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The role of regulatory focus in outcome monitoring feedback to trainee therapists

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Abstract

The aim of this study was to examine the effect of regulatory focus on affect after outcome monitoring feedback in therapists. In addition, the level of self-efficacy was measured in order to see whether it moderated the effect of regulatory focus after outcome monitoring feedback. This was done by doing a lab study where subjects were presented with cases of patients through video vignettes, followed by outcome monitoring feedback. Contrary to the expectations of this study, the results show no effect of regulatory focus and self-efficacy on affect. Outcome monitoring feedback seemed to have an effect on positive and negative affect. People whom received positive feedback scored higher on satisfaction, relief and happiness, whereas scored higher on disappointment, sadness and angriness, when presented with negative feedback.

Keywords: routine outcome monitoring, feedback, regulatory focus and self-efficacy.

1. Introduction

Feedback about the patient's progress during treatment is valuable information for therapists (De Jong, Van Sluis, Nugter, Heiser, & Spinhoven, 2012). One method that is often used to assess the progress of patients is Routine Outcome Monitoring (ROM). In this approach, patients fill out questionnaires regulatory to track their progress. Providing outcome monitoring feedback to clinicians and patients is a promising method of improving outcomes for individual patients (Bickman, 2008; Knaup, Koesters, Schoefer, Becker & Puschner, 2009). In addition, a review article demonstrated that providing feedback to therapists seems to have a positive effect on the communication between a patient and a clinician, as well as on the accuracy and the outcome of a diagnosis (Carlier, Meuldijk, Van Vliet, Van Fenema, Van Der Wee, & Zitman, 2012). In a meta and mega analysis of six randomized controlled trials from their own research group, Shimokawa, Lambert and Smart (2010) showed that therapists who received feedback on their patients' progress had better outcomes than patients whose therapist did not receive feedback (Shimokawa et al., 2010).

Feedback appears to be most effective for patients who were identified as being at risk of treatment failure, described as "not on track" (NOT) cases (Carlier et al., 2012; Sapyta, Riemer & Bickman, 2005; Shimokawa et al., 2010). Recent studies have shown more moderate effects of feedback than the earlier studies. Although feedback is still found to have a positive effect generally, the effect sizes of outcome monitoring feedback is small to medium (Davidson, Perry, and Bell, 2015). Davidson et al. (2015) also conclude that the quality of feedback studies in highly variable, and methodological issues limit the generalizability of the studies.

A potential explanation for the more moderate effects of feedback is that not every therapist seems to be able to efficiently use feedback (De Jong et al., 2012; Simon, Lambert, Harris, Busath & Vazquez, 2012). According to a recent study, regulatory focus moderates how a therapist handles outcome monitoring (De Jong & De Goede, 2015).

1.1 Regulatory focus theory

Individuals seem to be dissimilar regarding the way in which they handle information (Higgins, 1997). According to Higgins, this dissimilarity is due to differences in people's regulatory focus, which he describes as people's motivational state when making decisions. It consists of two foci: promotion and prevention. With the promotion focus, people tend to

focus on advancement, growth, and accomplishment, and the individuals' objectives are goals, hopes, ideals, and aspirations. With the prevention focus, people tend to choose security, safety, and, responsibility, and the individuals' goals are duties, obligations, and necessities (Higgins, 1997). De Jong and De Goede's (2015) study demonstrated that therapists with a strong prevention focus were less able to achieve positive outcomes after negative feedback, even though they had a more positive attitude towards receiving outcome monitoring feedback. On the other hand, people with a strong promotion focus on achieving success seemed better able to manage negative feedback and obtain better outcomes for their patients when feedback was provided (De Jong & De Goede, 2015).

Lanaj, Chang, and Johnson (2012) observed the relationship between personality variables with regulatory focus. Their meta-analytic study showed that promotion and prevention foci have important, yet independent, relationships with work behavior and job attitude. Regulatory focus showed a variance in people's personality, motivation and attitudinal predictors in their work behaviors (Lanaj et al., 2012). Furthermore, meta-analyses where momentary regulatory focus was experimentally induced revealed that promotion focus was associated with positive affect and personality traits, whilst prevention focus was connected with anxiety, negative affect, introversion and low self-esteem (Gorman, Meriac, Overstreet, Apodaca, McIntyre, Park & Godbey, 2012).

