



UNIVERSITY OF TWENTE.

**Faculty of Positive Psychology
& Technology**

The relationship between self-disclosure, well-being and therapeutic behaviours during tailored e-mail counselling in a Positive Psychology Intervention

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Abstract

Background

Nowadays self-disclosure of participants is a helpful behaviour in face-to-face therapy. But very little is known about the effect of self-disclosure during online counselling, because the Internet provides a totally different environment. In the current study self-disclosure of the participants is regarded in the context of e-mail support during a Positive Psychology Intervention. It is examined which therapeutic behaviours are used during the e-mail support and which relation they have to the well-being of the participants. Furthermore the factor self-disclosure is examined and how it is related to well-being of participants and therapeutic behaviours.

Methods

A subsample of 70 participants was drawn from the dataset of Schotanus-Dijkstra et al. (2015). The participants followed the intervention *This is your life* and were guided via e-mail. The participant's well-being was measured with the Mental Health Continuum-Short Form (MHC-SF). The e-mail conversations were content analysed with the help of a coding scheme, which was based on the study of Matten (2016). Spearman's rho correlations were executed to obtain the relation between therapeutic behaviours and well-being, between self-disclosure and well-being as well as between therapeutic behaviours and self-disclosure.

Results

Significant results were found for the relationship between therapeutic behaviours and self-disclosure of the participants. A strong correlation was detected for *positive reinforcement* and self-disclosure of the participants and moderate correlations were discovered for self-disclosure and *summarizing*, *alliance bolstering* and *empathetic utterance*.

Conclusion

From the results can be stated that no evidence was found for the relation between therapeutic behaviour and well-being of the participants. For self-disclosure only the relationships to therapeutic behaviours were significant. More research is necessary to be able to optimize therapeutic behaviours during e-mail support and to further investigate the role of self-disclosure in Positive Psychology Interventions with e-mail support.

Introduction

Positive psychology

In 1998, Seligman introduced Positive Psychology, focussing no longer on just repairing weaknesses and mental problems, but also on well-being and human functioning (Seligman, & Csikszentmihalyi, 2014; Mitchell, Vella-Brodrick, & Klein, 2010). Psychological well-being is no longer seen only as the absence of mental disorders but also tries to focus on the positive psychological resources (Sin, & Lyumbomirsky, 2009). This can also be seen in the World Health Organisation's definition of mental health: Mental health is "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her own community" (WHO 2005, p.2). The previous definition is picked up by Keyes (2010) to characterize mentally healthy individuals. According to him one has to be emotionally, psychological, and socially well to be mentally healthy (Keyes, 2010). Westerhof and Keyes (2010) state that with regard to the WHO definition of mental health "emotional well-being matches the core component of well-being (...). Psychological well-being the subjective evaluation of optimal individual functioning and social well-being provides the subjective evaluation of optimal functioning for a community." Keyes used the term "flourishing" to describe people with a high level of well-being and a good psychologically and socially functioning (Keyes 2002; Westerhof & Keyes, 2010).

To promote well-being and flourishing in individuals, Positive Psychology Interventions can be applied. Bolger et al. (2013) showed in a meta-analysis that Positive Psychology Interventions have a positive effect on well-being on the short

and the long run. One example for a Positive Psychology Intervention is the self-help book *This is your life* which was used in the current study. According to Jonker (2014) there was a positive effect from this intervention on the perceived well-being of the participants. *This is your life* is based on the well-being theory of Seligman and the psychological well-being theory of Ryff. It consists of eight modules, which include six key components that are important in Positive Psychology: positive emotions, discovering and using strength, optimism and hope, self-compassion, resilience and post-traumatic growth, and positive relations (Schotanus-Dijkstra, et al., 2015). Schotanus-Dijkstra et al. (2015) added support via e-mail to this intervention. Each week participants were instructed to read the book *This is your life* and sent an e-mail with their experiences. This type of intervention can be viewed as online counselling.

