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Beneficial Effects of Role Reversal in Comparison to role-playing on negative cognitions about Other's Judgments for Social Anxiety Disorder

Hanieh Abeditehrani [a,*], Corine Dijk [a], Mohsen Dehghani Neyshabouri [b], Arnoud Arntz [a]

[a] University of Amsterdam, Department of Clinical Psychology, Amsterdam, the Netherlands
[b] University of Social Welfare and Rehabilitation Sciences, Department of Clinical Psychology, Tehran, Iran

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ABSTRACT

Background and objectives: Negative beliefs about other's judgments play an important role in the development and maintenance of social anxiety disorder. The present experiment examined the effects of role-playing followed by role reversal compared to role-playing twice on altering these negative cognitions.
Methods: Thirty-six adult social anxiety patients were randomized into two conditions: a role-playing condition in which 18 participants role-played an anxiety-provoking social situation twice, or a role reversal condition in which 18 participants role-played an anxiety-provoking social situation followed by enacting the same situation using role reversal. Before the start of the experiment, patients were asked to report their negative cognitions about the other's judgments. Next, they were asked to rate the believability of these negative cognitions, as well as the probability and cost estimates of negative judgments by the other person, at three time-points: before the first block of role-playing, after the first block of role-playing, and after the second block of the experiment.
Results: Results demonstrated that role-playing followed by role reversal had a stronger effect on the most negative cognitions than role-playing twice.
Limitations: The most important limitation of the present study is that there was no control group to assess the effects of role-playing alone. Moreover, the second block of the experiment was repetitive in role-playing, however, it was a new task in role reversal.
Conclusions: The results support the hypothesis that role reversal is an effective technique that can be used to correct negative cognitions about other's judgments in SAD.

1. Introduction

Cognitive models of social anxiety disorder (SAD) suggest that individuals with social anxiety have negative self-cognitions and underestimate their performance in social situations compared to low socially anxious persons (Clark & Wells, 1995; Heimberg, Brozovich, & Rapee, 2010; Stopa & Clark, 1993). Furthermore, some cognitive models also stress the threat value of others. That is, individuals with SAD assume that other people are critical and will evaluate them negatively (Heimberg et al., 2010). Consistent with these theories, studies showed that socially anxious individuals estimate a higher probability of being judged negatively by others and perceive the outcomes of these negative judgments as more catastrophic than controls do (Foa, Franklin, Perry, & Herbert, 1996; McManus, Clark, & Hackmann, 2000; Uren, Szabó, & Lovibond, 2004; Voncken, Bögels, & de Vries, 2003). Importantly, reducing the believability of negative cognitions in the course of treatment is associated with the overall effect of the treatment outcome (Foa, Franklin, Perry, & Herbert, 1996; Gregory, Peters, Abbott, Gaston, & Rapee, 2015; Hofmann, 2004; Lucock & Salkovskis, 1988; Poulton & Andrews, 1994). Therefore, it is vital to examine techniques that aim to reduce negative cognitions about the evaluation by others in individuals with SAD.

Next to the negative cognitions about other's judgments, the perspective that people with SAD tend to take might also be an important factor in the maintenance of SAD. Whereas low socially anxious people generally take a field perspective during social situations, people with SAD tend to observe themselves from an observer's perspective (e.g., Clark & Wells, 1995; Heimberg et al., 2010). Moreover, they not only view themselves through the eyes of others, but the image they hold is also negative (Hackmann, Surawy, & Clark, 1998). The focus on such negative images is hypothesized to block the processing of corrective information (Clark & McManus, 2002; Hirsch & Clark, 2004).

* Corresponding author. University of Amsterdam, Department of Clinical Psychology, PO Box 15933, 1001, NK, Amsterdam, the Netherlands.
E-mail address: H.Abeditehrani@uva.nl (H. Abeditehrani).

