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Individual differences in the effects of a positive psychology intervention: Applied psychology

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ABSTRACT

Objectives: A 6-week multicomponent positive psychology intervention (PPI) was assessed with the primary aim of determining its effects on affective variables including anxiety, depression and psychological distress, as well as processual ones, such as mindfulness and emotion regulation. Exploratory investigations were conducted to consider changes in individual differences according to baseline characteristics.
Method: Participants were from a community sample of the French population. They were assigned to the control (n = 43) or intervention group (n = 59). Self-assessment measures included the Mindful Attention Awareness Scale, Cognitive Emotion Regulation Questionnaire, Spielberger State-Trait Anxiety Inventory, Beck Depression Inventory and the General Health Questionnaire.
Results: Trait anxiety, depressive symptoms and psychological distress significantly decreased over the course of the PPI in comparison to the control group. Regarding processual variables, mindfulness increased with a large effect size, acceptance and positive reappraisal increased, and scores for other-blame strategy significantly decreased. Exploratory analyses showed that mindfulness and positive reappraisal tended to increase even more when participants' initial levels were low.
Conclusion: Future clinical interventions should account for baseline characteristics to ensure that participants are referred to the most effective, suitable programs for their own needs.

1. Introduction

In recent years, conducting promising controlled interventions intended to reduce unpleasant feelings and enhance positive attributes has been a priority of the positive psychology field as part of efforts to promote mental health and well-being (Donaldson, Dollwet, & Rao, 2015; Rashid, 2015; Schueller & Parks, 2014). Obtaining a better understanding of how to promote the experience of positive emotions is a fundamental aspect of positive psychology (Kobau et al., 2011). Individuals' responses to life events involve self-regulatory and conscious cognitive coping strategies. Affective experiences are greatly influenced by the emotion regulation strategies employed, and emotions can also influence the subsequent emotion regulation strategies used (Garnefski, Kraaij, & Spinhoven, 2001; Pavani, Le Vigouroux, Kop, Congard, & Dauvier, 2016). According to Fredrickson's (2001) *Broaden-and-Build* model, negative emotions narrow the thought-action repertoire and promote reactions that rely on known patterns. Rumination might therefore be a consequence of a narrowed thought-action repertoire that creates the experience of negative affect (Pavani et al., 2016). On the other hand, positive emotions broaden individuals' attentional field and thought-action repertoire. New ideas and actions build resources that can be implemented in various situations (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008). Thus, positive emotions might counter negative ones through an "*undoing effect*" (Fredrickson, Mancuso, Branigan, & Tugade, 2000). The positive reappraisal coping strategy, which involves reframing negative events by recalling their positive components, has been shown to prevent the incidence of affective disorders and to trigger positive affect (Garnefski et al., 2002; Levine, Schmidt, Kang, & Tinti, 2012; Pavani et al., 2016). Therefore, conducting and examining interventions that aim to enhance cognitive emotion regulation strategies (Garnefski et al., 2001) appears worthwhile.

Meta-analyses of positive psychology interventions (PPIs) have shown moderate effects on depression and well-being (Bolier et al., 2013; Mitchell, Vella-Brodrick, & Klein, 2010; Sin & Lyubomirsky, 2009). Specific findings have indicated a lower level of depression (Fava, Rafanelli, Cazzaro, Conti, & Grandi, 1998; Proyer, Gander, Wellenzohn, & Ruch, 2016b; Roepke et al., 2015; Schueller & Parks,

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2012; Seligman, Rashid, & Parks, 2006; Seligman, Steen, Park, & Peterson, 2005) and negative affectivity (Moskowitz et al., 2012) and increases in well-being (Fava et al., 1998; Proyer et al., 2016b; Seligman et al., 2005), positive affectivity (Emmons & McCullough, 2003; Moskowitz et al., 2012) and life satisfaction (Lyubomirsky, Sousa, & Dickerhoof, 2006), as well as better physical and mental health (Lyubomirsky et al., 2006). The effectiveness of PPI in terms of affective variables has received substantial support; however, clarifying the underlying processes remains of interest.

The positive psychotherapy theory synthesizes the underlying mechanisms of several PPIs: attention and memory re-education, changes in behavioral aspects and strength promotion (Walsh, Cassidy, & Priebe, 2016). For example, present-focused attention would allow for the identification of individuals' potential strengths (Shapiro, Schwartz, & Santerre, 2002) and therefore contribute to reducing psychological disorders, including anxiety and depression (Khoury et al., 2013). According to the positive psychotherapy theory (Walsh et al., 2016), personal characteristics (e.g., motivation, beliefs, affective state, personality, social support, and cognitive abilities; Proyer, Gander, Wellenzohn, & Ruch, 2016a) and intervention features (e.g., dosage, support, and variety; Walsh et al., 2016) moderate the effects of PPI on affective states.