Online counselling

In earlier studies it was detected that online counselling could increase the interest, engagement and the understanding of the program content (Barak, Klein, & Proudfoot, 2009). A reason therefor is that it makes the program more personalized (Barak, Klein, & Proudfoot, 2009). Usually online counselling is via e-mail. It has been found that e-mails and chat modes are superior to other online counselling methods, like forums, audio or webcams. Prior researches have shown that e-mails and chats can have effects similar to face-to-face counselling (Salleh, et al., 2015). In comparison to face-to-face therapies the communication in online counselling does not take place directly, but is determined by the participant's time he needs to respond (Rochlen, Zack, & Speyer, 2004).

There are many challenges and benefits of online counselling, which is a

reason why this approach is still debated (Rochlen, Zack, & Speyer, 2004). The first problem is that nonverbal communication is missing. According to Cook and Doyle (2002) the absence of nonverbal communication has a negative influence on the relationship between the personal counsellor and the client. Another challenge to deal with is that online counselling is sensible for misinterpretations (Rochlen, Zack, & Speyer, 2004). Therefore personal counsellors have to be well trained to filter all information, which sometimes is not expressed directly (Rochlen, Zack, & Speyer, 2004). A benefit of online counselling can be the time delay, which gives the patient some time to think. This can lead to increased self-observation and awareness, reduced impulsivity and deeper reflection (Salleh, et al., 2015). Other benefits of online counselling are: reduced costs, increased anonymity, potential to contact a personal counsellor at any time, accessibility for isolated or stigmatized groups (Abbott, Klein, & Cienchomski, 2008) and that writing itself can be therapeutic (Rochlen, Zack, & Speyer, 2004).

Therapeutic behaviours

By using face-to-face interventions many different therapeutic behaviours have been identified to work supportive, such as *showing empathy*, *making interpretations* and *showing acceptance* (Holländer, et al., 2016). However, it is yet unknown which influence therapeutic behaviours have in online counselling. The biggest difference to face-to-face therapy is that personal counsellors present less teaching but work more supportive, encouraging, and guiding (Holländer et al., 2016; Sanchez-Ortiz, Munro, Startup, Treasure, & Schmidt, 2011). It was shown that the guidance of a personal counsellor can improve the effect on cognitive behavioural treatments (CBT) (Sanchez-Ortiz, et al., 2011). Thus it was investigated in different studies which

therapeutic behaviours in online counselling have a positive effect on the participants. Paxling et al. (2013) detected the following behaviours that are present in online counselling: *task prompting*, *task reinforcement*, *alliance bolstering*, *deadline flexibility*, *psycho-education*, *empathetic utterances*, *self-disclosure* and *self-efficacy shaping*. *Task reinforcement* correlated positively with the outcome, whereas *deadline flexibility* correlated negatively. The other behaviours had a positive influence on the module adherence (Paxling et al., 2013). A second study from Holländer et al. (2016) found the therapeutic behaviours *encouragement*, *self-disclosure* and *affirmation* to support a positive outcome of the intervention. *Affirmation* was associated with a positive long-term outcome (Holländer et al., 2016). These two studies formed the basis for the study of Matten (2016) about e-mail support in the *This is your life* intervention. According to this study personal counsellors mainly used statements of *positive reinforcement*, *stimulation* and *empathy utterance* during online counselling. In contrast to the earlier studies, Matten's study (2016) demonstrated that the behaviour of the personal counsellor had no influence on the well-being of participants.

Self-disclosure of participants in e-mail counselling

Roger, Griffin, Wykle and Fitzpatrick (2009) stated that self-disclosure is an indicator for mental health, help oneself to achieve self-actualization, decrease anxiety and lead to personal growth and knowing oneself better. A lack of self-disclosure can have many negative effects: repression of emotions, isolation, and mental illness (Roger, et al., 2009). In general self-disclosure is a helpful behaviour in therapy as the client is able to present facts and emotions to the personal counsellor (Roger, et al., 2009). The advantages in face-to-face therapy are not applicable to

online counselling, because the Internet provides a totally different environment, where people mainly have feelings of anonymity and invisibility (Barak & Gluck-Ofri, 2007). The communication via Internet is characterized by more straightforward communication (Barak & Gluck-Ofri, 2007). Furthermore relationships are more difficult to describe, because the persons are neither close or intimate nor complete strangers (Barak & Gluck-Ofri, 2007). A study conducted from Sanchez-Ortiz et al. (2011) detected that patients have problems with self-disclosure in online counselling via e-mail. According to Sanchez-Ortiz et al. (2011) participants in general send less e-mails than personal counsellors and furthermore do not disclose many details. This makes it problematic for personal counsellors to respond in a personal and more specific way (Sachenz-Ortiz et al., 2011). To date few studies have been conducted with regard to the role of self-disclosure in online counselling to date (Roger, et al., 2009; Barak & Gluck-Ofri, 2007).

