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An early intervention to promote well-being and flourishing and reduce anxiety and depression: A randomized controlled trial



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ABSTRACT

Background: There is growing evidence that fostering mental well-being and flourishing might effectively prevent mental disorders. In this study, we examined whether a 9-week comprehensive positive self-help intervention with email support (TL-E) was effective in enhancing well-being and flourishing and decreasing anxiety and depressive symptoms in a non-clinical sample.

Methods: A total of 275 participants with low or moderate well-being (mean age = 48 years, 86% female) were randomly assigned to a TL-E (n=137) or wait-list control group (WL; n=138). Participants completed online self-reporting questionnaires at baseline and at 3, 6 and 12 months.

Results: Repeated measure analyses revealed significant more improvement on mental well-being (F=42.00, $p\leq0.001$, d=0.66, 95% CI = 0.42–0.90), anxiety (F=21.65, $p\leq0.001$, d=0.63, 95% CI = 0.39–0.87) and depression (F=13.62, $p\leq0.001$, d=0.43, 95% CI = 0.19–0.67) in the TL-E group versus the WL group. The proportion of flourishing in the TL-E group increased from 7 to 30% after 3 months (NNT = 5.46) and to 34% after 6 months (NNT = 5.25). All within group effects were maintained up to 12 months. We found no meaningful dose-response relationship for adherence, nor a clear moderator pattern.

Limitations: It is unknown whether results were influenced by the email support that accompanied the self-help intervention since TL-E was only compared to a wait-list condition. The generalizability of the findings is limited by the self-selected sample of mainly higher-educated women.

Conclusion: A guided positive self-help intervention might be considered as a new mental health promotion strategy because it has the potential to improve well-being up to the status of flourishing mental health, and to decrease anxiety and depressive symptomatology.

1. Introduction

The World Health Organization views mental well-being as a state in which the individual realizes his or her own abilities, copes with the normal stresses in life, works productively and makes a contribution to his or her community (WHO, 2004; p. 4). This definition embodies aspects of feeling good and functioning well in life, and indicates that mental well-being is more than just the absence of mental illness (Keyes, 2002, 2007). Empirical evidence shows that mental well-being and mental illness are moderately interrelated, representing two different dimensions (Huppert and Whittington, 2003; Keyes, 2005; Lamers et al., 2011; Weich et al., 2011). The dimension of mental illness

runs from no mental disorder to a diagnosed mental disorder, and the dimension of mental well-being runs from languishing mental health to flourishing mental health, terms derived from Keyes' (2007) classification framework of mental well-being. When individuals possess high levels of at least one emotional well-being aspect (life-satisfaction, happiness, positive affect) and possess high levels of at least six of the 14 aspects of social and psychological well-being (e.g. social contribution, purpose in life, autonomy, positive relations), these individuals are classified as having flourishing mental health. Individuals with languishing mental health score low on emotional, social and psychological well-being and people who are not flourishing neither languishing are classified as having moderate mental health (Keyes, 2002, 2007).

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People who have low levels of mental well-being do not automatically have (more symptoms of) a mental disorder (Keyes, 2002, 2005; Lamers et al., 2015). Nevertheless, alongside traditional treatments that focus on alleviating the burden of disease, there is growing support for enhancing long-term mental well-being in clinical practice (Duckworth et al., 2005; Forsman et al., 2015; Jeste et al., 2015; Kobau et al., 2011; Ryff, 2014). Recent evidence has shown that higher well-being and flourishing mental health protects against the incidence of mental disorders such as anxiety and depression (Grant et al., 2013; Keyes et al., 2010; Lamers et al., 2015; Schotanus-Dijkstra et al., 2016a; Wood and Joseph, 2010) and reduces suicide risk (Keyes et al., 2012; Koiyumaa-Honkanen et al., 2004). There is also compelling evidence that higher well-being increases longevity by several years in healthy populations and in some somatic illness populations (Chida and Steptoe, 2008; Diener and Chan, 2011; Keyes and Simoes, 2012; Lamers et al., 2012; Veenhoven, 2007). In addition, studies have found that low or moderate well-being has substantial economic consequences due to productivity losses and healthcare costs (Hamar et al., 2015; Keyes, 2007; Keyes and Grzywacz, 2005). Importantly, the most beneficial effects on health, society and the economy have been found for those with flourishing as opposed to languishing mental health or moderate mental health (Keyes, 2005; Keyes and Simoes, 2012; Keyes et al., 2010; Keyes and Grzywacz, 2005).

Interestingly, people with languishing mental health but without a major depression function only nominally better or even worse than people with a major depression without languishing mental health (Keyes, 2002, 2005, 2007). This finding indicates that enhancing well-being in people with low or moderate well-being is important and could also be an effective strategy for the prevention of anxiety and depression (Keyes et al., 2010; Schotanus-Dijkstra et al., 2016a). In light of the abovementioned evidence, the promotion of mental well-being has been prioritized as the number one goal for the public mental health agenda in Europe (Forsman et al., 2015).