In other studies, promotion-focused subjects were more into self-enhancing experiences that resulted in positive emotions, whereas the prevention-focused group gave up faster when receiving negative feedback and had fewer alternative solutions (Crowe & Higgins, 1997; Lanaj et al., 2012; Tice, Baumeister, Shmueli, & Muraven, 2007). Hence, it is important to conduct more research on the role of regulatory focus on outcome monitoring feedback in order to improve patient outcomes in the future. Furthermore, parallel to regulatory focus it seems that feedback response is also effected by other personality characteristics (Ilgen & Davis, 2000).

1.2 Self-efficacy

While the regulatory focus theory describes the motivational state to either obtain success or prevent failure, self-efficacy is the set of beliefs people hold about their capability to successfully perform a particular task or behavior (Bandura, 1982, 1977; Higgins, 1997). The processing of feedback could be moderated by self-efficacy. Lanaj et al. (2012) showed that self-efficacy was positively related to the promotion focus. People with high self-efficacy have a stronger preference for, and give more value to, negative feedback compared to

positive feedback (Claiborn & Goodyear, 2005). In case of negative feedback, individuals with high self-efficacy tend to have more motivation to increase their efforts for positive outcomes, while individuals with low self-efficacy lower the goal they want to reach (Kluger & DeNisi, 1996). The study of De Jong et al. (2012) revealed a positive effect of feedback in NOT patients. Also, De Jong and colleauges (2012) demonstrated in this study that NOT patients of therapists with higher self-efficacy expectations had a higher rate of progress after receiving negative feedback compared to NOT patients of therapists with lower self-efficacy expectations or patients whose therapist did not receive feedback.

1.3 Value of the study

Previous research provided preliminary insights into the role of feedback in routine outcome monitoring and its effects on the improvement of patients. Regulatory focus and self-efficacy mediates the way therapists deal with negative feedback in routine outcome monitoring. Also, there are still some uncertainties regarding therapists' self-efficacy and its effects on patient improvement when using outcome monitoring feedback. More research is needed to effectively and efficiently provide treatment that will help improve patient outcomes.

A problem of previous feedback studies is that the quality of the studies has not been consistent. Therefore, in this study the feedback response will be investigated in the controlled setting of a laboratory. This pilot study will research trainees' feedback responses through a lab study in order to control the induction of regulatory focus on affective responses. Trainee therapists, who differ in regulatory focus, will be examined to determine whether they differ in affective responses when they receive positive or negative feedback.

This pilot study will bring more insight into how trainee therapists respond to positive and negative outcome monitoring feedback. This pilot experiment will focus on trainee therapists in order to evaluate feasibility, time and costs. The aim is to discover differences in affective responses when trainee therapists differ in regulatory focus. In this experiment, momentary regulatory focus will be manipulated before the subjects receive feedback about the patients in order to see whether regulatory focus training will lead to different responses to outcome monitoring feedback. For instance, this research could demonstrate that negative feedback, during routine outcome monitoring, could lead to more negative responses when people differ in regulatory focus. Subsequently, prevention focused therapists could be presented with positive feedback prior to the treatment in order to prevent them from negative emotions.

As a result, inferences can be made for educational purposes so that outcome monitoring can be effectively used and deterioration of patients could be precluded in future treatments, since previous studies revealed that promotion focused therapists seem to achieve faster symptom reduction after negative feedback (De Jong & De Goede, 2015).

1.4 Research questions

This study will examine whether the level of momentary regulatory focus leads to different affective responses in case of simulated positive or negative outcome feedback. In addition, it will be examined whether self-efficacy moderates the affective responses after receiving positive or negative outcome feedback. The first hypothesis is that subjects will experience more difficulties when receiving negative feedback after being induced into a momentary prevention focus, than after being induced into a promotion focus. Also, it is expected that subjects with a high self-efficacy will experience fever negative affect after negative feedback than people with a low level of self-efficacy.

2. Method

2.1 Design

This study was a 2 (type feedback: positive vs. negative) x 2 (regulatory focus: promotion vs. prevention) within-subject experimental design. In this study the relation between the dependent variables (satisfaction, happiness, relief, angriness, sadness, disappointment) and the independent variables (regulatory focus, routine outcome monitoring feedback, self-efficacy, the interaction between regulatory focus and feedback and the interaction between feedback and self-efficacy) are measured.

2.2 Subjects

Subjects were students and alumni (five males and seventeen females) of the department of Clinical Psychology and Clinical Neuropsychology of Leiden University. Students who were planning to do a clinical internship, were currently conducting a clinical internship, or had conducted an internship during their master program (alumni) were recruited to participate in the study. Also, students were required to have fluency in Dutch in order to participate.