Current study

The aim of the current study is to examine the role of self-disclosure of participants in a Positive Psychology Intervention with support via e-mail. Furthermore other factors, like therapeutic behaviours and well-being of the participants are taken into account. The current study is based on earlier studies about e-mail counselling in a Positive Psychology Intervention called *This is your life*. The intervention was described in the study of Schotanus-Dijkstra, et al. (2015). Based on the literature review the following research questions can be asked:

1. What is the relationship between therapeutic behaviours during an e-mail conversation and the change in well-being of participants after a Positive Psychology Intervention?

2. What is the relationship between self-disclosure of participants and change in well-being of participants after a Positive Psychology Intervention?
3. What is the relationship between therapeutic behaviours during an e-mail conversation and self-disclosure of the participants during a Positive Psychology Intervention?
4. Are therapeutic behaviours during an e-mail conversation a mediator of self-disclosure of the participants and a change of well-being of the participants during a Positive Psychology Intervention?

Methods

Design

A mixed method was applied using qualitative data by e-mails and quantitative data by questionnaires. First a content-analysis was performed to examine the frequency of therapeutic behaviours in the e-mails. In total a random sample of 70 email conversations was analysed. Secondly three correlation analyses were conducted. Finally several mediation analyses were conducted with the therapeutic behaviours as mediator, self-disclosure of the participants as the independent variable and well-being as the dependent variable.

Participants

Participants in the Netherlands were recruited via newspaper advertisements. Interested participants could obtain more information and an application form for the study on a website. The original sample contained 275 participants of which 137 were in the experimental group. A subsample of 122 was drawn where participants

who wrote no e-mail were excluded. From this subsample a sample of 70 participants was randomly chosen and analysed by three researchers.

Measuring instruments

The mental well-being of the participants was measured with the Mental Health Continuum – Short Form (MHC-SF) (Keyes et al. 2008). The MHC-SF consists of 14 items on a six-point Likert scale ranging from zero to five, where zero means 'never' and five 'every day'. Well-being is measured with three subscales: emotional well-being (three items), social well-being (five items) and psychological well-being (five items). An example for an item is: "In the last months, how often did you have the feeling that you were happy?" The mean of the three subscales was used to calculate the total score of the MHC-SF. In the current study, the reliable and valid Dutch version was used (Lamers et al., 2011; Lamers, 2012). The reliability was according to Lamers et al. (2011) high ($\alpha=0.89$), which was confirmed by Schotanus-Dijkstra et al. (2015) where an alpha of 0.88 was detected.

Intervention

The current study used data of a randomized controlled trial to identify the relationship between therapeutic behaviours, self-disclosure of participants as well as changed well-being of participants. The present study was based on the research of Schotanus-Dijkstra et al. (2015) where the intervention *This is your life* was used. The participants were divided into two different groups. One of these groups worked with the self-help book and information mails (TL-I) and the second with the self-help book and weekly and tailored e-mail support from a personal counsellor (TL-E). The counsellors were five students of the University of Twente and one researcher who

conducted the study. The students were trained in e-mail online counselling by attending a course. They were instructed to encourage the participants to read the book and to do the exercises. Furthermore feedback on the progress was given with the use of counselling methods like positive reinforcement and paraphrasing (Schotanus-Dijkstra et al., 2015). The current study used the dataset from this study to answer the research questions.

