

# Non-Verbal Responses to Being Ignored: Evidence of Cognitive Deconstruction?

Emiel Krahmer (E.J.Krahmer@uvt.nl)  
Juliette Schaafsma (J.Schaafsma@uvt.nl)  
Marc Swerts (M.G.J.Swerts@uvt.nl)  
Martijn Balsters (M.J.H.Balsters@uvt.nl)

Tilburg Centre for Cognition and Communication (TiCC), Tilburg School of Humanities, Tilburg University  
PO BOX 90153, NL-5000 LE Tilburg, The Netherlands

Ad Vingerhoets (Vingerhoets@uvt.nl)

Tilburg School of Social and Behavioural Sciences, Tilburg University  
PO BOX 90153, NL-5000 LE Tilburg, The Netherlands

## Abstract

This study examined people's non-verbal reactions to being ignored or included during a social interaction. It was hypothesized that external judges could determine, on the basis of non-verbal cues, whether a person was ignored or included. Moreover, we expected that people who were ignored would become less non-verbally expressive, which could be indicative of cognitive withdrawal. It was found that persons who had been ignored reported lower average mood scores than included persons. External judges were, on average, also able to distinguish individuals who were ignored from those who were included. In terms of people's specific non-verbal behaviors, however, the findings are less clear. Even though persons who were ignored engaged less in affiliative behaviors than included persons, they did not display more non-verbal behaviors that are indicative of withdrawal than included persons (e.g., flight). Limitations of the study and future directions are discussed.

**Keywords:** Exclusion; non-verbal behaviors; cognitive deconstruction

## Introduction

Human beings are deeply motivated to form stable, lasting connections with other people. They strongly desire social attachments and seem inclined to form relationships even in the absence of ulterior motives. Moreover, they are willing to spend considerable time and effort in fostering supportive relationships with others and are generally reluctant to end relationships, even when these relationships have become unnecessary or dysfunctional. This tendency to strive for strong social attachments presumably has an evolutionary basis. There is evidence that, over evolutionary time, human beings who were well-integrated into social groups were most likely to survive, reproduce, and successfully raise their offspring (Baumeister & Leary, 1995; Leary, 2001).

When people's belonging needs are threatened, they respond in a variety of negative

ways. Laboratory studies show that being excluded or rejected, even if it is for only a short period of time, is a painful experience (e.g., Eisenberger, Lieberman, & Williams, 2003) that increases self-defeating behaviors (e.g., Twenge, Catanese, & Baumeister, 2002) and may lead to aggression toward others (e.g., Twenge, Baumeister, Tice, & Stucke, 2001; Twenge & Campbell, 2003). For example, Twenge et al. (2001) found that participants who had been excluded by other participants or who had been told that they would have a lonely future administered more unpleasant noise blasts to others than those who had been included or who had been told that they would have rewarding relationships throughout their life.

Surprisingly, however, researchers have not always found relationships between social exclusion and emotional distress (e.g., Twenge et al., 2001; Twenge et al., 2003). Instead, several laboratory studies suggest that people seem to respond to social exclusion in a detached and emotionally indifferent manner. To account for these findings, it has been hypothesized that social exclusion or rejection may initially lead to feelings of inner numbness or a state of cognitive deconstruction. For example, Twenge et al. (2003) found that rejected participants were more lethargic, displayed slower reaction time, were more likely to agree that life is meaningless and avoided self-focused attention. According to Twenge et al. (*ibid.*) such a deconstructed state may serve as a temporary defense against the negative experience of social rejection.

