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RUNNING HEAD: DISRUPTING THE FLOW

# Disrupting the flow: How brief silences in group conversations affect social needs.

Namkje Koudenburg

Tom Postmes

Ernestine H. Gordijn

University of Groningen, The Netherlands

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Address for correspondence:

Namkje Koudenburg

Department of Social Psychology

University of Groningen

Grote Kruisstraat 2/1

9712 TS Groningen

The Netherlands

Phone: +31 50 363 9432

Fax: +31 50 363 4581

n.koudenburg@rug.nl

Abstract

We all know the awkward feeling when a conversation is disrupted by a brief silence. This papers studies why such moments can be unsettling. We suggest that silences are particularly disturbing if they disrupt the conversational flow. In two experiments we examined the effects of a single brief instance of silence on social needs, perceived consensus, emotions, and rejection. Study 1 demonstrated that fluent conversations are associated with feelings of belonging, self-esteem, and social validation. If a brief silence disrupts this fluency, negative emotions and feelings of rejection increase. Study 2 replicated these effects in a more realistic setting, and showed that the effects of a brief silence are considerable despite participants' unawareness of the silence. Together, results show that conversational flow induces a sense of belonging and positive self-esteem. Moreover, this research suggests an implicit route to social validation, in which consensus is inferred from fluent group conversation.

Keywords: Conversational flow, rejection, social needs, social validation, perceived consensus.

Disrupting the flow: How brief silences in group conversations affect social needs.

Sometimes there is a brief pause in a conversation, just after we have said something. We experience prolonged silences as *deadly* or *ear-splitting*. But even brief silences are unsettling. Why is this so? We suggest that silences threaten social needs. This hypothesis is derived from research in pragmatics, showing that disfluency in conversations may signal conflict, and the ostracism literature, which demonstrates that being ignored harms social needs.

*Conversational Flow and Social Needs*

Conversations are more than mere exchanges of information: The social dynamic of a conversation can be compared to other cooperative social activities. When dancing together, the coordinated movements of two partners may arouse a variety of positive emotions (Haidt, Seder, & Kesebir, 2008). A fluent conversation, although different in many respects, shares these characteristics of close coordination and predictability, because of the harmonious exchange of information through smooth turn-taking (Chapple, 1970). Another similarity is that this experience of conversational flow is associated with a pleasant state of contentment (Burgoon, Stern, & Dillman, 1995).

The positive experience of conversational flow may serve four different social needs. First, the pragmatics literature demonstrates that numerous interactions with a partner increase conversational flow and interpersonal bonding (Rabinowitz, 2008). Furthermore, people synchronize their behaviors in interactions (Marsh, Richardson, Baron, & Schmidt, 2006), which increases feelings of entitativity and rapport (Bernieri, Davis, Rosenthal, & Knee; 1994; Lakens, 2010). This suggests that conversational flow could increase people's sense of belonging.

Fluency generally indicates a positive state of affairs and is thereby related to positive affect (Winkielman, Schwarz, Fazendeiro, & Reber, 2003). Similarly, synchronous interaction induces a positive state (Cappella, 1990) and decreases the chance of a breakdown or "awkward silence" (Burgoon & Saine, 1978), suggesting that fluency gives interaction partners a sense of control over the communication. Accordingly, we expect fluent conversations to serve two different needs: the need for self-esteem and the need for control.

Finally, research shows that talking in unison or completing each other's talk induces a sense of consensus (Edwards & Middleton, 1986). This is probably a largely unconscious process in which the absence of a need for systematic information processing leads to the heuristic inference of consensus—harmony as a proxy for agreement. Moreover, Smith and Postmes (in press) show that consensual group interaction produces a sense of social validation. Thus, we predict that conversational flow could increase perceived consensus and social validation.

Taken together, we expect that conversational flow implicitly fosters feelings of belonging, social validation, control, and self-esteem. However, conversational flow can be disrupted by a brief silence. As we expect conversational flow to satisfy social needs, we expect that disrupting it will threaten these needs.

*Disrupting conversational flow*

Research on Italian melodrama suggests that silences are often used to signal non-compliance or confrontation, and are also known as disaffiliative disfluency (Piazza, 2006). Although this research confirms that disruptions of conversational flow can undermine feelings of social cohesion, the question remains why they may threaten social

needs and signal negative events such as conflict? One explanation stems from the ostracism literature.