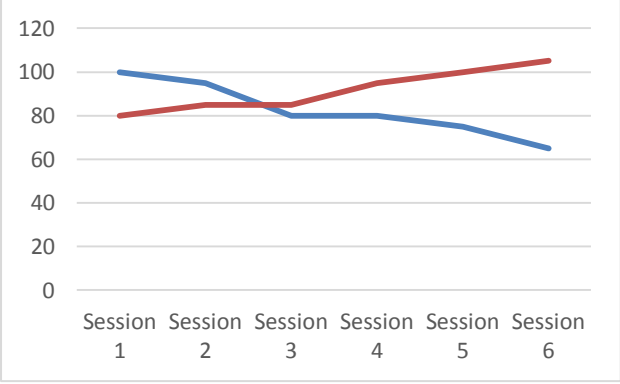
2.3 Materials and manipulation

Demographic characteristics. Subjects were requested to fill out the background questionnaire, which consisted of 32 items. Subjects' demographic characteristics (e.g., country of birth, working situation, experience in treatment, prior treatment, use of medication and familiarity with ROM, were requested to fill out.

Regulatory focus. Regulatory focus was manipulated by asking participants to answer two questions in writing about the promotion focus (e.g., "What is your personal motivation to become a therapist?") and two question about the prevention focus (e.g., "What would you want to prevent as a therapist during your treatments?"). The questions above mentioned consisted of words (e.g., accomplishment and prevent) which were linked to promotion or prevention focus by Higgins (1997). As a result of these questions it was intended to let the subject think about the regarding focus they were in, in order to envision themselves as a therapist who is promotion or prevention focused. In order to retain the induction of momentary regulatory focus, the subjects were also presented with sentences were they had to imagine themselves as the therapist, who was promotion focused (e.g., "You aspire to ensure that your treatment will lead to an improvement in symptoms of your client") or prevention focused (e.g., "You want to prevent that your treatment will lead to a deterioration in symptoms of your client").

Feedback valence. Feedback was either positive or negative. All feedback was presented in a graph, depicting the course of treatment during an eight week period and the ROM scores. Higher ROM scores on the y-axis presented more symptoms and complaints. In Figure 1, the positive feedback condition shows a declining trend was shown. This represented patients' progress during treatment. In the negative feedback condition, an upward trend was shown. This represented a deterioration of the patient during treatment.

Figure 1 representing negative and positive ROM feedback.



Self-efficacy. To assess subjects' belief in his/her ability to succeed, the Dutch General Self-Efficacy Scale (Teeuw, Schwarzer & Jerusalem, 1994, adaptation of the Generalized Self-efficacy scale by Schwarzer & Jerusalem, 1981) was used, where subjects rated on a scale of 1 (not at all true) to 4 (exactly true) how much they felt the 10 statements applied to them (e.g., "I can always manage to solve difficult problems if I try hard enough"). A psychometric test performed in a community sample (i.e., doctors, nurses and administrative employers) showed an excellent internal consistency with a Cronbach's α of .90 (De Man, Gemmel, Vlerick & Dierckx, 2004). Another study demonstrated a good test-retest reliability of .82 (Leganger, Kraft & Rysamb, 2000). The construct validity appeared to be good for multiple subscales with correlations between .64 and .66 (Scherbaum, Cohen-Charash & Kern, 2006).

2.4 Procedure

Subjects were recruited through email, through flyers and approaching students at the university. On arrival, subjects were informed about the anonymity and confidentiality of this study and were given a brief explanation about the experiment. Subjects were told that the purpose of this pilot study was to investigate new methods of educating clinical psychology students about choosing the right intervention for patients with different mental health problems during their internship.

Prior to the experiment, the subjects signed the informed consent form which indicates that they could stop at any given moment, for no reason. Subsequently, the subjects were requested to fill out the background questionnaire, the General Self-Efficacy Questionnaire and a questionnaire regarding their attitude towards ROM. Then, the subjects were ready to start the experiment on the computer. The subjects then were given an instruction about the questions in the experiment, followed by the induction of a momentary regulatory focus. After this, the subjects were randomly allocated to eight trials of cases of patients through video vignettes with a duration between 1,5 to 2 minutes. These vignettes consisted of a designed intake of patients with different disorders. For each condition, we used a male and a female patient, in order to reduce the possibility for identification with the patient. While imagining that the patients were their own, they had to choose between three treatment interventions and to indicate to what extent they thought their choice of intervention would help the patient. A loading video was inserted to make the subjects belief that their choices for interventions were being verified, followed by feedback whether the patient made more or less progress than expected. Afterwards, they had to indicate on a visual analogue scale to what extent they were

feeling disappointed, satisfied, angry, happy, sad or relieved in order to determine their state of mind.