Most studies to date, however, have only relied on self-reports of people's affective states or moods. So far, little research has focussed on the non-verbal behaviors of excluded persons. The purpose of the current investigation was to how people respond non-verbally when they are being ignored during a conversation with others. It was hypothesized that judges could determine, on the basis of non-verbal cues, whether a person is ignored or included. In line with the 'numbness hypothesis', it was also expected

that, compared to included persons, people who were ignored would become less non-verbally expressive, which could be indicative of cognitive withdrawal. One could argue that this could be an adaptive response to cope with the emotional stress caused by the exclusion. For example, according to Engel (1962, 1975) psychological and physical inactivity during stressful situations (e.g., the withdrawal of attention, self-preoccupation or sleep) may protect individuals from overstimulation or excessive trauma. Persons who are being ignored or excluded may also engage in displacement behaviors. For example, Troisi (2002) argued that displacement activities may be adaptive in that they reduce autonomic activation.

It is also possible, however, that people's non-verbal reactions during social interactions are influenced by how socially anxious they are. For example, previous research has shown that individuals with a higher fear of negative evaluation try to avoid being evaluated unfavorably (Watson & Friend, 1969), generally feel worse about receiving negative feedback (Friend & Gilbert, 1973), and are also more concerned with and try harder to make a good impression on others during interactions (Leary, 1983). In our analyses, we therefore controlled for fear of negative evaluation.

## Method

### Participants and Design

Participants were 58 undergraduate students (37 women) from the University of Tilburg who participated for partial course credit ( $M$  age = 20.8,  $SD = 2.4$ ). Participants were randomly assigned to the inclusion or exclusion condition (29 in each condition).

### Procedure

The experiment was presented as a study on group decision-making under time pressure/stress, and participants were led to believe that they would be engaging in a decision-making discussion with two other participants. In reality, they would communicate with a pair of actors (one male, one female) operating on an elaborate script.

At the start of the experiment, participants were led into a room and told that the other two "participants" were in separate rooms as well. After the global procedure was explained, participants signed a consent form, and six electrodes were applied to measure heart rate. Following the APA guidelines for ethics, participants were informed that they could stop their participation at any moment, without having to give a reason. None of our participants used this right.

After having received the instructions about the

experiment, participants filled out a first questionnaire to assess their mood. Subsequently, they were exposed to a 7-minute film fragment, consisting of underwater scenes filmed in the Red Sea and accompanied with relaxing music to make sure that participants in both conditions were in a comparable state of mind at the start of the discussion. To check whether this was indeed the case, participants were asked to fill out the same mood questionnaire a second time. Subsequently, participants were accompanied to the discussion room, where they met with the other two "participants" (the confederates). All three were seated at a hexagonal table, so that each person had one conversation partner on the left-hand and one on the right-hand side, and each had a digital DV camera (25 fps) in front. Both the participant and the confederates were recorded, and participants were told that these recordings would be needed to analyze the decision making process afterwards.

At this point, participants read a text about the case to be discussed, containing the description of a communication problem in a local sport school. Participants were instructed to collectively answer two questions (How did the problems arise? And how could they be solved?), and they were given 4 minutes to answer each one. The actual experimental manipulation occurred during the discussion of the second question. In the inclusion condition, the confederates continuously focussed on the contributions of the participant and emphasized how much they appreciated these ("yes, that's an excellent suggestion!"); in the exclusion condition, the confederates discussed the case solely among themselves, ignoring any contributions from the participant.

After 2 x 4 minutes, the experimenters re-entered the discussion room, and each guided one conversation partner (the participant or one of the two confederates) back to one of the individual rooms. Once there, participants were asked to fill in the mood questionnaire once more. After this, they were shown a second, 7-minute Red Sea underwater scene with soothing music, in an attempt to bring the participants' mood back to more neutral levels. Finally, participants filled out the mood questionnaire one last time.

Subsequently, the participants were fully debriefed about the experiment. None of them was suspicious about the experimental set-up; in particular, all believed that they had been interacting with other, "real" participants. Participants also signed a non-disclosure agreement, to make sure that future participants were uninformed about the actual nature of the experiment. Overall, the experiment lasted about one hour.