The ostracism literature suggests that silence can be a way of socially excluding people, and that this negatively affects emotions and social needs (e.g., Williams & Zadro, 2001; Williams; 2001). The present studies do not investigate this so-called silent treatment: in our studies nobody is actually excluded. However, the notion that people are, due to the evolutionary importance of group membership, highly sensitive to perceiving exclusion is relevant to our research. This may explain why people are highly sensitive even to very minor disruptions in conversational flow. That is, conversational silences negatively affect emotions and threaten needs because they could signal social rejection.

*The present research*

Two studies examined the psychological effects of conversational flow by comparing it to conversations that were briefly interrupted by a silence. We tested two hypotheses. First, conversational flow is associated with positive feelings of belonging, control, self-esteem, social validation, and perceived consensus. Second, disruptions instigate feelings of rejection and negatively affect emotions.

## Study 1

Participants read a scenario in which a fluent conversation was either disrupted by a silent moment (disrupted flow condition) or was not disrupted (flow condition). The silence occurred after a speaker (with whom the participant was asked to identify) made a mildly controversial statement. The statement was chosen such that participants could feel validated in their opinions by the positive feelings induced by the conversational

flow. In contrast, if there was no conversational flow, there could be legitimate doubts about the level of consensus in the group, reducing validation and increasing feelings of rejection.

*Method*

*Participants and design.* Participants (102 undergraduates, 57 female) were randomly assigned to one of two conditions (flow vs. disrupted flow).

*Procedure.* Participants where instructed to imagine being the narrator when reading a scenario. In the scenario, the narrator had a conversation with two fellow students, in which he or she made a mildly controversial statement, (i.e., "I think obese people should pay for two seats in the bus"). In the flow condition one of the fellow students smoothly continued the conversation on the previous topic making no further reference regarding this statement. In the disrupted flow condition the fellow student resumed the conversation as in the flow condition, but after a brief silence had been described (i.e., "Briefly, it remains silent. Suzanne stirs her coffee").

*Dependent measures*. After reading the scenario, participants' emotions during the conversation were assessed by asking whether they felt distressed, afraid, angry, and hurt (negative emotions, Cronbach's alpha =.78), along with 10 filler emotions (*1*= not at all, *7*= completely). Belonging, control, and self-esteem were assessed by means of the 15-item Need Threat Scale (NTS; Van Beest & Williams, 2006), all alphas>.81). Additionally, five items measured social validation ("I had the feeling my opinions were validated", alpha =. 85) and five items measured rejection (alpha =.90, Gaertner & Iuzzini, 2005). Participants indicated their perceived consensus in the group by rating their agreement with the statement: "*the group members agreed with one another on whether obese people should*

*pay for an extra seat in the bus*". Needs, rejection, and perceived consensus items were rated on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

*Results and discussion*

*Rejection and emotions*. Means are reported in Table 1. Participants in the disrupted flow condition felt significantly more rejected, $F(1,100)= 21.38$, $p<.001$, $\eta^2 =.18$, and reported more negative emotions, $F(1,99)= 17.06$, $p<.001$, $\eta^2 =.15$,

*Social Needs and Consensus*. As predicted, participants in the flow condition reported more belonging, $F(1,100)= 8.09$, $p<.01$, $\eta^2 =.08$, more self-esteem, $F(1,100)= 18.85$, $p<.001$, $\eta^2 =.16$, more social validation, $F(1,100)= 16.67$, $p<.001$, $\eta^2 =.14$, and higher levels of perceived consensus, $F(1,100)= 15.98$, $p<.001$, $\eta^2 =.14$. Control feelings were not significantly influenced by the silence, $F(1,100)= 1.09$, *ns*.

Results show that flowing conversations are associated with higher feelings of belonging, control, self-esteem, social validation, and perceived consensus, than conversations that are disrupted by a silent moment. This confirms that conversational flow serves different social needs. Furthermore, disrupted conversations increase negative emotions and feelings of rejection, resembling ostracism experiences (e.g., Williams, 2001). This indicates that a brief disruption of conversational flow is interpreted as rejection, even when nobody is factually excluded from the conversation.

## Study 2

Study 2 was designed as a replication in a more realistic setting. Because conversational flow was expected to be a pleasant state, we included a measure for positive emotions. Furthermore, Study 2 aimed to disrupt the conversational flow more subtly than Study 1. To this end, participants imagined being a student in a videotaped

conversation in which a silent moment occurred (disrupted flow condition) or not (flow condition). The duration of silence was chosen so that it was unlikely to be noticed consciously. In order to assess whether conversational flow or disrupted flow were stronger contributors to the effects, we added a baserate condition, in which participants received equivalent information about the group discussion, but saw no video.