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Experiential techniques that involve enacting anxiety-provoking social situations provide an opportunity for social anxious patients to test and correct their negative cognitions. One experiential technique that is often used in the treatment of social anxiety is role-playing. Role-playing originates from psychodrama, an action-based method of group psychotherapy (Moreno, 1946), and also from behavior therapy as a learning process (Kelly, 1955; Lazarus, 1965; Wolpe, 1958). In psychodrama, patients use role-playing to dramatize psychological and social problems rather than just talk about them (Blatner, 2000). Role-playing is defined as the enactment of a personal situation with another person, such as a group therapy member or a therapist, for a limited time. In role-playing, the situation is acted-out as if it was real (Corsini, 2017). Furthermore, role-playing is used in cognitive behavioral therapy (CBT) for SAD as exposure technique or as social skills training (Heimberg & Becker, 2002; Wells & McMillan, 2004). Early studies supported the effectiveness of role-playing in changing cognitions in healthy people (Culbertson, 1957; Elms, 1966; Elms & Janis, 1965; Harvey & Beverly, 1961; Janis & King, 1954; King & Janis, 1956). For example, Jain and King's study (1954) showed that if participants first played the role of a public speaker who aimed to convince others of specific arguments, that this resulted in greater changes in other's opinions about the arguments than when participants prepared for this role by just reading and listening to the materials.

In psychodrama therapy, role reversal is often used in addition to role-playing. In a role reversal, two patients first enact a situation as would be done in role-playing. Next, they are asked to change their positions and play the role of the other person (Moreno, J. L, Moreno, Z., & Moreno. J., 1955). As pointed out above, the cognitive model of SAD by Clark and Wells (1995) suggests that social anxious people have a negative image of themselves observed from the other people's point of view. Switching roles forces them to take the perspective of the other person, and then experience themselves as played by another person. Having access to the other's perspective might have a correcting effect on their distorted negative self-image. Because of this additional shift in perspective, role reversal might be a more complete experiential technique than role-playing. In line with this idea, a recent pilot study into the effects of psychodrama therapy showed that this therapy had promising effects in altering negative cognitions of SAD patients (Abeditehrani, Dijk, Sahragard, & Arntz, 2020). However, we are not aware of any study that directly tests the effects of role reversal on negative cognitions.

In sum, negative cognitions about other's judgments play an important role in the maintenance of SAD (Clark & Wells, 1995; Heimberg et al., 2010). Hence, it is important to alter these negative cognitions. The current experiment was set up to test the effects of role-playing in comparison with role reversal on the believability of negative cognitions and on estimates of social cost and the probability of being judged negatively by the other. We hypothesized that, because of the shift in perspective, adding role reversal to role-playing will have a stronger positive effect on these negative cognitions than role-playing alone.

2. Materials and methods

2.1. Participants and design

A power analysis (using G*power with 80% power, $\alpha = 0.05$, repeated measures ANOVA, three repetitions, correlation between repetitions .7), showed that 36 participants (18 participants per condition) suffice to detect a between × within interaction of $f = 0.17$.

Thirty-six patients who were on a waitlist for treatment with a primary diagnosis of social anxiety disorder participated in this experiment. All were diagnosed with the Structured Clinical Interview for DSM-IV-TR Axis I Disorders (SCID-I; First, Spitzer, Gibbon, & Williams, 1997, Farsi Version; Sharifi et al., 2007). Participants were recruited from media and poster advertisements. Table 1 displays the demographic variables. An Iranian ethical committee approved the experiment on February 27, 2016 (reference number IR.UMSHA.REC.1394.521). This experiment was preregistered as part of a clinical trial at a trial register (IRCT2016032321385N1). Inclusion criteria were SAD as a primary diagnosis, age between 18 and 65 years, ability to read and understand the questionnaires and the interview. Exclusion criteria were comorbid psychotic or bipolar disorder, lifetime history of schizophrenia or bipolar disorder, a high suicidality risk, a comorbid diagnosis of substance abuse or dependence.