## Measures

*Nonverbal measures.* The non-verbal behaviors of the participants were analyzed in two ways. To examine whether outside observers could actually see whether a person is included or excluded, 25 undergraduate students (8 women) judged, on the basis of two fragments, whether participants had been included or excluded. For each of the 59 participants in the experiment, two fragments of 8 seconds (200 frames) were selected. One fragment was selected from the beginning of the four minutes experimental manipulation (frames 1000 - 1200, i.e., 0.40 - 0.48 minutes), and one from the second half (frames 4000 - 4200, 2.40 - 2.48 minutes). This resulted in  $59 \times 2 = 118$  stimuli. We opted for fragments of 8 seconds to keep the overall length of the judgement study within reasonable limits. The stimuli were presented to the individual judges in one of two random orders, to control for potential learning effects. Judges had to indicate by forced choice for each fragment whether they believed the person in the film-clip was included or excluded, and on a five point scale how certain they were of their choice. For data processing perceived inclusion was mapped to "1" and perceived exclusion to "-1", and these scores were multiplied with the certainty score. This resulted in a score ranging from -5 ("very certainly excluded") to +5 ("very certainly included"). The evaluation of the fragments was preceded by a short training session of five stimuli (consisting of random 8 second fragments not used in the actual experiment), to make participants acquainted with the experimental setting.

To examine the specific non-verbal behaviors of the participants, two independent raters who were blind to the experimental manipulation coded two 30-second fragments (0.30 - 1.00 and 2.30 - 3.00) for each participant. Fragments of 30 seconds were chosen to obtain a good estimate of the different non-verbal behaviors that participants showed. These selections were coded using the Ethological Coding System for Interviews (ECSI); see, for example, Troisi (2002) or Troisi & Moles (1999). The ECSI is a validated non-verbal behavior scale, consisting of 8 behavioral categories and a total of 37 easy to code nonverbal cues. We selected four behavioral categories for coding, namely "Affiliation" (which is associated with ECSI behaviors 2-6, e.g., smile, head tilt, eyebrow flash), "Flight" (behaviors 10-15, e.g., look away/down, chin to chest), "Displacement" (24-32, e.g., hand-face touching, yawning), and "Relaxation" (33-37, e.g., settle, fold arms, laugh). Coding was done blind to condition, and without sound (as required by the ECSI guidelines). For each individual ECSI behavior, the agreement between the raters was measured using Cohen's kappa. We found that kappa scores for the different behaviors indicate moderate to substantial agreement, where discrete

behaviors (e.g., fold arms) generally resulted in higher kappa scores than continuous ones (e.g., head tilt). Disagreements between raters were resolved after discussion.

*Fear of Negative Evaluation.* Participants completed the brief Fear of Negative Evaluation Scale (Leary, 1983). This scale consists of 10 items (e.g., "I am afraid others will approve of me") that were measured on scales ranging from 1 (not at all characteristic of me) to 5 (extremely characteristic of me). Cronbach's alpha was .83.

*Control measures.* At several points throughout the experiment, participants were asked to fill out a self-report mood scale derived from Mackie and Worth (1989) and Kraemer et al. (2004). The scale consisted of six 7-point bipolar semantic differential scales ("At this moment, I feel . . ."), using the following adjective pairs (English translations of Dutch originals): happy/ sad, pleasant/ unpleasant, satisfied/ unsatisfied, content/ discontent, cheerful/ sullen and in high spirits/ low-spirited. Alpha's were  $> .80$ .

## Results

### Manipulation Check

To check whether the experimental manipulation worked, we analyzed the self-reported mood scores. Table 1 contains the average scores for the four mood measurements.

