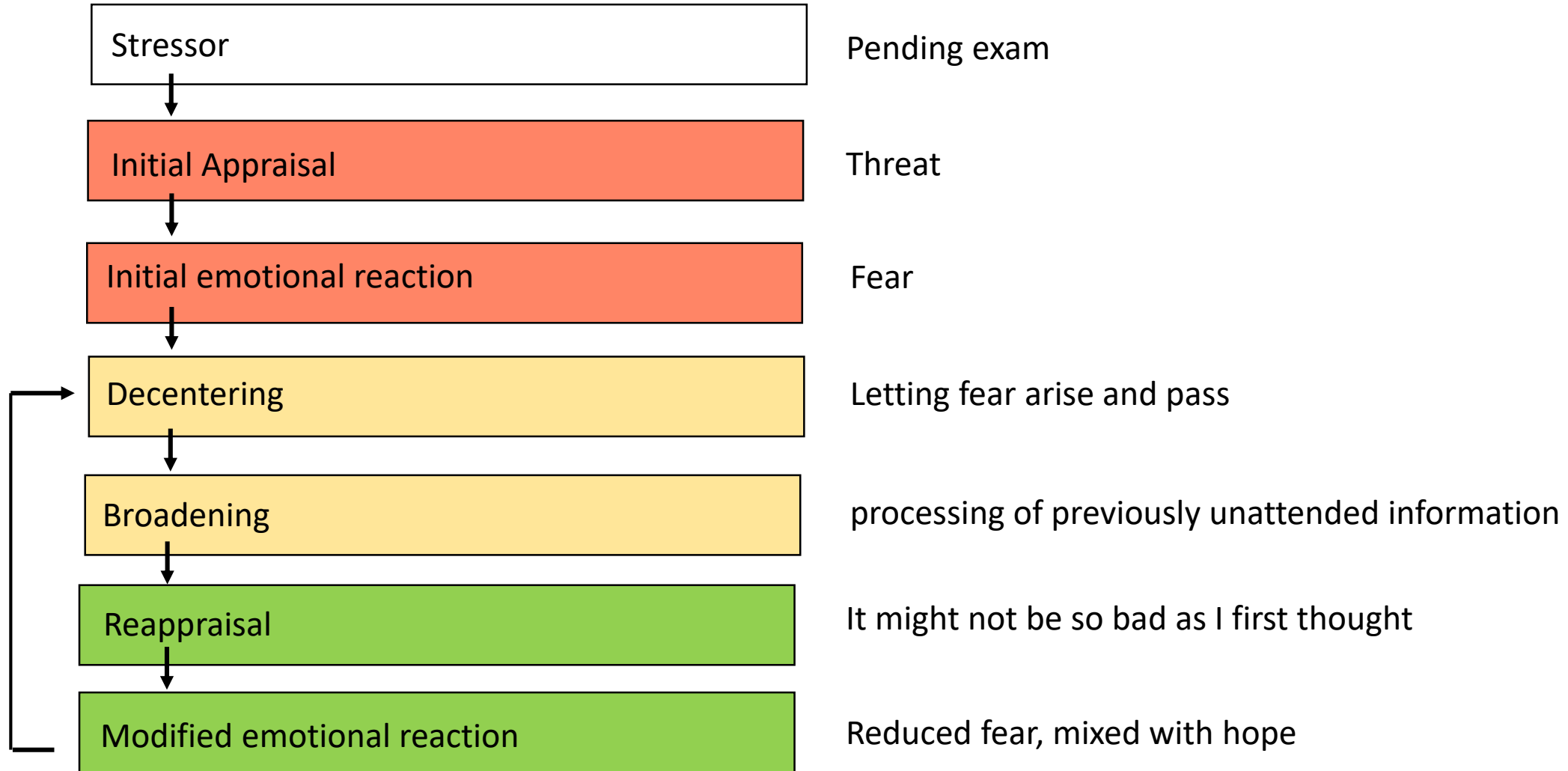
Cognitive
Reappraisal

Expression
Modulation

Cognitive Reappraisal and Situation Modification Strategies During Confrontation With Stressor Events