Procedure qualitative analyses

The coding schemes were taken from the studies of Matten (2016) and Kats (2016). The coding scheme of Matten (2016) was used for the counsellor and the coding scheme of Kats (2016) for the participants. After joining the two coding schemes together some codes that were not important for the recent study were removed (Like spelling and grammar mistakes). Three different categories remained regarding the personal counsellor (Content, Relationship and Process) and one for the participant (Self-disclosure). All the codes can be found in Table 1 and Table 2. To check whether all definitions were equally used by the researchers, conversations of three participants were coded individually by three different researchers, using the program Atlas.ti. After coding the e-mail conversation with the first participant, the used codes were discussed. Then the e-mails of the second participant were analysed together to make sure that everyone equally understood the code definitions. The third e-mail conversation was coded individually and discussed later on to control if the three researchers used equal codes. During this some definitions had to be made more precise. This was done by writing down more examples of quotes that represent the code or to redefine the code. Additionally it was decided that the introduction e-mail and the closure e-mail were not taken into account

because the conversation in these e-mails was not important for the research question.

To check the inter-rater reliability Cohen's kappa was calculated. Therefore each researcher coded the same ten e-mail conversations. Within these the researcher regarded every single e-mail the counsellor wrote and coded every present therapeutic behaviour with a one in SPSS. A therapeutic behaviour that was not present in this e-mail was coded with a zero in SPSS. The highest Cohen's kappa was found for the behaviour *self-disclosure therapist* (.85) and the lowest for *stimulation/motivation* (.16). In general four behaviours had a satisfying value of greater than .70. These were *positive reinforcement*, *insightful questions*, *summarizing* and *self-disclosure counsellor*. The other seven therapeutic behaviours had values lower than .70.

Table 1.
Coding scheme for the therapeutic behaviours

Category	Code	Definition	Example
Content	Positive reinforcement	Behaviour aimed at reinforcing assignments already completed by the participant; Strengthen positive behaviour	"You've described your worry thoughts in a good way"
	Insightful question	Asking the participant questions that will stimulate his/her thinking and new insight	"You said x. What does this mean to you?"
	Psycho - education	Information about psychological processes; explain goals of the treatment and explain the purpose and meaning of the work involved in the treatment	"Worrying is part of a generalized anxiety disorder"
	Stimulation/ Motivation	Behaviours promoting the participant to work with a given homework assignment and explicit interest in future results; Encourage for self-development	„I'm looking forward to hearing from you next week.“
Relation-	Empathetic	Writing that attempt to convey	"I understand that

Process	ship	utterance	understanding and empathy for the participant's suffering, frustration or general life situation; Give reflection on feelings	you..." "I can see why you..."
		Alliance bolstering	Non-treatment specific writing that pertain to interest in the participant's life situation and care for his or her situation	"How nice that you've had a good week"
		Emphasize participants responsibility	Expressing that the participant is responsible for his/her own decisions	"You yourself have to determine what is best."
		Summarizing	Affirming by summarizing and repeating what the participant wrote	"You write that..."
		Self-disclosure counsellor	Mentioning own experiences and using personal examples from one's own life	"I've also had trouble sleeping."
		Deadline flexibility	Behaviours that pertain to lenience concerning deadlines for homework submission and allowance of extra time to work with a given module	"You can wait with this week's task and continue with the one you're working on."
		Information about the course	Clarifying, emphasizing or reminding the patient about the internet treatment framework, and giving practical information about a module/chapter	"Module 6 will cover..."
		Reminder e-mail	Remind the participant to complete the exercises; reminding to send an e-mail	
		Non-Adherence	The participant stopped early with the course	

Table 2.
Coding schema for the participant

Category	Code	Definition	Example
Self-disclosure	Expression of feelings	Show and describe feelings	"I'm always feeling lonely when my children are leaving."
	Sharing personal experiences	Sharing personal experiences related to the course or the	"I remembered one situation when my neighbour came to ask for help."

	book	
Sharing experiences about the course	Sharing experiences over doing the exercises and reading the book	"I really had difficulties doing exercise 2."

Procedure statistical analyses

The statistical analyses were done with the program Statistical Package for Social Sciences v24 (IBM 2017) (SPSS). The data from Atlas.ti were inserted in SPSS. Per participant the frequency of each code was stated. Then the mean values of each therapeutic behaviour were calculated to see how often it was used averagely per participant. These values were used for the further analyses. First the descriptive statistics were calculated. Next Shewness and Kurtosis were examined to check whether the therapeutic behaviours were normally distributed. This is the case, if the value is greater than one or minus one.