Table 1: Average mood scores (standard deviations between brackets)

	Ignored	Included
Mood 1: Initial	5.09 (.81)	5.21 (.76)
Mood 2: After film 1	5.41 (.73)	5.41 (.61)
Mood 3: After manipulation	4.92 (.83)	5.69 (.64)
Mood 4: After film 2	5.73 (.78)	5.56 (.68)

The average mood scores were submitted to a within-subjects Analysis of Variance, with the experimental manipulation (Ignored vs. Included) as a between-subjects factor. Most relevant for our current purposes is that a significant interaction was found between Condition and Time,  $F(1, 57) = 7.69, p < .001$ . In particular, as can be seen in Table 1, average mood scores for the two conditions are exactly the same after the first film fragment (as intended), but after the experimental manipulation a clear difference between the conditions can be observed: participants who had been ignored reported lower average mood scores than participants who had been included. After watching the second film fragment this effect

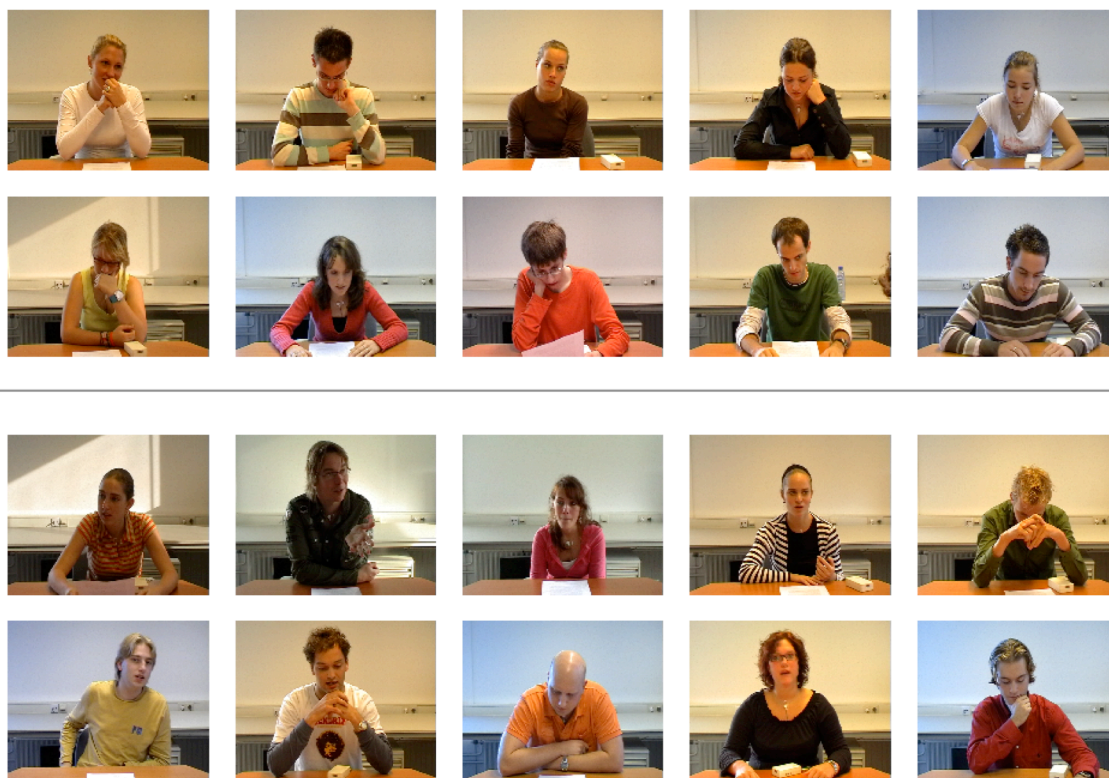


Figure 1: Randomly selected stills of 10 participants that were ignored (top panel) and of 10 participants that were included (bottom panel).

disappeared again. Interestingly, there was also a main effect of Time of the mood measurement, and inspection of Table 1 reveals that participants actually felt better after than before the experiment (irrespective of the condition they had been in),  $F(1, 57) = 5.01, p < .01$ . In fact, various participants indicated during the debriefing phase that they thought the experiment was about the effects of watching underwater scenes, which indeed took up a large part of the experimental procedure.