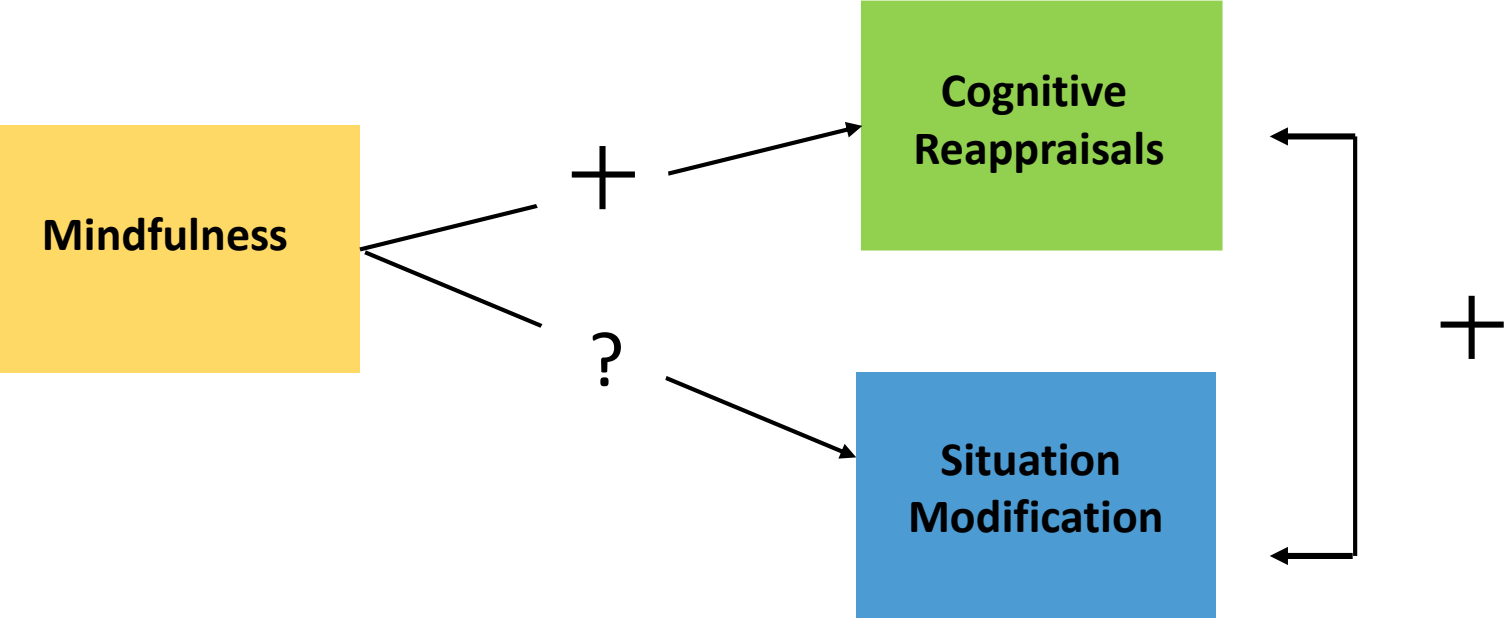


Mindfulness Facilitates Cognitive Reappraisals



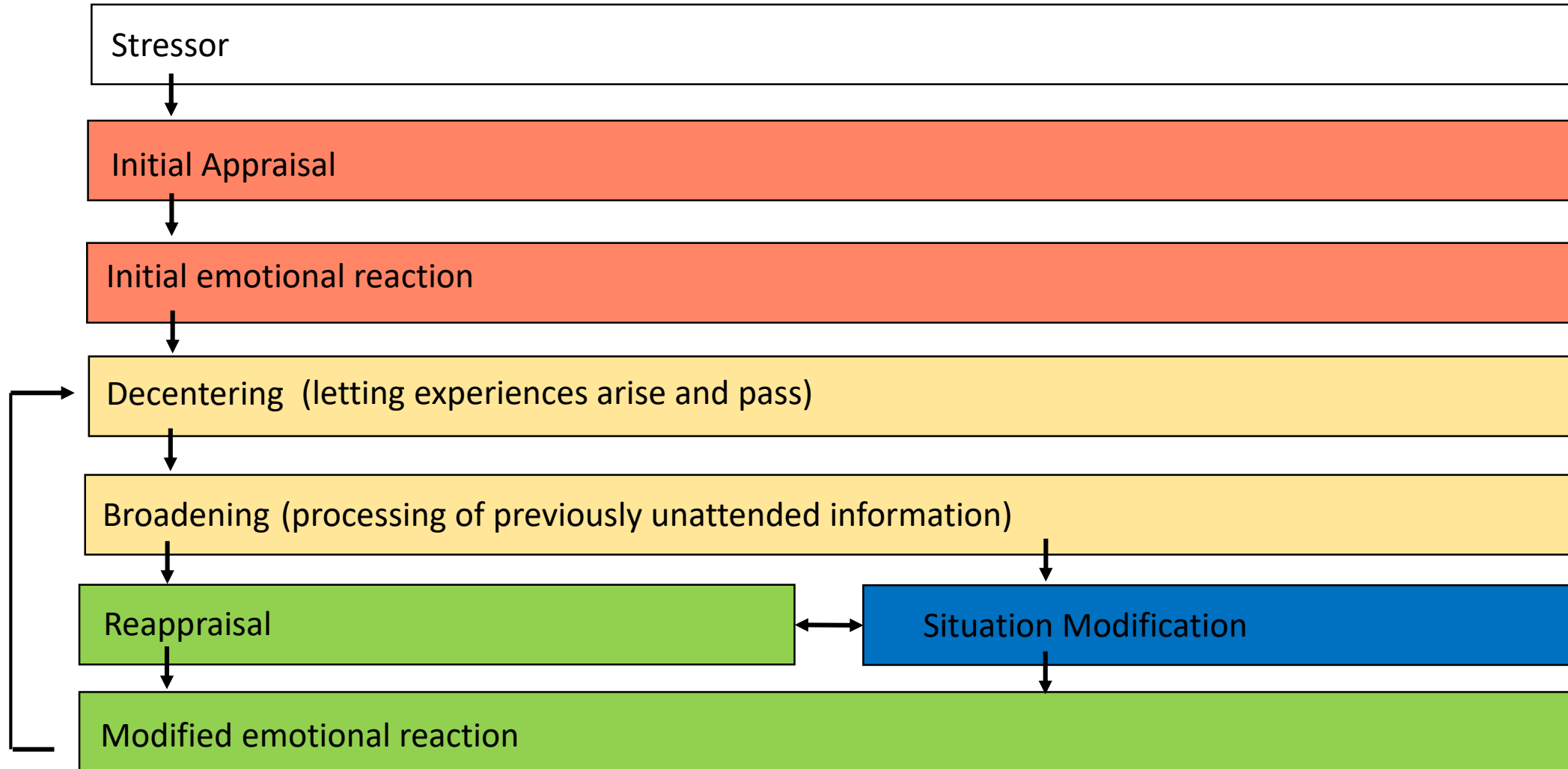
Modified after Mindfulness to Meaning Theory (MMT) developed by Garland (e.g., Garland et al., 2015; *Psychological Inquiry*)