For the correlational analyses Spearman's rho was chosen above Pearson Correlation, because it better includes possible outliers. The stronger the result is to one or minus one the stronger is the correlation. According to Cohen (1988) a correlation is weak when it is between 0.30 and 0.50 and moderate when it is higher than 0.50. All correlations above 0.70 are strong. A negative value shows that the relationship between the two variables is negative. If the relationship of *empathetic utterance* and self-disclosures of participants is taken as an example, a negative value here would mean that participants used less self-disclosure when *empathetic utterance* was used of vice versa.

Furthermore the add-on Process v2.16, developed by Andrew F. Hayes was used in SPSS. Within this Model 4 was chosen to do a mediation analysis. Self-disclosure of the participants was used as the independent variable, well-being as the dependent variable and the therapeutic behaviours as the mediator. In total

eleven mediation analyses were conducted, with different therapeutic behaviours as a mediator. Figure 1 shows the mediation model with the therapeutic behaviour *information about the course* as an example. C' shows the direct effect between self-disclosure and well-being. The indirect effect is made up from the paths a and b. It shows the influence self-disclosure has on well-being when the mediator is taken into account. Path c shows the total effect, which is the direct effect and indirect effect added together. To identify if a mediation is present the values of the indirect effect have to be different from zero.

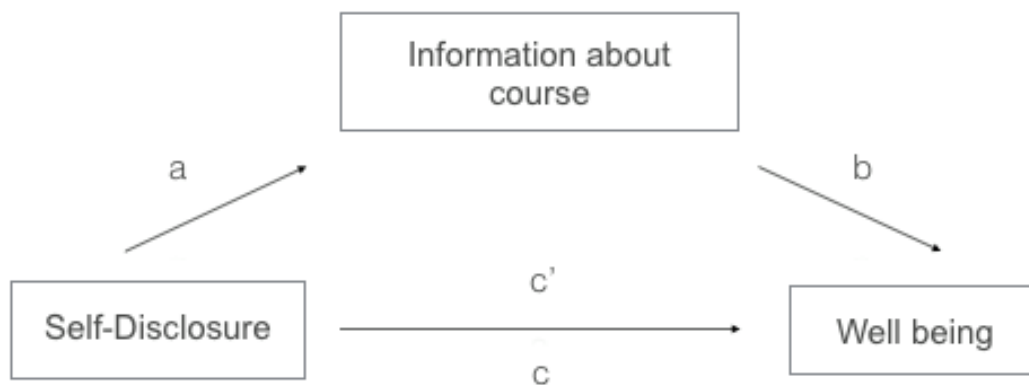


Figure 1. Mediation model with the therapeutic behaviour *information about the course* as a mediator

To obtain the changed well-being of participants, the differences between the scores on the MHC-SF before and after the intervention were calculated. Therefore the values before the intervention were subtracted from the values after the intervention ($t_1 - t_0$). A positive value means that the well-being of the participant increased during the intervention and a negative value means that the well-being decreased during the intervention.

Furthermore the three codes for the self-disclosure of the participants were added together for the correlation analyses for reasons of clarity and

comprehensibility. The codes *expressions of feelings*, *sharing personal experiences* and *sharing experiences about the course* thus got the overall name *self-disclosure participant*.

Results

Descriptives

Table 3 shows the demographic data of the participants. It is noticeable that there was a high amount of female (84.29%) and highly educated (70%) participants. Furthermore 92.86 % were from Netherland, which can be explained by the fact that the intervention *This is your life* was held in Netherlands. On basis of the demographic data from Schotanus-Dijkstra et al. (2017) it can be said that the sample in the current study was representative. In total 70 people participated in the current study. 506 mails were sent in total to all 70 participants by the counsellor. The participants replied with 561 e-mails, which make an average of 7.23 e-mails from the counsellor and 8 from the participant.

Table 3.
Demographic data of the participants

Category		Frequency (f)	Percentage
Gender	Male	11	15.71
	Female	59	84.29
Age	20-24	2	2.86
	25-34	8	11.43
	35-54	32	45.71
	55-70	28	40
Education	Low	5	7.14
	Intermediate	16	22.86
	High	49	70
Marital status	Married	26	37.15

Employment status	Single	25	35.71
	Separated/ Divorced	19	27.14
	Paid employment	42	60
	Unemployment/ Unable to work	19	27.14
	Retired/ Student or homemaker	9	12.86
Nationality	Netherland	65	92.86
	Others	5	7.14

Overall 6586 codes have been assigned in the whole sample. Out of these, 4885 codes were about therapeutic behaviours (Table 4) and 1701 about self-disclosure of the participants (Table 5). Table 4 shows the total and average occurrence of each therapeutic behaviour per participant. *Positive reinforcement* for instance, was used in average 11.30 times per participant. The therapeutic behaviour that occurred most was *summarizing* with 1171 times and 16.77 on average per participant.