### Perceptions of External Raters

To examine whether external raters could, on the basis of non-verbal cues, determine whether participants were included or ignored, we subjected their evaluations of the second film fragments to an Analysis of Variance. Raters' evaluations of the first film fragments were included as a covariate. We also controlled for participant's sex and their fear of negative evaluation. This analysis revealed a main effect for the experimental manipulation,  $F(1, 54) = 10.62, p < .01$ . Participants who were ignored were perceived as more excluded ( $M = -1.36, SD = 2.48$ ) than included participants ( $M = 1.26, SD = 2.54$ ).

Note, however, that the standard deviations are relatively large. There was also a main effect for fear of negative evaluation,  $F(1, 54) = 5.21, p < .05$ . External raters more often considered persons with a lower fear of negative evaluation as included than persons with a higher fear of negative evaluation.

We also examined whether there was an interaction between the experimental manipulation and fear of negative evaluation. We also found an interaction that was significant at the .10 level,  $F(1, 54) = 3.04, p < .09$ . Persons with a lower fear of negative evaluation were perceived as more included in the inclusion condition. There was no difference in how persons with a higher or lower fear of negative evaluation were rated in the exclusion condition.

### Non-verbal behaviors

We also examined the specific non-verbal behaviors of the excluded and included participants. For this purpose, we first conducted a MANOVA, with the four ECSI-categories (Affiliation, Displacement, Relaxation, and Flight) as the dependent variables. This analysis only revealed a main effect for Affiliation,  $F(1, 55) = 12.76, p = .001$ . Included

participants displayed more non-verbal affiliative behaviors ( $M = 1.60$ ) than participants who were ignored ( $M = .88$ ). The means for all the four categories are presented in Table 2.

Table 2: Average number of non-verbal behaviors across the 4 ECSI-categories

Category	Ignored	Included
Affiliation	0.88 (0.80)	1.60 (0.97)
Flight	1.20 (0.44)	1.17 (0.38)
Displacement	2.12 (1.39)	2.28 (1.46)
Relaxation	0.85 (0.48)	0.83 (0.50)

We then examined the non-verbal behaviors of the participants in more detail. We conducted a series of MANOVAs on the specific non-verbal behaviors within each category of the ECSI coding system. These analyses showed that included participants more often quickly raised and lowered their eyebrows ( $p < .01$ ) or kept their eyebrows up for some time ( $p < .05$ ), and smiled more often than participants who were ignored ( $p < .01$ ). They also seemed somewhat more relaxed ( $p < .10$ ) and more often displayed a neutral face ( $p < .05$ ). Compared to included participants, persons who were ignored touched their face more often ( $p < .05$ ) and twisted their mouth ( $p < .01$ ), licked their lips ( $p < .10$ ) or bit their lips more often ( $p < .10$ ).

## Conclusion and Discussion

Being excluded, rejected or ignored is a painful experience that can evoke a host of negative reactions within individuals, ranging from sadness to anger. These reactions, however, may not always occur immediately. Instead, it has been argued that people's immediate reaction to exclusion may be cognitive withdrawal. This withdrawal may be adaptive, in the sense that it may protect individuals from the pain of being excluded.

In this study, we examined whether persons who are being ignored also become less non-verbally expressive. For this purpose, we compared the non-verbal behaviors of persons who were being ignored to the non-verbal behaviors of persons who were being included. We expected that external raters could reliably determine, on the basis of a person's non-verbal behaviors, whether he or she was being ignored or included and we also expected that participants who were being ignored would display non-verbal behaviors that reflect a tendency toward withdrawal. Moreover, we expected that being ignored would result in more displacement behaviors.

The results of this study are somewhat mixed. On the one hand, we found that persons who had been ignored reported lower average mood scores than included persons. External judges also rated

participants who were ignored as more excluded than included participants. Generally, persons with a lower fear of negative evaluation were more often perceived to be included than persons with a higher fear of negative evaluation. In terms of people's specific non-verbal behaviors, however, the findings are less clear. For example, even though persons engaged in less affiliative behaviors when they were ignored, they did not display more non-verbal behaviors that are indicative of withdrawal than included persons (e.g., flight). To some extent, however, they did engage in more displacement behaviors.