As positive psychology calls for the implementation of activities that favor well-being, we deliberately used a multidimensional and multicomponent approach, as variety in programs has been associated with positive benefits (Parks, 2015; Parks, Della Porta, Pierce, Zilca, & Lyubomirsky, 2012; Thompson, Peura, & Gayton, 2015). Six main axes were defined according to the literature. These axes aimed to implement timely intentional activities and are more specifically defined below. According to the positive psychotherapy theory (Walsh et al., 2016), PPIs require three phases: *engagement* (similar to the committed *flow* experience when strengths are mobilized to solve a challenge; Nakamura & Csikszentmihalyi, 2014), *pleasure* (with positive emotions that individuals can mindfully experience, savor and amplify) and *meaning and purpose in life* (when actions occur in a broader field than one's existence), as outlined in Seligman's (2002) happiness component model. To address these constructs, the PPI we designed focused on both the “subjective” and “individual” levels of positive psychology (Meyers, van Woerkom, & Bakker, 2013) and purposely adopted notions from eudaemonist and hedonist doctrines (Ryan & Deci, 2001). The activities were designed based on the concept of psychological well-being (Ryff & Keyes, 1995) and therefore encompassed notions of self-acceptance, personal growth, purpose in life, positive relationships, environmental mastery and autonomy. Furthermore, close attention was paid to activities that were in line with life satisfaction and affective life according to the subjective well-being model (Diener, 1994). Therefore, participants were presented with pleasant, engaging and meaningful activities that were consistent with their own aspirations and were included in the positive psychotherapy theory and Seligman (2002). Accordingly, several constructs were considered: the self-concordance motivation model (Sheldon & Elliot, 1999; Sheldon & Lyubomirsky, 2006) and the person-activity fit model, including characteristics of and congruence between activities and individuals as well as psychological processes, involving positive psychology exercises effectiveness (Lyubomirsky & Layous, 2013; Schueller & Parks, 2014). Moreover, as duration and format have been shown to influence outcomes, with longer interventions producing better outcomes than shorter ones (Sin & Lyubomirsky, 2009), we decided to implement this PPI over 6 weeks.

Self-help interventions might offer an accessible way of overcoming individual's reticence to attend one-on-one therapy and could integrate sessions as complementary resources (Norcross, 2006). As these interventions often rely on self-administered activities, positive psychology approaches seem adequately suited to offer self-help interventions (Mitchell, Stanimirovic, Klein, & Vella-Brodrick, 2009; Parks, 2015). The PPI we designed was meant to be easily self-administered and to not require clinician intervention. Our approach aimed to address the need to disseminate alternative, innovative, cost-effective and evidence-based self-help psychological tools among the numerous resources available for individuals seeking personal and positive development (Bolier et al., 2014; Kazdin & Blase, 2011; Schueller & Parks, 2014).

In most cases, the effects of PPIs have been studied using between-group analyses; however, such outcomes do not consider variance within groups (Woodworth, O'Brien-Malone, Diamond, & Schüz, 2016). Reducing data to averages might result in a loss of information; for example, participant samples might be heterogeneous and contain several subgroups (Schueller & Parks, 2012; e.g., in terms of psychological distress; Parks et al., 2012), and adverse effects might not be taken into consideration (Parks, 2014; Rozental et al., 2014). Exploratory analyses might highlight the differential effects of this PPI by investigating the affective and processual variables involved and the participants' initial levels of these variables. Indeed, according to their dispositional characteristics, individuals' competencies in emotion regulation and mindfulness might experience different influences throughout the course of the PPI. Accordingly, our intervention design expanded to observe this potential phenomenon.

In summary, this study evaluated a 6-week self-help PPI that was based on six focal areas of activities that were supported by the literature. The primary aim of this study was to assess the effects of this PPI on affective and processual emotion regulation variables. We hypothesized that, compared to a control group, participants in the self-administered PPI group would show significant improvement from pre-test to post-test in variables such as anxiety, depression and psychological distress. Furthermore, we hypothesized that significant processual changes in mindfulness and in cognitive strategies regarding emotion regulation would occur over the course of the PPI, based on comparisons with a control group. The exploratory aim of the study was to consider the differences in individuals' progress according to their specific characteristics at baseline. We aimed to understand the differential effects of the PPI according to the individual's baseline characteristics.

2. Method

2.1. Participants

The participants' characteristics are displayed in Table 1. In total, 167 people from the French population were contacted from September 2013 to December 2013 by Lille University psychology students. The recruitment pool covered their social networks (i.e., relatives, online or

Table 1
Participants' characteristics.

Variable	Value	Control group (n = 43)	Intervention group (n = 59)
Sex	Female (%)	30 (69.7)	41 (69.5)
Age	Mean (range)	37.2 (20–80)	37.0 (21–67)
Prior meditation experience	Yes (%)	20 (46.5)	29 (49.1)
Education level: years of schooling after primary school	Mean (range)	8.4 (0 – 12)	9.4 (0–17)
Activity	Professional (%)	28 (65.1)	53 (89.8)
	Student (%)	13 (30.2)	4 (6.8)
	Retired (%)	2 (4.6)	2 (3.4)
Marital status	Divorced (%)	4 (9.3)	1 (1.7)
	Married (%)	10 (23.2)	17 (28.8)
	Single (%)	26 (60.4)	36 (61.0)
	Civil union (%)	2 (4.6)	3 (5.1)
	Widowed (%)	1 (2.3)	2 (3.4)