SHORT REPORT

Predictive value of work-related self-efficacy change on RTW for employees with common mental disorders

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ABSTRACT

To improve interventions that aim to promote return to work (RTW) of workers with common mental disorders (CMD), insight into modifiable predictors of RTW is needed. This study tested the predictive value of self-efficacy change for RTW in addition to preintervention levels of self-efficacy. RTW self-efficacy was measured 5 times within 9 months among 168 clients of a mental healthcare organisation who were on sick leave due to CMD. Self-efficacy parameters were modelled with multilevel analyses and added as predictors into a Cox regression analysis. Results showed that both high baseline self-efficacy and self-efficacy increase until full RTW were predictive of a shorter duration until full RTW. Both self-efficacy parameters remained significant predictors of RTW when controlled for several relevant covariates and within subgroups of employees with either high or low preintervention self-efficacy levels. This is the first study that demonstrated the prognostic value of self-efficacy change, over and above the influence of psychological symptoms, for RTW among employees with CMD. By showing that RTW self-efficacy increase predicted a shorter duration until full RTW, this study points to the relevance of enhancing RTW self-efficacy in occupational or mental health interventions for employees with CMD. Efforts to improve self-efficacy appear valuable both for people with relatively low and high baseline self-efficacy.

What this paper adds

- Earlier studies have shown that preintervention levels of self-efficacy predict return to work (RTW) and hypothesise that promoting self-efficacy will facilitate RTW for workers on sick leave with common mental disorders (CMD).
- However, it remains unclear whether changing initial self-efficacy scores will actually facilitate RTW, as no studies have researched the effect of self-efficacy change on RTW.
- The current study is the first to show the additional value of self-efficacy change in the prediction of RTW, compared with other earlier established predictors of RTW.
- It appears relevant to enhance work-related self-efficacy in interventions that aim to promote RTW for employees with CMD, both for those with high and low initial self-efficacy levels.

INTRODUCTION

Common mental disorders (CMD) are a leading cause of long-term sick leave.[1] It is important that return to work (RTW) is facilitated for employees on sick leave due to CMD. To (re)design interventions that promote RTW, it is paramount to know what modifiable factors may stimulate RTW for these workers. Self-efficacy seems a promising factor to target in RTW interventions. Workers with high RTW self-efficacy (RTW-SE) feel confident about their abilities to RTW and are expected to more be successful and persistent in their attempts to RTW compared with their low self-efficacious counterparts.[2] Indeed, several studies have confirmed that preintervention levels of self-efficacy predict RTW among workers with CMD.[2–4]

However, previous studies did not examine the effect of self-efficacy *increase* on RTW. It therefore remains unclear whether improving initial low self-efficacy actually promotes RTW. Baseline self-efficacy may merely be an indicator of cases with a favourable versus an unfavourable RTW prognosis. In addition, the importance of improving self-efficacy may be dependent on the individuals' initial level of self-efficacy. Those who start with high levels of self-efficacy may be less likely to improve because they have less opportunity for further enhancement and may have already passed a threshold needed to (partially) RTW. Hence, those with high initial self-efficacy levels might benefit less from further enhancement of self-efficacy. This study therefore investigates whether self-efficacy change, in addition to preintervention levels, predicts RTW.

METHODS
Procedure

Employees on sick leave due to CMD were recruited via a mental health centre where they would receive cognitive–behavioural therapy (CBT). Participants received questionnaires at baseline and 1, 3, 6, and 9 months after baseline. A total of 168 clients filled out the questionnaire at baseline (response rate of 67%). The mean age of

the participants was 40.7 years (SD=9.9, 19% was older than 50), 60% was women and 37% had low levels of education (lower vocational or general secondary education). Participants were diagnosed according to Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) criteria with an adjustment disorder (67%), anxiety disorder (13%), mild depression (17%) or another mental health disorder (2%). At baseline most participants were on full sick leave (61%) and have had contact with their supervisor within 2 weeks after the onset of sick leave (74%). Characteristics of the participants and procedure and type of therapy are more extensively described elsewhere.[5]

Measures

Duration until full RTW was defined as the length of time in calendar days from the baseline measurement until full RTW within 9 months. Full RTW was defined as working the number of hours specified in the labour contract, except in the case of adjusted tasks and/or reduced responsibilities.

RTW-SE was measured with a 11-item, validated scale.[2] Participants were asked to respond to statements about their jobs, imagining that they would work their full contract hours the next day (in their present state of mind). An example item is: 'If I resumed my work fully tomorrow I expect that: I will be able to set my personal boundaries at work'. Response categories varied from 'totally disagree' to 'totally agree' on a scale of 1–6.

Analyses

With multilevel analysis we modelled the best fitting regression line across all available measurements before the occurrence of full RTW for each individual. For those without full RTW in 9 months (n=28), a slope was calculated across all five measurements. Positive slope scores were viewed as indicators of self-efficacy increase. Subsequently, two individual parameters of self-efficacy (baseline score and linear slope; both derived from the multilevel model) were entered into a Cox regression analysis. The linear slope scores were multiplied by 10 in order to facilitate the interpretation of the Cox regression results. An earlier publication justifies the use of these individual slopes as linear change was confirmed in a random model (SE Lagerveld, V Brenninkmeijer, RWB Blonk, *et al*. The effect of psychotherapy on self-efficacy growth: insight in the intra-psychological process during RTW for employees with common mental disorders. Submitted to Work Stress. 2016). Cox regression generates HRs per predictor which can be interpreted as a relative chance (compared with a reference group) on the occurrence full RTW. To include participants without full RTW within 9 months, an artificial duration was set at 270 days (censored data).