We conducted a single session experiment to examine the effects of role reversal following role-playing in comparison to role-playing alone, on negative cognitions in SAD. The participants were randomly assigned to one of the two conditions. In the role-playing condition, 18 participants role-played a situation twice. In the role reversal condition, 18 participants role-played a situation followed by playing the same situations using role reversal.

2.2. Procedure

To assess the diagnosis of SAD, the SCID-I was administered prior to inclusion. The assessor was PhD student in clinical psychology and received a SCID training. The assessor was blind to experimental condition. All patients gave their written informed consent before their inclusion in the experiment. During the experiment, the experimenter first instructed participants to select an anxiety-provoking social situation with one other person (not a group), where they believe that they performed, or will perform, poorly and will therefore be judged negatively by the other person (see Table 1 for a short description of the selected situations). After patients selected a situation, they were asked to envision this specific social situation and report the negative cognitions about the other person's judgments to his/her performance, with a maximum of five. Subsequently, the believability of each negative cognition was rated, as were the probability and cost of being judged negatively in that situation (see Measures). Next, patients role-played the chosen situation with a confederate. The confederates (one male and one female) were PhD students in psychology with clinical

Table 1
Demographic characteristics of participants and descriptions of the selected situations.

Variable	Role-Playing twice	Role Reversal	t/χ^2	p
Gender				
Male	5	6	0.131	.717
Female	13	12		
Age	25.42 (4.21)	25.47 (5.20)	−0.03	.973
Marital Status				
Single	16	18	2.118	.146
Married	2	0		
Education				
High school diploma	0	0	0.468	.494
Bachelors' degree	8	6		
High-level education	10	12		
Work				
Employed	4	3	0.177	.674
Unemployed	14	15		
Therapist				
Male	14	11	1.178	.278
Female	4	7		
Situation	8 Dating 2 Job-interview 6 Talk to senior 2 Talk to a person of a higher social rank	4 Dating 3 Job-interview 8 Talk to a person of a higher social rank 1Talk to a stranger 1 Talk to a classmate 1 Meeting with a therapist		

experience. After this first block of role-playing, participants were asked to complete measures a second time. Next, participants in the role-playing condition were instructed to role-play the chosen situation again. In a role reversal condition, the participants were instructed to change their position with the confederate and play the role of the other person in the same social situation (the confederate played the role of the participant at this time and mimicked the participants behavior as observed during the initial role-playing, including symptoms of being anxious such as trembling). After this second block, participants were asked to complete the measures for the last time.

2.3. Measures

The measures included ratings of the believability of the negative cognitions on a visual analogue scale (0 = *I do not believe this at all*; 100 = *I believe this completely*). A mean believability per time was calculated by averaging the believability of the (maximal five) cognitions. Furthermore, participants were asked to rate, on a visual analogue scale, the probability (How likely would it be for you that the other judges you negatively in this social situation; 0 = *Not at all likely*; 100 = *Extremely likely*) and cost (How bad or distressing would it be for you if the other judges you negatively in this situation; 0 = *Not at all distressing*; 100 = *Extremely distressing*) of being judged negatively by the other. Finally, after each block participants rated to what degree their experience was realistic (How was role-playing or role reversal similar to a situation in their real life) on a visual analogue scale (0 = *This role-playing not similar to a real situation*; 100 = *This role-playing was completely similar to a real situation*).

3. Results

3.1. Manipulation check

Independent sample t-tests for how much their experience was realistic showed that at t2 role-playing ($M = 45.56$, $SD = 17.56$) and role reversal ($M = 51.67$, $SD = 21.96$), $t(34) = -0.92$), $p = .363$, and at t3 role-playing ($M = 46.11$, $SD = 17.20$) and role reversal ($M = 52.22$, $SD = 30.01$) $t(34) = -0.75$, $p = .459$ did not differ significantly.