At the end of the experiment several questions were asked to determine whether the subjects knew about the purpose of this experiment, whether they thought the feedback was credible and whether they agreed with the feedback. As soon as they finished these tasks, they were debriefed by telling them that the cases were not real. As a reward for their participation, subjects received a remuneration of €15,-.

2.5 Data analysis

The analyses were conducted using IBM SPSS version 23. In order to model the relation between the dependent variable (e.g., satisfaction) and the independent variables (chronic regulatory focus, feedback, self-efficacy, the interaction between chronic regulatory focus and feedback and the interaction between feedback and self-efficacy) a multilevel analysis was performed. A full maximum likelihood was used in order to estimate the parameters. Depended variables were the sum of positive affect (i.e., satisfaction, happiness, relief) and negative affect (i.e., disappointment, sadness, angriness). Regulatory focus and feedback were entered as dummy variables (coding for promotion and positive respectively). The General Self-Efficacy Scale (Teeuw, Schwarzer & Jerusalem, 1994) was used and centered before it went into the equation to keep the intercept interpretable.

3. Results

3.1 Descriptive statistics

Twenty-five subjects participated in the study. The majority of the subjects were female 80% (male 20%). The age ranged from 21 to 48 years, with a mean of 25 years (*SD* = 5.20). Out of the 25 subjects, there was attrition for 4 subjects. Two subjects failed to show up, and for two subjects data could not be used due to problems with the attachment of the BIOPAC MP 150 system and problems with the E-prime software. The final sample for analysis consisted of twenty-one subjects. In total, 18 subjects (75%) had experiences as a trainee therapist or as therapist and 13 subjects (50%) had used ROM before. Twenty-three subjects completed the ROM questionnaire, as 1 subject was not familiar with the ROM. Fourteen subjects agreed/strongly agreed on using ROM feedback during treatments, 15 of them believed ROM

will help improve the quality of the treatments and 13 of the total believed ROM will help clients function better. Further frequencies of the demographic questions are presented in Table 1, along with the subjects' characteristics.

Table 1

Description of subject characteristics of the final sample (N=21)

Variable Name	Group	N	%
Gender	Female	16	76,2%
	Male	5	23,8%
Experience	Working as trainee therapist	11	52,4%
	Working as therapist	4	19%
	Has experience as trainee therapist	1	4,8%
	No clinical experience	5	23,8%
Treatment	Who has been in treatment before	5	23,8%
	No personal experience with treatment	16	76,2%
Hours experience	0	7	33,3%
	1-25	3	14,3%
	26-50	4	19%
	51-100	2	9,5%
	101-200	1	4,8%
	>400	4	19%
ROM familiarity	Familiar with ROM, but never used it	8	38,1%
	Familiar with ROM, used it in the past	3	14,3%
	Familiar with ROM, using it in	9	42,8%
	Not familiar with ROM	1	4,8%

Note: N = number of people.

3.2 Order check

It was checked whether an order of the regulatory focus, which were presented in two possible ways, had an effect on the outcome. In the positive affect group there was no effect of order. The regression coefficient was negative but not significant (t = -1.04, p = .30). For the negative affect group there was also no effect of order as well. The regression coefficient

was positive but not significant (t = .54, p = .59). It can be concluded that the order of regulatory focus has no effect on the outcome of the affect.

3.3 Assumptions for normality

Assumptions for normality were checked to see the distribution of the residuals for positive affect and negative affect. For positive affect the histogram shows a bell-shaped curve and an approximately straight line for the normal probability plot. The Kolmogorov-Smirnov test shows a non-significant value for positive affect, $D(168) = 0.05$, p = .20. This means a normal distribution of the residuals in the positive affect group. For the negative affect group there is also a bell-shaped curve for the histogram and an approximately straight line for the normal probability plot. However, the Kolmogorov-Smirnov test shows a significant value for negative affect, $D(168) = 0.08$, p = .02. From this, a non-normal distribution of the residuals for negative affect can be assumed. Since the Kolmogorov-Smirnov test is a conservative test and the normal probability plot and histogram present both a normal distribution of the residuals, there are no further consequences for the analyses (Ghasemi & Zahediasl, 2012).

