

**Title:** How is right hemisphere communication disorder disabling? Evidence from response mobilizing actions in conversation

**Running head:** Right hemisphere stroke and disability

**Article category:** Research paper

Scott Barnes<sup>1</sup>, Suzanne Beeke<sup>2</sup> and Steven Bloch<sup>2</sup>

1. Department of Linguistics, Macquarie University, Sydney, Australia.
2. Department of Language and Cognition, University College London, London, UK

### **Correspondence**

Dr S Barnes (0000-0001-5299-0550)

Department of Linguistics, Macquarie University

North Ryde, NSW, Australia, 2109

Email: [scott.barnes@mq.edu.au](mailto:scott.barnes@mq.edu.au)

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**Abstract**

**Aim:** Assessment and intervention strategies for communication disorders caused by right hemisphere stroke are at an early stage of development. There is also little evidence on how right hemisphere communication disorder is disabling for everyday life. This study explores how a woman with conversational problems following right hemisphere stroke participated in everyday conversation with family members.

**Method:** One hour of triadic conversation was recorded and analyzed using the descriptive qualitative methodology of conversation analysis. It focused on attempts by the woman with right hemisphere stroke to direct conversation with “response mobilizing” communicative acts, i.e., communicative acts that set out clear expectations about who should speak, and how they should respond.

**Results:** Seventy-eight communicative acts produced by the woman with right hemisphere communication disorder were divided into five groupings based on how her conversation partners addressed them. Around half of her response mobilizing communicative acts received unsupportive responses from her conversation partners, including minimal acknowledgements, explicit rejections, and ignoring responses.

**Conclusion:** The findings of this study provide novel insight into the ways that right hemisphere communication disorder affects routine communication, and the nature of the disability it causes. This information will support the future development of evidence-based speech pathology assessment and intervention for right hemisphere stroke.

**Keywords:** Communication disabilities; Neurogenic communication disorders; Speech pathology; Social participation; Cerebrovascular stroke.

## Introduction

Communication disabilities arise from complex and dynamic interrelationships between individuals and their environments [1-3]. When they are acquired during adulthood, communication disabilities can result in pervasive, multifaceted, and persisting changes for everyday life. There is a large body of research demonstrating the disabling implications of, for instance, aphasia and traumatic brain injury [4-7]. These studies have generated a clear picture of the negative impacts of aphasia and traumatic brain injury for quality of life and social participation, particularly at the chronic stage of recovery. As a consequence, intervention approaches that promote participation in life activities are a key part of rehabilitation for these acquired communication disabilities, and there is growing evidence supporting their efficacy [8-10].

Rehabilitation strategies for communication disorders caused by right hemisphere brain damage are far less advanced than those for aphasia and traumatic brain injury [11]. Although there is broad agreement that right hemisphere communication disorder can impair discourse and pragmatics, prosody, and aspects of lexical processing, there are few diagnostic assessments for this condition, and even fewer intervention methods [12,13]. The development of evidence-based rehabilitation has been hampered by numerous explanations of the underlying processing impairments, inconsistent and equivocal findings in studies of communication symptoms—particularly in the area of discourse and pragmatics—and the intrinsic complexity of the behaviours affected by the condition [12,14-16]. In addition, there is little information on how right hemisphere communication disorder impacts daily life, i.e., the nature of the *disability* that it causes. Although there is some indication of the overall implications of right hemisphere stroke for everyday functioning [17] (see

Stella Stein et al. [18] for a review), the specific contribution of right hemisphere communication disorder is only beginning to be understood.

Hewetson et al. [19] provide the most detailed report available on the longitudinal effects of right hemisphere communication disorder for everyday life. They used the Sydney Psychosocial Reintegration Scale (SPRS-2) to examine how people with right hemisphere stroke—with and without cognitive-communication disorders<sup>1</sup>—and their significant others perceive changes to social participation following stroke. The SPRS-2 has subscales addressing occupational activity, interpersonal relationships, and independent living skills, and includes both patient and proxy versions. Hewetson et al. found that people with cognitive-communication disorder following right hemisphere stroke experienced more substantial negative changes in social participation than people without, with impacts on the occupational activity subscale particularly evident. In addition, participants with cognitive-communication disorder achieved lower levels of agreement with their significant others on the SPRS-2 than participants without cognitive-communication disorder and their significant others. Disagreement with significant others was most marked on the interpersonal relationships and independent living skills subscales. Hewetson et al. is also one of a handful of studies to examine the experiences and perspectives of the family members and significant others of people with right hemisphere communication disorder. Other studies have suggested that family members notice different problematic communication behaviours than clinicians [20] and that they may grow to notice communication difficulties more over time [21].