Mindfulness Should **Facilitate** Cognitive Reappraisals

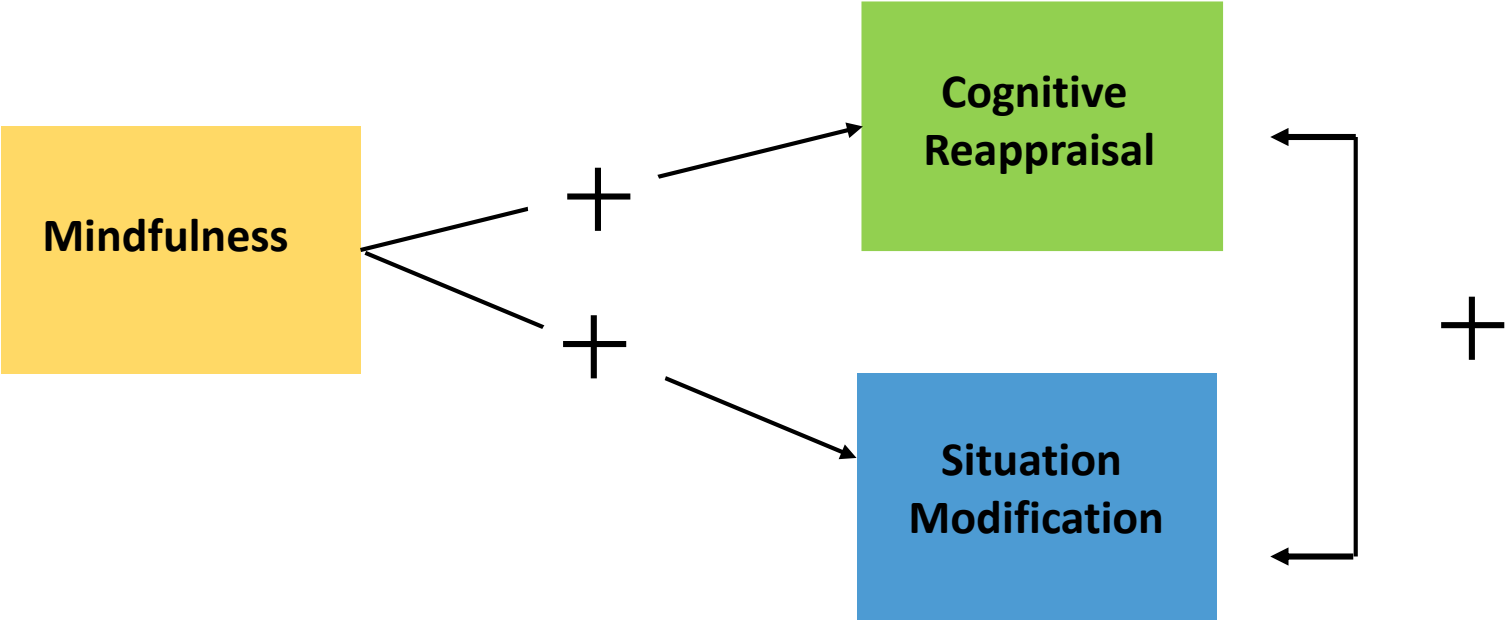


With few exceptions (e.g., Wenzel et al., 2020), past empirical evidence speaks for a positive link between mindfulness and cognitive reappraisal (e.g., review: Garland et al., 2015).

Does Mindfulness Facilitate Reappraisal and Situation Modification?



Mindfulness should **Facilitate** Reappraisals **and** Situation Modification

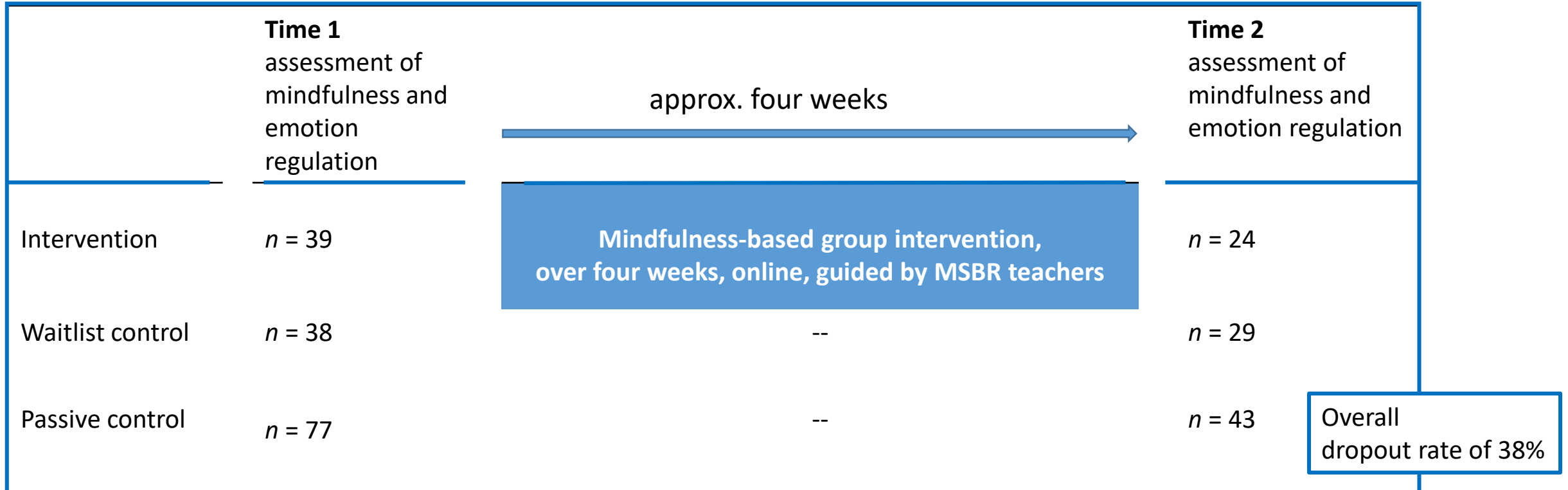


The Present Study

Initial Sample

154 University students, 81% female, M (age) = 25, SD = 3.4

Design



The Present Study

Mindfulness

Short Form (24 Items) of the Comprehensive Inventory of Mindfulness Experiences (CHIME; Bergomi et al., 2014, *Diagnostica*)

Overall mindfulness scale

$\alpha = .83$, four-week re-test reliability = $.75^{**}$

Emotion regulation

Vignette-Based Questionnaire developed for this study.