3.2. Cognitions

Repeated measures ANOVAs were conducted to examine the effects of time and condition on believability, probability and cost estimates. In case of significant interactions, independent sample t-tests were used to explore group differences at time 1 (t1), time 2 (t2), and time 3 (t3). Furthermore, repeated contrasts were used to examine if the interactions were present in the first block (between time 1 and 2), and the second block (between time 2 and 3). Means and standard deviations are displayed in Table 2. Follow-up tests were performed with Bonferroni correction of the .05 Type I error rate. We divided 0.05 by the number of tests used to follow-up a significant effect, which results in 0.025 for two tests and 0.017 for three tests.

Table 2
Means (and Standard Deviations) of Believability, Probability, and Cost as a function of Time and Condition.

	Role-playing			Role reversal		
	Time 1	Time 2	Time 3	Time 1	Time 2	Time 3
Believability	69.61 (13.39)	57.83 (15.84)	54.17 (13.36)	65.32 (14.27)	41.17 (19.12)	27.89 (20.41)
Probability	63.33 (21.96)	55.83 (23.02)	55.28 (23.04)	66.67 (20.51)	53.06 (21.77)	28.89 (28.00)
Cost	85.00 (13.50)	77.22 (21.91)	68.61 (25.19)	70.28 (22.65)	57.22 (30.01)	35.83 (20.88)

3.2.1. Believability

For the believability of negative cognitions there was a main effect of time, $F(2, 68) = 59.78$, $p < .001$, $\eta_p^2 = 0.64$; and a main effect of condition, $F(1, 34) = 11.58$, $p = .002$, $\eta_p^2 = 0.25$. Furthermore, the interaction between condition and time was significant, $F(2, 68) = 9.96$, $p < .001$, $\eta_p^2 = 0.23$, see Fig. 1 for a graphical display of this interaction. The interaction between time and condition was significant in the block between t1 and t2, $F(1, 34) = 6.68$, $p = .014$, $\eta_p^2 = 0.16$, and in the block between t2 and t3, $F(1, 34) = 5.54$, $p = .024$, $\eta_p^2 = 0.14$. Simple t-tests, that were conducted to explore these interactions further, showed that the groups did not differ at t1, $t(34) = 0.93$, $p = .359$. However, there were significant differences at t2, $t(34) = 2.85$, $p = .007$ and t3, $t(34) = 4.57$, $p < .001$. Furthermore, to examine if both conditions showed a decline in believability of negative cognitions, we examined the effect of time per condition using a repeated contrast. In this analyses, role-playing twice showed an effect of time, $F(2, 34) = 24.84$, $p < .001$, $\eta_p^2 = 0.59$, the repeated contrast for this analyses showed that there was a significant difference between t1 and t2, $F(1, 17) = 28.70$, $p < .001$, $\eta_p^2 = 0.63$, but no difference between t2 and t3, $F(1, 17) = 2.77$, $p = .114$, $\eta_p^2 = 0.14$. This same analyses for role reversal also showed an effect of time, $F(2, 34) = 37.62$, $p < .001$, $\eta_p^2 = 0.69$. However, here both the difference between t1 and t2, $F(1, 17) = 32.24$, $p < .001$, $\eta_p^2 = 0.66$, and between t2 and t3, $F(1, 17) = 14.93$, $p < .001$, $\eta_p^2 = 0.47$, were significant.