We repeated the Cox regression analysis for those with high and low levels of self-efficacy, based on a median split of baseline self-efficacy (2.64). In addition, the impact of self-efficacy on RTW was controlled for several potential predictors of RTW for employees with CMD.[5–7] These variables were: gender, educational level, age, early contact with the supervisor (within 2 weeks after the onset of sickness absence), treatment type and severity of depressive symptoms (measured with the depression subscale of the Symptom Checklist-90 (SCL-90)).[8] In addition, we adjusted for therapy duration as this variable was correlated with missing values on the self-efficacy change parameter.

RESULTS

Drop-out analyses

For 34 respondents, no slope could be calculated due to a lack of follow-up questionnaires or because they were fully at work within 1 month. Differences at baseline were investigated between participants with a slope (n=134) and participants without a slope (n=34) for demographics, mental health condition, therapeutic characteristics and baseline characteristics of sick leave. Results showed that for participants without a slope, the duration of therapy was shorter ($F(1141)=7.77$, $p<0.01$). No other significant differences were found.

Predictive value of self-efficacy change on RTW

Table 1 shows the results of a Cox regression analysis that tested the predictive power of both self-efficacy parameters for time to full RTW. The first model shows that both higher baseline self-efficacy (HR=2.82, $p<0.01$) and stronger self-efficacy increase (HR=2.19, $p<0.01$) were significant predictors of a faster RTW. Furthermore, the predictive value of both self-efficacy parameters was supported for participants with high and low levels of self-efficacy (see model 2 and 3).

Results of the fourth model showed that, corrected for the influence of other relevant predictors, both self-efficacy parameters still predicted faster full RTW within 9 months. Employees with higher baseline self-efficacy returned to work sooner (HR=3.16, $p<0.01$). This HR indicates that a one-point difference in baseline self-efficacy is associated with a 3.16 higher chance of full RTW. In addition, clients who experienced a stronger self-efficacy increase returned to work faster (HR=1.91, $p<0.01$). This HR indicates that a 0.10 increase of the self-efficacy slope will result in an almost two times higher chance of full RTW.

DISCUSSION

This is the first study that shows that both high baseline (preintervention) self-efficacy and self-efficacy increase are important predictors of faster full RTW of employees with CMD. Our results demonstrated the added value of both self-efficacy

Table 1 Results of Cox regression analysis: predictors of duration until full RTW

Predictors	Model 1 (total group)		Model 2 (subgroup high SE)		Model 3 (subgroup low SE)		Model 4 (total group)	
	HR	95% CI	HR	95% CI	HR	95% CI	HR adjusted†	95% CI
Self-efficacy baseline (constant)	2.82*	2.03 to 3.93	2.04*	1.21 to 3.45	3.45*	1.76 to 6.77	3.16*	2.04 to 4.87
Self-efficacy change (slope)	2.19*	1.71 to 2.80	2.51*	1.61 to 3.92	2.31*	1.65 to 3.24	1.91*	1.46 to 2.53

A HR >1 reflects a shorter time to RTW.
*Significant at p<0.01 level.
†Adjusted HR is corrected for gender, age (>50), education (low), severity of depressive symptoms (score on depression subscale of the SCL-90), contact with supervisor (within 2 weeks), therapy duration in days and treatment type.
RTW, return to work; SCL-90, Symptom Checklist-90.

parameters in predicting RTW compared with other relevant factors, such as the severity of the disorder. The predictive value of baseline RTW-SE over and above psychological symptoms is in line with earlier studies.[2–4]

Considering the predictive value of self-efficacy change for RTW, it seems worthwhile to enhance self-efficacy during RTW interventions. Care providers may use techniques to promote self-efficacy as proposed by Bandura (mastery, vicarious learning, verbal persuasion and arousal management). Work-related mastery experiences may be secured through graded exposure to work (ie, gradual RTW which includes temporal workplace adaptations).[9] Vicarious learning may be stimulated by focusing on successful experiences of others with similar problems, for example, in group interventions.[10 11] Participants in the current study received CBT that, due to its focus on modifying unhelpful cognitions, may also be well suited to improve self-efficacy.

The current study shows that improving self-efficacy is beneficial, both for employees with high and low baseline self-efficacy. However, there may be subgroups for which this is less effective. Future research may, for example, try to distinguish 'high self-efficacy cases' where further improvement of self-efficacy is no longer a focal point to promote RTW. In addition, Nieuwenhuijsen et al[3] suggested that interventions for clients with self-reported unfavourable work characteristics should emphasise workplace adaptations instead of focusing on self-efficacy. Although CMD might distort a clients' view on workplace characteristics, trying to improve *realistic* low self-efficacy might indeed be harmful. For example, when individuals are persuaded to reach for goals far beyond their current abilities, there is a higher risk of failure and a further decrease of self-efficacy as a result. This risk may be minimised, for example, by adequate goal setting, gradual RTW and preparation to cope with setbacks. Furthermore, care providers might investigate whether client expectations for RTW are realistic by checking their history of (mal)functioning at work, recent changes in job requirements or the clarity of job requirements. Based on such information, it may be decided that additional professional training or permanent job changes are needed to create a better person–job fit and improve work-related self-efficacy.

To conclude, our results show that self-efficacy change is an important predictor of RTW, which underlines the importance of interventions that enhance RTW-SE for employees with CMD.

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