Participants were instructed to put themselves in each of 31 stressful situations described in short text vignettes and then indicate for each of eight specific emotion regulation strategies to what extent they would use it in the respective situation.

- Average use of cognitive reappraisal (5 items)
 $\alpha = .90$, four-week re-test reliability = $.77^{**}$
- Average use of situation modification (3 items)
 $\alpha = .84$, four-week re-test reliability = $.81^{**}$

You are snapped at by an unfriendly waiter in a restaurant.

A good friend has moved to a distant city.

You carelessly used up all your partner's savings.

A routine check-up has revealed that you could have a very serious illness.

Preliminary Results

Our intervention raised mindfulness and reduced perceived stress

Group		Pre-intervention		Post-intervention		
		M	SD	M	SD	
Mindfulness	Intervention	4.10	0.59	4.65	0.61	$t(93) = 5.47, p < .001, d = 1.13$
	Waitlist control	3.83	0.86	3.98	0.81	$t(93) = 1.59, p = .116$
	Passive control	4.26	0.70	4.35	0.65	$t(93) = 1.25, p = .214$
Perceived stress	Intervention	3.54	0.58	2.88	0.68	$t(93) = 6.40, p = 1.33, d = 1.33$
	Waitlist control	3.27	0.50	3.18	0.59	$t(93) = 1.00, p = .322$
	Passive control	3.06	0.69	2.91	0.68	$t(93) = 1.97, p = .052$

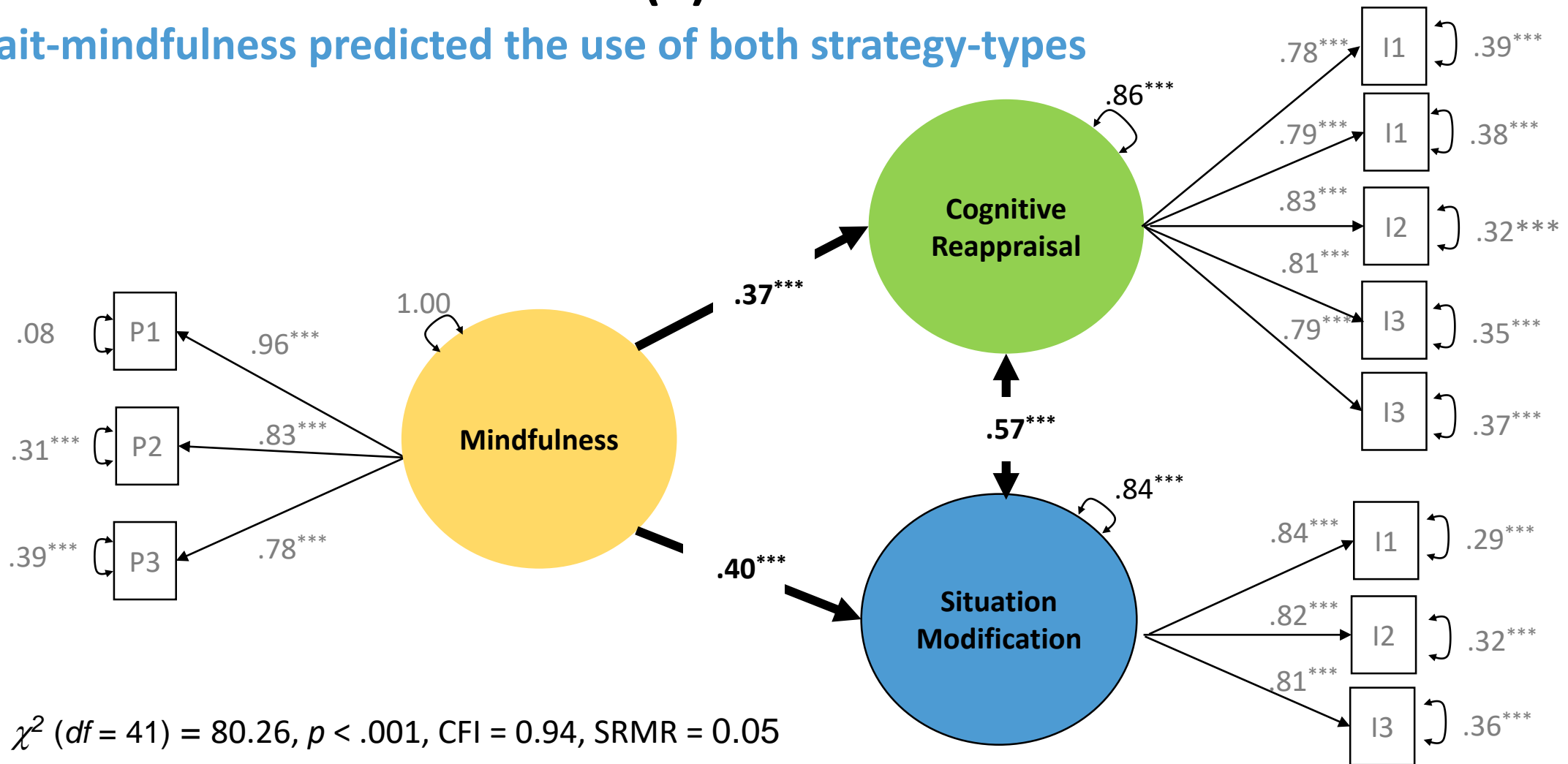
Mindfulness items were rated on a response scale from 1 (*does not apply at all*) to 7 (*applies very well*) with higher values indicating greater mindfulness. Perceived stress was assessed with a German version of the Perceived Stress Scale (Cohen et al., 1983; Klein et al., 2016). Items were rated on a response scale from 1 (*never*) to 5 (*very often*) with higher values indicating greater stress.