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<sup>1</sup>Hewetson et al. use the term “cognitive-communication disorder” to indicate changes to communicative functioning caused by right hemisphere stroke. The most apt label for this population has been a source of (unresolved) debate [15]. Cognitive-communication disorder is likely the most commonly used label in clinical practice. It has also been applied to a variety of qualitatively different populations within the scope of speech pathology practice; particularly, traumatic brain injury, right hemisphere damage, and dementia. We prefer the label “right hemisphere communication disorder” because it is population specific, descriptive, and somewhat more transparent.

There are a number of studies focused on right hemisphere communication disorder and conversation [14,22]. This work has been principally directed towards exploring symptoms of impairments rather than disability. That is, these studies have sought to identify problematic patterns in conversation with a view to specifying conversational symptoms of right hemisphere communication disorder, and their relationships with underlying processing impairments [22-25]. While this is a valuable (and ongoing) line of inquiry, investigations of conversation also have the potential to capture the ways that right hemisphere communication disorder limits everyday communication activities, i.e., its manifestation as a *communication disability*. Conversation between familiars is the most basic and common site of language use, and the medium through which people conduct their daily lives [26]. Therefore, describing salient patterns in everyday conversation can provide information about the realization of communication disability in and through communicative practices, and the consequences of those practices for everyday life activities. This may be particularly important for people living with right hemisphere communication disorder because conversational deficits have been found to be a core impairment symptom for this population [27], and family members report persisting problems in conversation [21].

A fundamental feature of conversation is its organization around pairs of communicative acts, or “actions” [28]. With each initiating action, a speaker/actor sets in place a specific context for subsequent actions. This is especially the case for actions that are strongly “response mobilizing” [29,30] (see also [22]). Response mobilizing actions implement clear expectations about the kind of responses that should immediately follow. Prototypical response mobilizing actions are verbal utterances that normatively implicate a limited range of responsive utterances. For example, questions normatively implicate answers, greetings normatively implicate return

greetings, and offers implicate acceptances (or rejections). These pairs of utterances form a “sequence” of actions [28]. Response mobilizing actions involve an array of linguistic, embodied, and socio-interactional tools that can specify who should respond and how they should do so. Important response mobilizing tools include interrogative morphosyntax, rising terminal intonation, gaze towards the intended recipient of the action, and choice of topic within the epistemic (i.e., knowledge) domain of the addressed recipient [30]. When these features are present in an utterance, the recipient of the action is pressured to promptly provide a fitted response. Stivers [31], for instance, found that only 5% of questions in everyday conversations involving (American) English speakers did not receive a response, and that answering responses were much more common than non-answering responses. If a fitted response is not forthcoming, then speakers are likely to reproduce their action to pursue a response (e.g., *Are you going to the shops? ... Well, are you?*). The pressure implemented by response mobilizing actions is so strong that other, non-addressed parties may even provide the responsive action being sought when the targeted recipient does not (or cannot) respond, e.g., a carer of a person with communication disability answering a question on their behalf [32].

Studies of response mobilization have generated new knowledge on the basic infrastructure of conversation. The underlying objective of this research is to explore universal features of human language and communication [29,30]. Because of their importance for communication, response mobilizing actions can also provide insight into the ways that people pursue their moment-by-moment communicative objectives. People employing response mobilizing tools like interrogative syntax, gaze direction, rising terminal intonation, etc. in conversation are not aiming to “mobilize a response” in a vacuum; they are using them to ask “*what’s for dinner?*”, complain about someone, plan a birthday party, inquire about recent holiday, or whatever else. Put

another way, the salience of response mobilizing actions means that they are important vehicles for various situated communicative objectives, and are therefore likely to be revealing of the context-specific activities and identities of the people involved in an interaction [33]. In the case of right hemisphere communication disorder—and acquired communication disorders in general—exploration of response mobilizing actions may therefore provide insight into the ways in which language and cognitive impairments influence the efficacy of communication in everyday life. In addition, because conversation is an inherently joint achievement [3], investigation of right hemisphere communication disorder and response mobilization may empirically demonstrate how communication disability is generated via the conduct of multiple people, and not simply the person with the communication disorder alone [14]. This, then, can provide a basis for planning and developing conversation-focused rehabilitation strategies (e.g., communication partner training) that facilitate participation in everyday life.