In order to promote long-term mental well-being and flourishing, a comprehensive intervention based on a positive framework is deemed necessary, simultaneously targeting multiple well-being components such as positive emotions, optimism and positive relations (Huta and Ryan, 2009; Kobau et al., 2011; Seligman, 2011). Examples of such interventions are Positive Psychotherapy (Rashid, 2014), Well-being therapy (Fava, 1999; Ruini et al., 2014) and the Working for Wellness program (Page and Vella-Brodrick, 2012). However, studies examining the efficacy of these comprehensive interventions did not target people with low or moderate well-being, and the interventions were also not systematically evaluated for effects on flourishing. Furthermore, most of these studies suffered from methodological limitations such as a relatively small sample size in group therapies (Page and Vella-Brodrick, 2012; Rashid, 2014; Ruini et al., 2014) or a low adherence rate in (web-based) self-help interventions (Bolier et al., 2013b; Mitchell et al., 2010; Schueller and Parks, 2012). To tackle these deficiencies, a successful approach might be to integrate the main advantage of group therapy—personal support—within a self-help program because self-help programs can reach a wider target group.

One such intervention that has shown promising results is a self-help intervention based on Acceptance and Commitment Therapy (ACT) and mindfulness. This program (*Living to the Full*; Bohlmeijer and Hulsbergen, 2009) was evaluated in the form of a self-help book and as an online intervention. Both interventions have demonstrated satisfactory adherence rates and beneficial results on mental well-being, anxiety and depression for participants who also received personal email support (Fledderus et al., 2012; Pots et al., 2016). Post-hoc analyses revealed that the self-help book was also effective in enhancing flourishing (Bohlmeijer et al., 2015). Yet, this positively based self-help program was designed and evaluated for people with depressive symptoms, without aiming to promote mental well-being and flourishing in the general population.

The current study continued to research into the potentialities of a

positive self-help book with email support. This study examined the efficacy of the self-help program *Dit is jouw leven (This is Your Life;* (Bohlmeijer and Hulsbergen, 2013), a program based on the principles of positive psychology. *This is Your Life* was specifically designed for people with low or moderate well-being and minimal symptoms of a mental disorder. We evaluated this 9-week multicomponent intervention with email support in individuals with low or moderate well-being who were recruited in the general Dutch population. We conducted a randomized controlled trial (RCT) using Keyes (2007) classification framework as a systematic approach for evaluating the superiority of the intervention on well-being and flourishing over a wait-list control group. We also examined the efficacy of this early intervention on anxiety and depressive symptoms and tested whether specific subgroups benefited most from the intervention.

2. Methods

This study was approved by the Ethics Committee of the University of Twente (no. 13212) and registered in The Netherlands Trial Register (NTR4297). All participants gave their online informed consent before participating in the study.

2.1. Design

This study is a parallel RCT conducted in The Netherlands. Eligible participants with low or moderate well-being were randomly assigned (allocation ratio 1:1) to the Dutch self-help book *This is Your Life* with email support (TL-E) or to a wait-list control group (WL). Online questionnaires were obtained at baseline and at 3, 6 and 12 months.

2.2. Participants and procedure

In January 2014, advertisements were placed in national newspapers and in an online psychology newsletter calling for people who were motivated to work on their 'well-being and resilience'. Eligible participants were self-selected adults in The Netherlands, aged 18 years or older, who were willing to invest an average time of 4 h per week in the self-help program, owned a valid email address and a sufficient Internet connection. Participants who gave online informed consent received a screening questionnaire. Participants were excluded from the study when they possessed: (1) flourishing mental health as assessed with the Mental Health Continuum Short Form (MHC-SF, see Section 2.4 for more details; Keyes, 2006; Keyes et al., 2008) or (2) moderate or severe anxiety or depressive symptoms assessed with the Hospital Anxiety and Depression Scale (score > 10 on either the anxiety or depression subscale, HADS-A or HADS-D, respectively; Spinhoven et al., 1997; Zigmond and Snaith, 1983).

Of the 518 eligible participants, 275 participants completed the baseline questionnaire, and 243 individuals were excluded mainly due to their HADS score. After baseline, randomization was stratified by gender and educational level (low, intermediate, high) using a computerized random number generator created with Excel. The first author was responsible for randomization, enrollment and the assignment of participants to either the TL-E or WL group. After randomization, participants received a personal email with information about their assigned group. Fig. 1 shows the flow chart of participants.

2.3. Interventions

2.3.1. TL-E group (comprehensive positive self-help intervention)

The self-help book Dit is jouw leven (This is Your Life; Bohlmeijer and

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