3.2.2. Probability

For the probability of being judged negatively, there was a main effect of time, $F(2, 68) = 20.50$, $p < .001$, $\eta_p^2 = 0.38$. The main effect of condition was not significant, $F(1, 34) = 1.74$, $p = .196$, $\eta_p^2 = 0.05$. However, the interaction between condition and time was significant, $F(2, 68) = 9.60$, $p < .001$, $\eta_p^2 = 0.22$, see Fig. 2. The interaction between time and condition was not significant in the period between t1 and t2, $F(1, 34) = 0.99$, $p = .328$, $\eta_p^2 = 0.03$, but was significant between t2 and t3, $F(1, 34) = 9.77$, $p = .004$, $\eta_p^2 = 0.22$. The *t*-test showed that the groups did not differ at t1, $t(34) = -0.47$, $p = .641$, and at t2, $t(34) = 0.37$, $p = .712$. However there was significant difference at t3, $t(34) = 3.09$, $p = .004$. Analyses per condition showed that role-playing twice showed an effect of time, $F(2, 34) = 6.34$, $p = .005$, $\eta_p^2 = 0.27$. There was a significant difference between t1 and t2, $F(1, 17) = 8.15$, $p = .011$, $\eta_p^2 = 0.32$, but no difference between t2 and t3, $F(1, 17) = 0.06$, $p = .805$, $\eta_p^2 = 0.004$. The same analysis for role reversal also showed an effect of time, $F(2, 34) = 16.29$, $p < .001$, $\eta_p^2 = 0.49$. Here the difference between t1 and t2, $F(1, 17) = 5.97$, $p = .026$, $\eta_p^2 = 0.26$ was not significant, however between t2 and t3, $F(1, 17) = 11.20$, $p = .004$, $\eta_p^2 = 0.40$, was

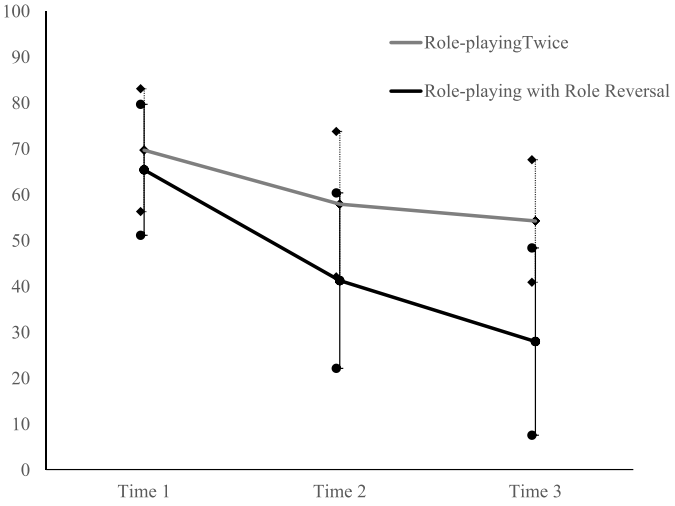

Fig. 1. Observed means and standard deviations of the believability of negative cognitions about other's judgments at three times by condition.

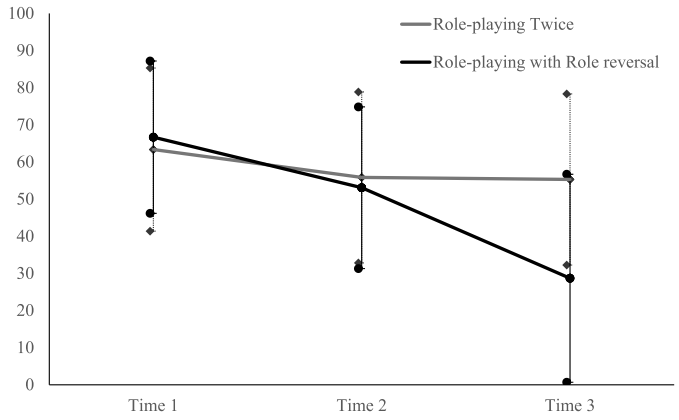

Fig. 2. Observed means and standard deviations of the probability of being judged negatively by the other at three times by condition.

significant.