A multilevel model for mindfulness revealed a significant main effect of time point, $F(1,51) = 21.02, p < .001$, and a **significant group × time point interaction**, $F(1,51) = 7.13, p = .010$, but no significant main effect of group, $F(1,56.96) = 0.00, p = .972$.

A multilevel model for stress revealed a significant main effect of time point, $F(1,93) = 32.26, p < .001$, and a **significant group × time point interaction**, $F(2,93) = 10.09, p < .001$, but no significant main effect of group, $F(2, 114.12) = 2.31, p = .103$

Prediction-Relevant Results (1)

Trait-mindfulness predicted the use of both strategy-types



Indicators of cognitive reappraisal and situation modification refer to items, each aggregated across 31 vignettes. Indicators of mindfulness were domain representative parcels (Little et al., 2002), that is, each of the three parcels had one item from each the eight mindfulness dimensions of our questionnaire. Values are standardized (STDYX).

Data are based on the full sample ($n = 96$) at Time 1

Prediction-Relevant Results (2)

Our Intervention raised the use of reappraisal, but not the use of situation modification strategies

Strategy Use	Group	Pre-intervention		Post-intervention		
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Cognitive reappraisal	Intervention	3.28	0.71	3.74	0.73	$t(93) = 4.13, p < .001, d = 0.64$
	Waitlist	3.34	0.68	3.48	0.68	$t(93) = 1.42, p = .159$
	Passive	3.23	0.86	3.36	1.02	$t(93) = 1.57, p = .121$
Situation Modification	Intervention	4.64	0.72	4.80	0.84	$t(93) = 1.39, p = .167$
	Waitlist	4.61	0.69	4.54	0.75	$t(93) = 0.65, p = .520$
	Passive	4.53	0.99	4.50	1.16	$t(93) = 0.293, p = .771$

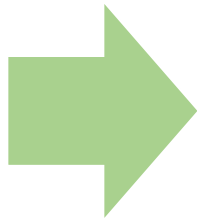
The use of emotion regulation strategies was rated on a scale ranging from 1 (*does not apply at all*) to 7 (*applies very well*).

A multilevel model for reappraisal revealed a significant main effect of time point, $F(1,93) = 18.23, p < .001$, and a **significant group × time point interaction**, $F(2,93) = 3.19, p = .046$, but no significant main effect of group, $F(2,107.01) = 0.16, p = .855$.

A multilevel model for situation modification revealed **no significant main or interaction effects**.

Summary and Conclusions

As predicted, individuals with higher, as compared to lower, trait-mindfulness reported to use both types of strategies more intensively, but the intervention did only increase the use of cognitive reappraisal and not situation modification strategies.



Contrary to the claims of some critics, our analyses of trait-mindfulness suggest that mindfulness does not one-sidedly lead us to reappraise our living conditions, but do nothing to change them for the better (e.g., Schindler et al., 2019). Rather, mindfulness might promote strategies for changing unhealthy situations as well as cognitive reappraisals of such situations.



Traditional mindfulness-based intervention formats such as ours, which borrow heavily from the Mindfulness-Based Stress Reduction (MBSR) program developed by Jon Kabat-Zinn (1990), may not address enough of the question of what a mindful way to improve our lives might look like: what participants, who suffer from chronic stress, can actually do to change their living conditions.

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