3.4 Positive affect

To explain the differences in positive affect three multilevel analysis were conducted. In the first model all possible effects were treated as fixed. In the second model only the intercept was allowed to be random, and the third model had a random intercept and random slopes for the main effects. The change from model 1 to 2 (*delta deviance* (1) = 14.93, $p < .0005$) and from model 2 to 3 (*delta deviance* (9) = 98.46, $p < .0005$) was both significant. The final model is presented in Table 2. To interpret the final model, the regression coefficients were evaluated. Only feedback had a significant contribution in predicting positive affect (b = 39.98, SE = 5.23, $p < .001$), which means that when people are presented with positive feedback, they score higher on positive affect than when they are presented with negative feedback. Since the interaction term between regulatory focus and feedback was not significant (b = .20, SE = 2.78, p = .94) we cannot say that the effect of regulatory focus on positive affect depends on the level of feedback (negative versus positive). Also the interaction term between feedback and self-efficacy was not significant (b = -1.66, SE = 1.73, p = .35). This means that we cannot say that the effect of feedback is being moderated (dependent on) by the level of self-efficacy.

Table 2

Multilevel model analysis representing random intercepts and slopes for positive affect.

Model	M3 Random intercept and slopes (for main effects)	
Fixed part	*Coefficients*	*SE*
Intercept	26.77**	3.11
RF promotion	-.71	2.23
FB positive	39.98***	5.23
GSE	2.10	1.49
RF x FB	.20	2.78
FB x GSE	-1.66	1.73
Random part	*Variance*	*SE*
Residual	81.35***	11.21
Intercept	100.52	117.61
RF promotion	23.38	25.20
FB positive	492.23***	146.46
GSE	21.91	.00
Deviance	1328.57	
Number of parameters	17	

***** p < .05, ****** p < .01, ******* p < 0.001

3.5 Negative affect

To explain the differences in negative affect again three multilevel analysis were conducted. Respectively a fixed effect, random intercept, and random slope, random intercept model were run. The change from model 1 to 2 (*delta deviance* (1) = 63.27, $p < .0005$) and from model 2 to 3 (*delta deviance* (9) = 80.16, $p < .0005$) was both significant. As a result, the random slope, random intercept model was used for further analysis. Only feedback had a significant contribution in predicting negative affect ($b = -30.25$, $SE = 3.68$, $p < .001$), so we can conclude that on average people presented with negative feedback score higher on negative affect than when they are presented with positive feedback. Since the interaction term between regulatory focus and feedback was not significant ($b = 3.34$, $SE = 2.45$, $p = .18$) we cannot say that the effect of regulatory focus on negative affect depends on the level of feedback (negative versus positive). Also the interaction term between feedback and self-

efficacy was not significant (b = 1.03, SE = 1.18, p = .38). This means that we cannot say that the effect of feedback is being moderated (dependent on) by the level of self-efficacy.

Table 3

Multilevel model analysis representing random intercepts and slopes for negative affect.

	M3	
Model	Random intercept and slopes (for main effects)	
Fixed part	*Coefficients*	*SE*
Intercept	35.83***	4.00
RF promotion	-1.88	2.25
FB positive	-30.25***	3.68
GSE	-.95	1.68
RF x FB	3.34	2.45
FB x GSE	1.03	1.18
Random part	*Variance*	*SE*
Residual	63.18***	9.02
Intercept	250.99	.00
RF promotion	43.14	27.22
FB positive	220.92	.00
GSE	23.62	.00
Deviance	1280.13	
Number of parameters	17	

***** p < .05, ****** p < .01, ******* p < 0.001

4. Discussion

This study aimed to examine whether momentary regulatory focus leads to different responses in affect after simulated outcome monitoring feedback. In addition, the aim was to explore whether self-efficacy could have an effect on this process. This was tested by presenting outcome monitoring feedback after audio vignettes of patients with a variety of psychiatric disorders. It was hypothesized that people would experience a higher level of negative affect

when receiving negative outcome monitoring feedback if a prevention focus was induced, than if a promotion focus was induced. Second, it was hypothesized that people with a high level of self-efficacy would experience fewer negative affect after negative feedback than people with a low level of self-efficacy. The results of the study did not confirm our hypotheses.