3.2.3. Cost

For the cost of being judged negatively, there was a significant main effect of time, $F(2, 68) = 29.11$, $p < .001$, $\eta_p^2 = 0.46$, and a main effect of condition, $F(1, 34) = 11.69$, $p = .002$, $\eta_p^2 = 0.26$. Furthermore, the interaction between condition and time was also significant, $F(2, 68) = 3.84$, $p = .026$, $\eta_p^2 = 0.10$, see Fig. 3. The interaction between time and condition in the period between t1 and t2, $F(1, 34) = 0.58$, $p = .452$, $\eta_p^2 = 0.01$ was not significant but there was a significant interaction in the period between t2 and t3 $F(1, 34) = 5.50$, $p = .025$, $\eta_p^2 = 0.14$. The *t*-test showed that the groups did not differ at t1, $t(34) = 2.37$, $p = .024$, and at t2, $t(34) = 2.28$, $p = .029$. However there was a significant difference at t3, $t(34) = 4.25$, $p < .001$. Analyses per condition showed that role-playing twice had an effect of time, $F(2, 34) = 10.93$, $p < .001$, $\eta_p^2 = 0.39$. The repeated contrast for this analyses showed that there was not a significant difference between t1 and t2, $F(1, 17) = 4.92$, $p = .040$, $\eta_p^2 = 0.23$, but the difference between t2 and t3, $F(1, 17) = 10.36$, $p = .005$, $\eta_p^2 = 0.38$ was significant. The same analysis for role reversal also showed an effect of time, $F(2, 34) = 18.57$, $p < .001$, $\eta_p^2 = 0.52$. Also here, the difference between t1 and t2, $F(1, 17) = 4.76$, $p = .043$, $\eta_p^2 = 0.22$ was not significant, however the difference between t2 and t3, $F(1, 17) = 20.31$, $p < .001$, $\eta_p^2 = 0.54$, was significant.

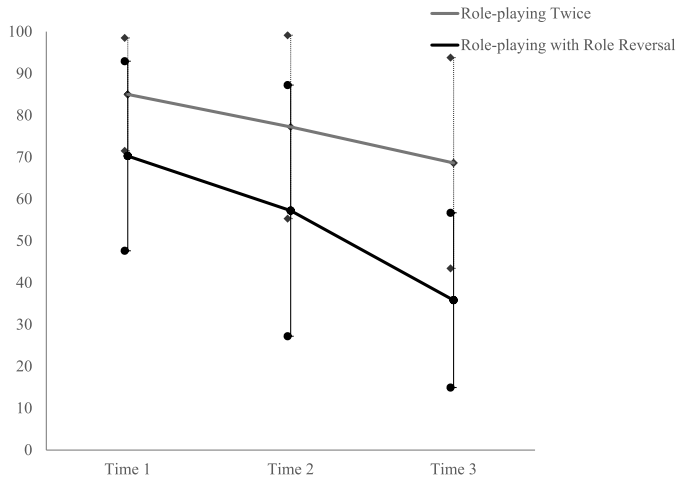

Fig. 3. Observed means and standard deviations of the cost of being judged negatively by the other at three times by condition.

4. Discussion

The results from this experiment supported the hypotheses that compared to role-playing, role reversal is an effective technique to change negative cognitions. That is in the role-playing condition, all types of negative cognitions decreased after the first block of role-playing, but for the estimates of believability and probability, there was no further decline after the second block of role-playing. Only the cost estimates of being judged negatively continued to decrease in role-playing twice. However, for these estimates the decline was stronger after role reversal than after role playing twice. In contrast, when role-playing was followed by role reversal, all types of cognitions continued to improve which confirms the stronger effects of role reversal in comparison to role-playing twice.

Models of SAD propose that social anxious patients see themselves in a negative way from the eyes of the other in social interactions, and this results in heightening the probability and cost of being negatively evaluated (Clark & Wells, 1995; Heimberg et al., 2010). The current results show that role reversal can alter these negative cognitions and helps to challenge SAD patients' ideas about how others perceive and evaluate their social behavior, by enacting and thus experiencing the role of the other person. The recognition of the usefulness of experiential techniques in CBT in general, and in CBT for SAD especially, is increasing (Wild & Clark, 2014), and the technique of role reversal nicely fits in this development.

