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Adaptive cognitive emotion regulation moderates the relationship between dysfunctional attitudes and depressive symptoms during a stressful life period: A prospective study

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ABSTRACT

Background and objectives: Dysfunctional cognitions are known to emerge in stressful situations and are critical for the onset of depressive symptoms. The goal of this study is to investigate whether adaptive and/or maladaptive emotion regulation strategies moderate the relationship between dysfunctional attitudes and depressive symptoms under stress.
Methods: In a longitudinal study, 92 healthy but unselected undergraduates were followed for three months including a stress period (four weeks of examinations).
Results: Our findings demonstrate that the more adaptive emotion regulation strategies are used in daily life (measured at baseline), the weaker the relationship between dysfunctional attitudes and depressive symptoms during stress. Interestingly, no single strategy demonstrates a unique predictive value, but only the combination of several adaptive strategies moderates the relationship between dysfunctional attitudes and depressive symptoms. Although participants with elevated depressive symptoms use more maladaptive emotion regulation strategies, these latter strategies do not moderate the association between dysfunctional attitudes and depressive symptoms.
Limitations: The use of a sample of undergraduates limits the generalizability and the clinical significance of our results.
Conclusions: Altogether, although dysfunctional attitudes are activated and accessible in response to certain life stressors, the strategies that healthy individuals use to adaptively regulate these cognitions seem important in determining the likelihood of depressive symptoms.

1. Introduction

Cognitive models of depression attribute a central role to the activation of (otherwise latent) dysfunctional attitudes under stress, cognitions that are critical to elicit depressed mood (Beck, 1967; Beck, Rush, Shaw, & Emery, 1979; Monroe & Simons, 1991; Zuckerman, 1999). Dysfunctional cognitions or attitudes reflect a person's negatively biased assumptions and beliefs regarding oneself, the world, and the future (Beck et al., 1979). For example, individuals who interpret negative (stressful) events in terms of their own inadequacies and inferiority are more likely to develop depressive symptoms (e.g., Ingram, Miranda, & Segal, 1998). Although the association between dysfunctional attitudes and depressive symptoms is well established (Miranda & Persons, 1988), the mechanisms that influence this association remain to be fully understood.

Dysfunctional attitudes embody a constellation of negative representations of self-referent pessimistic perspectives. Interestingly, individuals use cognitive strategies - defined as conscious, self-regulatory mental strategies - to cope with such thoughts that are activated under stress (Garnefski, Kraaij, & Spinhoven, 2001). These strategies are referred to as cognitive emotion regulation strategies (CERS). CERS help people to regulate their emotions during or after the experience of threatening or stressful events

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(e.g., Garnefski et al., 2001). For example, when experiencing a negative life event, individuals may have negative thoughts or beliefs about the self, often representing perfectionistic standards, such as "if I fail at my work, then I am a failure as a person". Individuals use CERS to regulate these thoughts, where they can use adaptive strategies such as positively reappraisal or acceptance. In contrast, individuals can also use maladaptive strategies by, for example, catastrophizing about the situation. Although emotion regulation is a unique human capacity, large individual differences exist in the strategies and the adaptiveness of the strategies individuals use during a stressful life period. These individual differences are essential because CERS to adaptively deal or cope with stress related thoughts are considered a protective factor against the activation of depressive feelings (e.g., Brockmeyer et al., 2012; Ehring, Fisher, Schnülle, Bösterling, Tuschen-Caffier, 2008; Garnefski & Kraaij, 2006; Pfeiffer et al., 2011), and are implicated in emotional well being (Gross & John, 2003). Possibly, habitual CERS could influence the way dysfunctional attitudes develop in depressive symptoms, which could explain individual differences in depressive mood under stress. These trait CERS could be targets in therapeutical interventions for early intervention to modify depressive symptoms.

In this context there is a wide variety of CERS that can be used to cope with emotionally arousing thoughts elicited by the experience of threatening or stressful life events. These strategies range from theoretically more adaptive strategies (e.g., positive refocusing, acceptance, and positive reappraisal) to more maladaptive strategies (e.g., self-blame, ruminative thinking, and catastrophizing). When investigating complex mechanisms such as the activation of dysfunctional attitudes and depressive symptoms under stress, it has been suggested to consider classes of strategies instead of focusing on one single cognitive strategy (Garnefski et al., 2001). On the other hand, it is interesting to know which cognitive strategy is most influential in this respect (see also Aldao, Nolen-Hoeksema, & Schweizer, 2010). Therefore, to investigate basic mechanisms associated with dysfunctional attitudes, CERS and depressive symptoms, this study is performed in an unselected sample of healthy volunteers in periods of elevated life stress.