Table 4.
Descriptives of the therapeutic behaviours

Code for therapeutic behaviours	Total	Percentage	Number a code occurred per participant	
			M	SD
Positive reinforcement	791	16.18	11.30	6.67
Insightful question	404	8.27	5.60	3.50
Psycho education	191	3.90	2.73	2.98
Stimulation/ Motivation	633	12.96	9.03	4.44
Empathetic utterance	339	6.94	4.86	3.45
Alliance bolstering	580	11.87	8.27	3.89
Emphasize participants responsibility	163	3.34	2.33	2.13
Summarizing	1171	23.97	16.77	8.37
Self-disclosure counsellor	18	0.31	0.26	0.58
Deadline flexibility	37	0.76	0.54	0.76
Information about the course	473	9.68	6.44	3.67
Reminder e-mail	66	1.35	0.94	0.16
Non-Adherence	19	0.39	-	-

In Table 5 the total and the average occurrence per participant for self-disclosure of the participants is shown. Taking *expression of feelings* as an example, participants in average showed this kind of self-disclosure 8.59 times per conversation.

Table 5.
Descriptives of the self-disclosure of participants

Code for self-disclosure of the participants	Total	Percentage	Number a code occurred per participant	
			M	SD
Expression of feelings	466	27.40	8.59	7.78
Sharing personal experiences	634	37.27	9.07	7.13
Sharing experiences about the course	601	35.33	6.69	7.30

To calculate if the codes were normally distributed the Shewness and Kurtosis was used. The majority of the codes were not normally distributed. Therefore Spearman's rho was conducted for the following analyses.

The total scores of the MHC-SF before the course varied between 1.29 and 3.79 (M=2.50, SD=0.64). Directly after the course the scores had a range of 1.07 and 4.86 (M=2.97, SD=0.73). This led to an average increase during the course of 0.47 (SD=0.58). The highest increase was 2.07 and the highest decrease -0.79.

Correlation analyses

In Table 6 the Spearman's rho correlation is illustrated. Neither significant results were found between therapeutic behaviours and the changed well-being of participants nor between self-disclosure participants and changed well-being of the participants. However significant results were found between the self-disclosure of

participants and therapeutic behaviours. One strong correlation was detected between self-disclosure of the participants and the therapeutic behaviour *positive reinforcement* (.76). Furthermore three moderate correlations were found for *summarizing* (.64), *alliance bolstering* (.60) and *empathetic utterance* (.53). A weak negative correlation was found between reminder e-mail (-.35) and self-disclosure of the participants. This means that participants who receive reminder e-mails were less likely to use self-disclosure.

Table 6.
Spearman's rho correlations

	Self-disclosure participant	Well-being participant
Self-disclosure participants	-	-
Well-being participant	.19	-
Positive reinforcement	.76**	.09
Insightful question	.42**	-.10
Psycho-education	.29**	.05
Stimulation/ Motivation	.44**	-.05
Empathetic utterance	.53**	-.12
Alliance bolstering	.60**	.11
Emphasize participants responsibility	.24*	-.04
Summarizing	.64**	.00
Self-disclosure counsellor	.18	.10
Deadline flexibility	.10	.02
Information about the course	.45**	-.13
Reminder e-mail	-.35**	-.19

*Correlation is significant at the 0.05 level (1-tailed)

**Correlation is significant at the 0.01 level (1-tailed)

Mediation analysis

In the previous analyses no significant results were found for the relation between self-disclosure of the participants and the changed well-being of the participants. According to Frazier, Tix and Barron (2004) this relationship is

necessary to execute a mediation analyses. The reason therefor is that a mediation analysis has the aim to examine why there is an association between the dependent and the independent variable. Therefor an effect is necessary between dependent and independent variable (Frazier, Tix & Barron, 2004). For this reason no mediation analysis was executed in the current study.