Unexpectedly, in the first block, the believability of the negative cognitions declined more in the role rversal condition compared to the role-playing condition, although both conditions received the same role-playing. This limited the room for further improvement in the role reversal condition in the second block. Because participants received exactly the same manipulation, any difference between conditions in block one is coincidental. However, it shows that coincidental effects can occur and that we can be less certain about the interpretation of the significant interaction in the second block. Nevertheless, the decrease in the second block was larger in the role reversal condition than in the role-playing twice, indicating that role reversal does contribute to reducing believability of negative cognitions. Furthermore, although we asked the patients to report their (idiosyncratic) negative cognitions about other's judgments, they sometimes wrote negative cognitions about themselves and conditional beliefs relating to the consequence of behaving in a certain way (He will not accept me if I do not have an answer to his question at that moment) and unconditional beliefs about the self (I am a worthless person). These negative cognitions might have been less sensitive to change due to role reversal than probability and cost which measures were directly about other's negative judgments.

Our clinical impression was that the techniques and the instructions were easy to understand and role reversal was not a complex task for patients. The confederates did not report that the patients disliked the techniques or that techniques had adverse effects for the clients. This experiment suggests that role reversal is a doable and powerful technique for SAD. The results of participants' reports about how much their experience was realistic indicated that although in both conditions, the degree of realism was moderate (about 50 on a 0–100 scale). Nevertheless, there was quite a strong effect. Perhaps we need only a reasonable degree of realism to trigger the relevant fear structures and open for corrective experiences. This is similar in virtual reality (Hendrix & Barfield, 1996), which does its job in treatment.

The current study has several limitations. First, there was no control condition to control for the mere passage of time and repeated measures. Thus, it is not possible to draw conclusions about the effects of role-playing alone on negative cognitions. Second, in the role-playing condition participants received the same instruction, and did the same task, twice. In the role reversal condition, however, role-playing was followed by a new task. It is possible this change in tasks contributed to an extra effect in the role reversal condition. Therefore, it is recommended to do future research to compare these conditions to another technique that

follows the first block of role-playing. An interesting comparison condition would be video feedback, a method extensively used in Clark's cognitive therapy for SAD, in which patients evaluate their social behavior on the basis of a video of a (played) social interaction, to correct their biased ideas about how they come across (Warnock-Parkes et al., 2017). This video technique has some obvious similarities with the role reversal technique tested in this study, but there are also important differences, such as the fact that in role reversal one is engaged in the social interaction and experiences the impact of the other person's behavior in the social interaction, which might increase the impact. Another important difference is that with role reversal one doesn't see oneself, but another person playing oneself, which might reduce the impact. Third, there was no Persian version of the Structured Clinical Interview for DSM 5 Disorders (SCID-5-CV). Although the change in criteria of SAD from DSM-IV to DSM-5 was limited, a replication in a sample diagnosed with DSM-5 criteria is indicated. Fourth, the role plays were individualized due to heterogeneity of anxiety provoking situations in SAD. However, it is possible that the enactment of some social situations was easier than that of others, or that the procedure may have been differentially effective. However, the sample size of this experiment precludes analyses of subgroups. Future research should consider the potential effects of enacting different social situations on negative cognitions in detail.

5. Conclusions

Notwithstanding the present study's limitations, the results support that adding role reversal to role-playing has beneficial effects for those suffering from SAD, that it clearly had effects on decreasing cost and probability estimates of being judged negatively by the other which is the characteristic feature of SAD. Since these are important in the maintenance of SAD, further investigations are necessary to include role reversal in therapeutic practice.

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CRediT authorship contribution statement

Hanieh Abeditehrani: Conceptualization, Formal analysis, Investigation, Resources, Data curation, Writing - original draft, Writing - review & editing. **Corine Dijk:** Conceptualization, Methodology, Software, Formal analysis, Writing - original draft, Writing - review & editing, Project administration. **Mohsen Dehghani Neyshabouri:** Investigation, Writing - review & editing. **Arnoud Arntz:** Conceptualization, Methodology, Formal analysis, Writing - original draft, Writing - review & editing, Supervision, Project administration.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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