*Method*

*Participants and design.* Sixty undergraduates (51 female) were randomly assigned to one of three conditions (flow vs. disrupted flow vs. baserate).

*Procedure.* Participants were seated behind personal computers in individual cubicles. In the flow and the disrupted flow condition, participants were instructed to watch a 6-minute video of three female students who knew each other superficially having a conversation about relationships. Participants were instructed to imagine being one of the conversation partners (named Linda). After four minutes of ongoing conversation Linda said: "*Recently, I heard about a teacher having sex with students, I think that this should not be allowed. Such a teacher should be fired immediately*". In the flow condition the other group members smoothly continued the conversation on a topic not directly related to Linda's statement. The conversation continued approximately one more minute with no further reference to Linda's statement. In the disrupted flow condition, the statement was followed by four seconds of silence, after which the conversation continued similar to the flow condition. In the baserate condition participants received the same information as given in the video (a script and photos of the discussants), but no information about the fluency of the conversation. This assessed participants' baseline assumptions about the emotions and

needs triggered by the conversation, irrespective of the actual flow. Afterwards, all participants filled out a number of questionnaires.

The duration of silence in the video was pilot-tested, as the appropriate time varies between interactions (Burgoon & Saine, 1978). A pilot ($n$ = 40) showed the video with edited silences of either 2.5, 4, or 6 seconds. Four seconds appeared to be an optimal duration of silence to ensure that participants did not notice the silence consciously, still perceived the conversation as natural, but nevertheless felt that the conversation was significantly less pleasant.

*Dependent measures*. Negative emotions, the four needs, perceived consensus, and rejection were examined as in Study 1. Three positive emotions were added to the emotions scale (i.e., happy, strong, & independent, alpha =.69).

Participants estimated the duration in seconds between Linda's statement and the other group member's response. Finally, to check whether participants noticed the video edit, they were asked whether they had seen something remarkable in the video.

*Results and discussion*

*Manipulation Checks*. Estimated time passing before the group members responded to Linda's statement did not differ between conditions ($M_{disrupted\ flow}$= 3.58, $SD_{disrupted\ flow}$= 2.17, $M_{flow}$= 3.28, $SD_{flow}$= 1.41, $F(1,37)$=.25, *ns*), implying that participants did not consciously detect the silence. Four participants reported that they thought the video was edited. They were removed from the analyses.

*Rejection and Emotions.* All means are reported in Table 2. There was a significant effect of condition on rejection $F(2,57)$= 5.51, $p$<.01, $\eta^2$ =.16, negative emotions, $F(2,57)$= 9.70, $p$=.001, $\eta^2$ =.23., and positive emotions, $F(2,57)$= 9.58, $p$<.001,

$\eta^2$=.25. In the disrupted flow condition participants reported more rejection, more negative emotions and less positive emotions than in the flow and baserate conditions (which were not different from each other).

*Need Threats and Consensus.* Condition significantly influenced participants' feelings of belonging, $F(2,57)= 6.03$, $p<.01$, $\eta^2 =.18$; self-esteem, $F(2,57)= 8.78$, $p<.001$, $\eta^2 =.24$; social validation, $F(2,57)= 6.39$, $p<.01$, $\eta^2 =.18$; and perceived consensus, $F(2,57)= 5.65$, $p<.01$, $\eta^2 =.17$. Higher need satisfaction and consensus were reported in the flow condition and baserate condition than in the disrupted flow condition.[1] Control feelings were not influenced by condition ($F<1$).

Study 2 shows that conversational flow is associated with positive emotions, feelings of belonging, self-esteem, social validation, and perceived consensus. The effects in the baserate condition resemble those in the flow condition, suggesting that conversational flow may be the standard in conversations: Without any information about the fluency, people assume that there is flow. However, a mere four-seconds silence (in a six-minute video clip) suffices to disrupt the conversational flow and make one feel distressed, afraid, hurt, and rejected. These effects occur despite participants' unawareness of the short, single silence.

## General Discussion

The present research shows that conversational flow is associated with positive emotions and a heightened sense of belonging, self-esteem, social validation, and consensus. Disrupting the flow by a brief silence produces feelings of rejection and negative emotions. Study 2 also shows that the high levels of need satisfaction in the flow condition resembled baserate levels, produced by mere reading of the script. Presumably,

people expect conversations to be fluent and therefore experience disruptions as relatively harmful.