We conducted a longitudinal study in a large group of undergraduates who were tested five times over a 3 month period. We selected a period that included naturally occurring stress events for these undergraduates, namely the examinations period (e.g., Fox, Cahill, & Zougkou, 2010). During this naturalistic stress generating context, we planned four assessment moments to measure the occurrence of dysfunctional attitudes (e.g., inadequacies, inferiority, etc) and the experience of depressive symptoms. The use of CERS to cope with potentially stressful thoughts during daily life was measured at baseline, eight weeks before the start of the examinations (i.e., low stress conditions). Our hypotheses were twofold. On the one hand, we predicted that the use of a group of adaptive CERS would reduce the well established association between dysfunctional attitudes and depressive symptoms. In other words, if individuals generally use adaptive CERS, such as positive reappraisal, then dysfunctional thoughts (that arise while studying for the examinations) would be less related to depressive symptoms. On the other hand, we predicted that the use of a group of maladaptive CERS would increase the association between negative cognitions and depressive symptoms. Specifically, if individuals generally use maladaptive CERS, such as ruminating on the consequence what will happen is (s)he fails, the same dysfunctional thoughts would be more related to depressive symptoms. Finally, we investigated which cognitive strategy – on itself – is most important in moderating the association between dysfunctional attitudes and depressive symptoms.

2. Methods

2.1. Design overview

This study used a prospective design where we examined predictors of responding to a naturalistic stressor (i.e., exam stress; Fox et al., 2010; Vanderhasselt, Koster, Goubert, & De Raedt, 2012).[1]

2.2. Participants

An undergraduate sample of 92 students of Gent University (20M/72F) with a mean age of 20.27 ($SD = 2.04$) participated in this study. Participants were recruited via the university website.

2.3. Material

Beck Depression Inventory II (BDI-II; Beck, Steer, & Brown, 1996; Dutch translation by Van der Does, 2002). The BDI-II was administered to evaluate depressive symptoms. The BDI-II is a widely used self-report questionnaire consisting of 21 multiple choice format items (4 point scale), to assess the presence and severity of cognitive, motivational, affective, and somatic symptoms of depression. Past reports demonstrated established reliability and validity in clinical and non-clinical samples (Hautzinger, Bailer, Worall, & Keller, 1995). In the present study, internal consistency of the BDI-II was very good at each assessment moment (see Table 1).

Dysfunctional Attitudes Scale (DAS-A, Weissman, 1979; Dutch translation by Van den Broeck, 2002). The DAS-A has 40 statements to which participants respond on a 7-point scale. The DAS-A assesses dysfunctional beliefs that are thought to reflect a person's self-evaluation, concerns about approval from others, prerequisites for happiness, and perfectionist standards (e.g., "If I do not do as well as other people, it means I am a weak person"). Studies have documented that the DAS-A has good test–retest reliability (correlation of .84 over an 8-week period; Weissman, 1979). Internal consistency reliability measured in the present study was very good (see Table 1).

Cognitive Emotion Regulation Questionnaire (CERQ, Garnefski et al., 2001, Garnefski, Kraaij, & Spinhoven, 2002; Dutch translation by the same authors). The CERQ assesses the self-regulating, conscious cognitive strategies individuals use to cope with arousing thoughts in response to stressful life events. The scale consists of 36 items (responding via a 5 point scale) which are divided into nine conceptually different subscales (each consisting of the sum of four items): (1) Acceptance (thoughts of accepting what you have experienced and resigning yourself to what has happened); (2) Refocus on planning (thinking about what steps to take and how to handle the negative event); (3) Refocus positive (thinking about joyful and pleasant issues instead of thinking about the actual event); (4) Positive reappraisal (thoughts of creating a positive meaning to the event in terms of personal growth); (5) Putting into perspective (emphasizing the relativity when comparing it to other events); (6) Self-blame (thoughts of putting the blame of what you have experienced on yourself); (7) Other-blame (thoughts of putting the blame of what you have experienced on the environment or another person); (8) Rumination or focus on thought (thinking about the feelings and thoughts associated with the negative event); (9) Catastrophizing (thoughts of explicitly emphasizing the terror of what you have experienced).

[1] This study is conducted part of a larger longitudinal project, assessing different measures of cognitive control as well as genetic information.