Discussion

The purpose of this study was to examine on one hand the relationship between therapeutic behaviours and well-being of the participants, and on the other hand the relation from self-disclosure of participants and changed well-being as well as the therapeutic behaviours. In general, most results were not significant. Significant results were found for the relation between self-disclosure of the participants and ten therapeutic behaviours. A strong relation was found for *positive reinforcement* and moderate relations with the therapeutic behaviours *summarizing*, *alliance bolstering* and *empathetic utterance*. A weak negative correlation was found for reminder e-mails.

Therapeutic behaviours

In the current study *summarizing* was the therapeutic behaviour that was most frequently used. Other therapeutic behaviours that occurred often were: *positive reinforcement*, *stimulation/motivation* and *alliance bolstering*. Compared to previous studies differences were found concerning the therapeutic behaviour *summarizing*. It occurred less frequently in the study of Holländer et al. (2016). A similarity with previous studies was the therapeutic behaviour *positive reinforcement*. In the studies

of Holländer et al. (2016), Paxling et al. (2013) and Matten (2016) it was the most used code and in the current study it was on the second place. Thus it can be concluded that *positive reinforcement* seems to be a therapeutic behaviour that is very important for online counselling, due to a prevalently appearance in different studies (Holländer et al., 2016; Paxling et al., 2013).

This is remarkable, because the study by Holländer et al. (2016) focused on therapeutic behaviours within an internet-based cognitive behaviour therapy for people with depression, and the study by Paxling et al., (2013) looked at an internet delivered cognitive behaviour therapy for generalized anxiety disorder. In contrast the current study and the study by Matten (2016) focused on people who had no psychological disorder and where no therapeutic treatment was used. The counsellor had only the task to motivate and encourage the participant. This indicated that the studies had different kind of interventions and participants. Hence, it can be concluded that there may be some therapeutic behaviours, like *positive reinforcement*, which are universal for online counselling, and some, like *summarizing*, that are only used in specific treatments.

Therapeutic behaviours and changed well-being of the participants

Differences can also be found regarding the effect of therapeutic behaviours on the participant. The current study analysed whether therapeutic behaviours had an effect on the change of well-being of participants, but no significant effect was found. This is confirmed by the study by Matten (2016), which stated that no effect was found between therapeutic behaviours and well-being of participants. These results differed from previous studies, where several effects from therapeutic behaviours were detected. In the study of Paxling et al. (2013) *task reinforcement*,

which can be compared to positive reinforcement in the current study, had a positive effect on the outcome of the study and *deadline flexibility* had a negative one. Furthermore the behaviours, *alliance bolstering*, *psycho-education*, *empathetic utterance and self-disclosure of the therapist* had influence on the module completion (Paxling et al. 2013). *Self-disclosure of the therapist* was also found in the study by Holländer et al. (2016) to have a positive effect on symptom improvement.

To explain these different results in the studies from Paxling et al. (2013) and Holländer et al. (2016) on the one hand, and the study of Matten (2016) and the current study on the other hand, Matten (2016) referred to the different tasks the counsellors had in the studies. In the study by Paxling et al. (2013) and Holländer et al. (2016) the counsellors were encouraged to give constructive feedback on homework, whereas the counsellors in Mattens (2016) and in the current study had the task to motivate the participant to follow the course. Thus it might be that the type of intervention has influence on the effectiveness of the therapeutic behaviours. A support where the counsellor was encouraged to motivate seems to have less effect on the participants than support where the counsellor gave more specific feedback.

Self-disclosure of participants

In the current study the focus was on self-disclosure of participants during online counselling. With regard to the average amount of eight e-mails written by each participant it was shown that the participants used self-disclosure often, with an average of 8.12 per e-mail conversation. This does not fit with the results of Sachenz-Oritz et al. (2011), in which participants showed little self-disclosure.