The data suggest that persons who are being ignored do, in terms of their non-verbal behaviors, seem to become somewhat more lethargic than included persons but do not entirely disengage from the interaction. It is possible, however, that participants may have evoked display rules to mask or neutralize their feelings because they found themselves in the presence of others. The fact that the interaction was recorded may have also contributed to this. Moreover, the ECSI-coding system that we used to analyze people's non-verbal behaviors may not have been sufficiently detailed to assess the more subtle non-verbal behaviors of our participants.

Nevertheless, the results of the study indicate that even though it is distressful to be ignored or excluded, it does not lead to an overt outburst of emotional distress. Moreover, the tendency of individuals to display less affiliative behaviors while they are being ignored may also be useful, because it may help them avoid doing or saying anything that would make things worse. Future studies should, however, examine in more detail how people cope, cognitively and emotionally, with the stress they experience while they are being ignored or excluded.

## Acknowledgements

Thanks are due to Lennard van de Laar and Caifeng Shan for technical assistance and to Rian Blankenstein, Lotte Oostrom, Bregje van Rijbroek, and Marjolein de Vries for their help with conducting the experiments. Krahmer thanks the Netherlands Organization of Scientific Research (NWO) for Grant 277-70-007.

## References

- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*, 497-592.
- Engel, G. L. (1962). Anxiety and depression - withdrawal: The primary effects of unpleasure. *International Journal of Psychoanalysis*, *43*, 89-97.

- Engel, G. L. (1975). Perspectives in depression. *Science, 190*, 453-455.
- Friend, R. M. & Gilbert, J. (1973). Threat and fear of negative evaluation as determinants of social comparison. *Journal of Personality, 41*, 328-340.
- Eisenberger, N. I., Lieberman, M. D., & Williams, K. D. (2003). Does rejection hurt? An fMRI study of social exclusion. *Science, 302*, 290-292.
- Krahmer, E., Dorst, J. van, & Ummelen, N. (2004). Mood, persuasion and information presentation. *Information Design Journal, 12*, 40-52.
- Leary, M. R. (1983). Social anxiousness: The construct and its measurement. *Journal of Personality Assessment, 47*, 66-75.
- Leary, M. R. (2001). Toward a conceptualization of interpersonal rejection. In M. R. Leary (Ed.), *Interpersonal Rejection* (pp. 3 – 20). New York: Oxford University Press.
- Mackie, D. & L. Worth (1989). Processing deficits and the mediation of positive affect in persuasion. *Journal of Personality and Social Psychology, 57*, 27-40.
- Troisi, A. (2002). Displacement activities as a behavioral measure of stress in nonhuman primates and human subjects. *Stress, 5*, 47-54.
- Twenge, J. M., Baumeister, R. F., Tice, D. M., & Stucke, T. S. (2001). If you can't join them, beat them: Effects of social exclusion on aggressive behaviors. *Journal of Personality and Social Psychology, 81*, 1058-1069.
- Twenge, J. M., & Campbell, W. K. (2003). Isn't it fun to get the respect that were going to deserve? Narcissism, social rejection, and aggression. *Personality and Social Psychology Bulletin, 29*, 261-272.
- Twenge, J. M., Catanese, K. R., & Baumeister, R. F. (2002). Social exclusion causes self-defeating behavior. *Journal of Personality and Social Psychology, 83*, 606-615.
- Twenge, J. M., Catanese, K. R., & Baumeister, R. F. (2003). Social exclusion and the deconstructed state: Time perception, meaninglessness, lethargy, lack of emotion, and self-awareness. *Journal of Personality and Social Psychology, 85*, 409-423.
- Watson, D., & Friend, R. (1969). Measurement of social-evaluative anxiety. *Journal of Consulting and Clinical Psychology, 33*, 448-457.