These findings extend previous research in several respects. Our finding that fluent conversations induce higher levels of belonging than disrupted conversations adds to research by Lakens (2010), showing that synchronically moving people are perceived as a group. We show that groups that converse harmoniously make people feel they belong. Moreover, we found that conversational flow relates to higher self-esteem, which is compatible with the suggestion that fluency signals a positive state of affairs (Winkielman et al., 2003). However, our studies revealed no relation between conversational flow and feelings of control. Possibly, this is because conversational flow to some extent implies a relinquishing of control and allowing oneself to be led by others.

Further, complementary to explicit processes of social validation (e.g., Festinger 1954), our research suggests a more implicit route to social validation. People do not always actively search for opinions of others, but can also validate their opinions by deriving a general *feeling* of consensus from fluent conversations. In the case of disfluency, for instance instigated by a silent moment, validating opinions becomes less of an automatic event: people may attend more closely to what is actually being said by others.

Finally, the present research reveals that although people do not consciously notice brief silences, they are influenced by conversational disfluency in a way quite similar to ostracism experiences (e.g., Williams, 2001). That is, people report feeling more rejected and experience more negative emotions when a conversation is disrupted

by a silence, rather than when it flows. Thus, disrupted flow can implicitly elicit feelings of rejection, confirming human sensitivity to social exclusion cues.

The present research uses a scenario study and a videotaped conversation to assess the psychological impact of conversational flow. Previous research on ostracism has confirmed that the consequences of observation are broadly similar to the actual experience itself (Wesselmann, Bagg, & Williams, 2009). The effects of observation and actual experience are especially similar when participants take the target's perspective, as was the case in our experiments. Nevertheless, it is likely that stronger effects may be observed in real-life situations: our methodology would appear to be a conservative test.

The current studies reveal that conversational flow serves social needs and maintains perceived consensus. As such, this is one of the first studies showing that conversational characteristics are major contributors to social psychological processes such as social validation and belonging. We think that comprehension of social behavior will benefit from investigating the role of conversational characteristics in such processes.

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Note

1. Consensus was correlated with rejection ($r$=-.35), belonging ($r$=.43), social validation ($r$=.30), and self-esteem ($r$=.33). Consensus did not mediate the effects of flow on the other dependent variables.

2. We would like to thank Daniël Lakens for his useful feedback on a previous version of this paper.

*Table 1.* Mean effects of flow in Study 1 *(SD*s in brackets).

| Variable | Flow (n = 50) | Disrupted flow (n = 51) |
|---|---|---|
| Rejection | $2.11_a$ (1.01) | $3.07_b$ (1.10) |
| Negative Emotions | $2.06_a$ (.92) | $2.93_b$ (1.17) |
| Belonging | $5.12_a$ (.85) | $4.56_b$ (1.11) |
| Control | 5.04 (1.01) | 4.82 (1.08) |
| Self-Esteem | $5.58_a$ (1.06) | $4.59_b$ (1.23) |
| Validation | $4.85_a$ (.88) | $4.01_b$ (1.17) |
| Perceived Consensus | $3.40_a$ (1.99) | $2.12_b$ (1.17) |

Note: Within each row, means with different subscripts differ significantly at $p < .01$, means with no subscripts do not differ significantly.

*Table 2.* Mean effects of flow in Study 2 *(SD*s in brackets).

| Variable | Baserate (n = 23) | Flow (n = 18) | Disrupted flow (n = 19) |
|---|---|---|---|
| Rejection | $1.83_a$ (.85) | $1.90_a$ (1.04) | $2.80_b$ (1.18) |
| Negative Emotions | $2.01_a$ (.96) | $2.23_a$ (.94) | $3.32_b$ (1.26) |
| Positive Emotions | $4.97_a$ (.63) | $4.96_a$ (.77) | $3.96_b$ (1.05) |
| Belonging | $5.90_a$ (.72) | $5.66_a$ (.78) | $4.89_b$ (1.30) |
| Control | 4.90 (.92) | 4.76 (1.26) | 4.39 (1.09) |
| Self-Esteem | $5.70_a$ (1.03) | $5.53_a$ (.89) | $4.42_b$ (1.18) |
| Validation | $5.17_a$ (.86) | $4.86_a$ (.85) | $4.18_b$ (1.00) |
| Perceived Consensus | $4.70_a$ (1.33) | $4.28_a$ (1.32) | $3.32_b$ (1.38) |

Note: Within each row, means with different subscripts differ significantly at $p < .05$, means with no subscripts do not differ significantly.