A possible explanation for the different results of the current study and the study of Sachenz-Oritz et al. (2011) was stated by Nguyen (2012). In this study it was

detected that self-disclosure is very context and audience specific. The study of Sachenz-Oritz et al. (2011) had a different intervention than the current study. The study focused on patients with bulimic disorder, which is a very different audience than in the current study, where healthy individuals participated. Furthermore the context in the study of Sachenz-Oritz et al. (2011) was on therapy, whereas the context in this study was to encourage following the intervention. This shows that when comparing these two studies a totally different context and audience is present. This might be an explanation for the different amount of self-disclosure from the participants.

Self-disclosure of participants and changed well-being

There was no significant relation between self-disclosure of participants and their well-being. This is in contrary to studies about self-disclosure in face-to-face interventions where self-disclosure was an important behaviour. Roger et al. (2009) stated many positive effects of self-disclosure of participants. Especially with respect to the relationship to the therapist self-disclosure was an important strength that allowed the patient to increase his mental health (Roger et al., 2009). The current study is one of the first studies concerning self-disclosure of participants in an online environment. Further research is necessary to make more explicit declarations about self-disclosure in this context.

Therapeutic behaviours and self-disclosure

Regarding the correlation between the therapeutic behaviours and self-disclosure of the participant almost all behaviours had a significant relation with self-disclosure of the participant. The highest correlation was found with the therapeutic

behaviours *positive reinforcement* (.76), *summarizing* (.64), and *alliance bolstering* (.60). It is difficult to put these results in a context, because little studies have been done about the effect of self-disclosure in online counselling.

Strengths and weaknesses

The current study has some strengths and weaknesses. The first strength is that the study was based on a coding scheme from prior research. Through this the reliability of this coding scheme could be tested in today's study. In addition to that a part of the study from Matten (2016) was replicated with a bigger sample, through examine the relationship between therapeutic behaviours and well-being. Similar results were found, which strengthens the results of Matten (2016), proving even though the e-mail support can increase the well-being of participants, no specific therapeutic behaviour is related to this effect. In the current study similar therapeutic behaviours were detected as in the study of Matten (2016). This gives proof for the clarity of the coding scheme. It is possible for different researchers to get similar results while using the same coding scheme. Furthermore in the current study three different researchers coded the e-mails. Through this process the coding scheme was adjusted several times and unclear definitions were detected and specified.

On the other hand it had to be taken into account that the researchers in the current study were less skilled due to less experience in this field of study. This can be seen at the kappa values. For seven of the eleven therapeutic behaviours the kappa was below .70, which is not satisfying. Results thus had to be regarded carefully. Another weakness is that the Spearman's rho gives no proof for the causality of the relationships. Therefore it is possible that for example the therapeutic behaviour *alliance bolstering* did not lead to more self-disclosure of the participant,

but that therapists used more *alliance bolstering* when the participants disclosed more from themselves.

Practical implications and further research

The current study showed that until now no concrete statement can be made which therapeutic behaviours should be used in online counselling. The only therapeutic behaviour, which was found in all studies in a similar frequency, was *positive reinforcement*. The role of positive reinforcement in online counselling should thus be investigated in more detail to find out in which specific way it can benefit participants of online interventions.

The only significant relationship was detected between self-disclosure of the participants and several therapeutic behaviours. Further studies are necessary to clarify the effect self-disclosure has during e-mail support and which effect it has on the well-being of participants. As a first step it is necessary to investigate in the relationship between self-disclosure of participants and change in their well-being to look if and how participants benefit from self-disclosure. When a positive effect from self-disclosure on well-being has been discovered it is important to conduct studies about how a therapist can influence the self-disclosure of participants. Until now no statements can be made how these factors can be implemented practically.

Conclusion

Some steps have already been made to find out the role therapeutic behaviours plays in online counselling. This study has added further proof to the study of Matten (2016), where the therapeutic behaviours and its relationship to well-being of the participants was investigated. However a lot of differences to previous

studies exist and the present researchers were inexperienced with this kind of studies. Therefore more research is necessary.

To date few is known about which role self-disclosure of the participants plays in online counselling. Further research is necessary to obtain reliable information how self-disclosure influences the well-being of participants and furthermore how self-disclosure then can be stimulated through the therapist. This might be beneficial for online counselling, because positive effects may be possible, as already was found in face-to-face therapy. Many positive effects of self-disclosure were found in earlier studies. These effects now have to be investigated in online counselling, to find a way to stimulate self-disclosure in a suitable way to benefit the participant.

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