The findings of outcome monitoring feedback on affect were in line with the expectations of this study. Positive feedback resulted in significantly more positive affect than negative feedback, whereas negative feedback resulted in significantly more negative affect than positive feedback. Contrary to our expectations, there were no statistically significant effects of the induction of regulatory focus after feedback on affect. In addition, self-efficacy did not moderate the effect of regulatory focus on feedback. This is inconsistent with previous studies. In a previous study, regulatory focus seemed to moderate the way a therapist handled feedback (De Jong & De Goede, 2015). People with a strong promotion focus seemed better able to manage negative feedback (De Jong & De Goede, 2015). Riemer and Bickman (2011) show in their contextualized feedback intervention theory that people make a comparison between the goal and the feedback. This in turn can lead to the option to reduce a possible discrepancy between these (Kluger & DeNisi, 1996). According to a study of Kluger and DeNisi (1996) people with high self-efficacy were motivated to raise their effort to reach for this aim, compared to people with low self-efficacy. In addition, the study of De Jong and colleagues (2012) show supporting findings for self-efficacy on feedback. Also, negative feedback seemed to be more preferable to people with high self-efficacy compared to positive feedback (Claiborn & Goodyear, 2005).

4.1 Limitations

The reason that the findings of this study did not support the hypotheses could be due to several limitations of this pilot-study. Momentary regulatory focus was manipulated by letting the subjects write questions regarding promotion and prevention focus. It is possible that subjects could not envision themselves as a therapist, or that the induction in the respective momentary regulatory focus was not strong enough to have an effect. Since we did not conduct a manipulation check, we do not know if the regulatory focus induction was successful.

Another issue of this study was the questionnaire measuring the chronic regulatory focus. Due to a lack of internal consistency in the scales, it could not be used in this study. Because of this, there is no information about subjects' chronic regulatory focus, which could

influence people's response to positive or negative feedback. This in turn could demonstrate whether people could manage negative feedback better when having a chronic promotion focus as demonstrated in the study of De Jong and De Goede (2015). A potential explanation for a high score on negative affect after negative feedback could be due differences in chronic regulatory focus. It could be possible that subjects had a chronic prevention focus for the most part.

Furthermore, this study consisted of a small sample of students and alumni. The initial aim was to examine subjects who were familiar with ROM. Therefore, initial inclusion criteria were that subjects needed to be at least one month into their clinical internship, or had already finished it. Due to a small sample of subjects who complied to this criteria, the criterion was changed and subjects who had heard about ROM in their studies and whom were planning to do a clinical internship in the future were also accepted in the study. However, it is possible that due to this selection, some of the subjects did not exactly know what ROM implied. In addition, because of the small sample, the findings are less generalizable and therefore less representative of the population, and may influence the power to detect effects.

4.2 Implications

The findings of this study show that on average, therapists who receive negative outcome monitoring feedback, experience higher levels of negative affect (e.g., disappointment) than therapists who receive positive outcome monitoring feedback. This may have consequences for the treatment of their patients, after therapists receive outcome monitoring feedback in clinical practice. Therapists who score high on negative affect after negative routine outcome monitoring feedback, could be presented with positive feedback prior to the treatment in order to prevent them from negative affect. In addition, educational inferences could be made for therapists whom experience negative affect. This in turn could have a positive effect on feasibility, time and costs in mental healthcare institutions.

4.3 Future research

The main purpose of this pilot-study was to examine the feasibility of the research paradigm in order to use it in a further study with a larger sample. More research in regulatory focus and therapist characteristics are essential. Though regulatory focus and self-efficacy seemed to have no effect in this study, other studies show inconsistent findings. Future studies could focus on recruiting a larger sample of subjects and take chronic regulatory focus into account.

Second, a manipulation check could be done in order to check whether subjects could envision themselves in the respective regulatory focus. Third, it is recommended to measure implicit physiological responses (e.g., ECG and skin conductance). These implicit physiological responses may lead to an increased understanding in therapists' responses on feedback, without relying solely on self-reports.

4.4 Conclusion

This pilot-study examined the effects of regulatory focus on affect after momentary regulatory focus by therapists. Also, self-efficacy was measured in order to see whether it was influencing this process. Findings present an effect of feedback on affect. However, contrary to earlier studies the findings did not support the expectations in this study. Future research is recommended due to this inconsistency. Once therapists can achieve faster symptom reductions in patients, positive consequences will follow on time and costs in mental healthcare institutions.

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