The present study explores response mobilizing actions produced by a person with chronic right hemisphere communication disorder caused by stroke. The broad aim of this study is to examine how right hemisphere communication disorder may affect participation in life activities; in this case, everyday conversations with familiar conversation partners. More narrowly, it focuses on instances in which a person with right hemisphere stroke attempted to direct conversation by producing a response mobilizing action, and the ways that her conversation partner(s) reacted to these attempts. The present study examines the following research question: *how do familiar conversation partners address response mobilizing actions produced by a person with right hemisphere communication disorder?*



## **Method**

### *Design*

This study employed a descriptive, non-experimental single case study design. It used the analytic methodology of conversation analysis [34]. Ethical approval for the study was granted by the Macquarie University Human Research Ethics Committee (reference: 5201700298), and it was conducted in accordance with its approved form. All the participant names that follow are pseudonyms, but participants explicitly consented to the use of their images in project publications.

### *Participants*

Three people were recruited to participate via an advertisement in a local stroke recovery organization newsletter. The participants were a woman with right hemisphere communication disorder (“Erin”), her husband (“Federico”), and their adult daughter (“Daisy”). Erin was 78 years old at the time of her participation and had experienced a single ischaemic middle cerebral artery stroke more than three years prior. In addition to a communication disorder, Erin also presented with hemiparesis affecting her left arm. Hemispatial neglect was not detected by the Apple Cancellation Test [35]. Erin lived in her own home with Federico and required support from him with some activities of daily living, primarily due to her hemiparesis. She had previously worked in marketing but had retired prior to her stroke.

Erin was administered The Montreal Protocol for the Evaluation of Communication (English version; MEC Protocol) [36] and Federico completed the MEC Protocol Communication Screening Questionnaire. Their responses to these procedures were indicative of chronic right hemisphere communication disorder and confirmed the presence of conversational difficulties. Erin’s performance on the MEC

Protocol is summarised in table 1. It is most consistent with Cluster 3 from Ferré et al., which involves primarily conversational symptoms. On the Communication Screening Questionnaire, Federico responded affirmatively to items asking whether Erin “changes topic, loses track of the conversation”, “makes inappropriate, unexpected comments”, “repeats the same ideas”, and “speaks too much, interrupts you”.

((Insert table 1 around here))

### *Data collection*

A conversation between Erin, Federico, and Daisy was audio and video recorded in Erin and Federico’s home. It captured them having a meal together. The researcher—the first author—was present for the duration of the recording, but in another room. The participants were instructed to “talk as you usually would together”, and no topics or activities were suggested. The researcher turned on the recording devices and left the room, returning after around an hour of recording. The video recording devices were a Panasonic AG-UX90 4K Camcorder and a GoPro HERO5. The audio recording device was a Zoom H6 Handy 6-Track Recorder, which captured audio signals via wireless lapel microphones fitted to each participant. 61 minutes of recording was completed, and the participants discussed a wide variety of topics relating to their own lives and local current affairs.

### *Data analysis*

Recordings were transcribed using conversation analytic conventions, which minimally document the literal content of talk, timing and sequencing of talk, and

prosody (see supplementary material for full conventions) [37].<sup>2</sup> Initial transcription was completed by a research assistant who had received 7 hours training from the first author, and more than 100 hours subsequent experience with carrying out conversation analytic transcription. The first author then checked and (as required) revised transcripts during subsequent data analysis. Following transcription, the first author identified response mobilizing actions produced by Erin in the recordings. A total of seventy-eight response mobilizing actions were identified. Erin's response mobilizing actions will be referred to as "first position actions" from here onwards. The coarse action types and frequency of first position actions is summarized in table 2. The most frequent action types were questions (i.e., sequence-initiating actions employing interrogative morphosyntax, and addressing a matter within the epistemic domain of the recipient) and "K+ assertions" (i.e., sequence-initiating actions employing declarative morphosyntax, and addressing a matter within the epistemic domain of the speaker). Some first position actions also included explicit indications of addresseehip (e.g., use of personal names). Following the methodology outlined in Barnes et al. [22], responses to first position actions were then coded across three parameters: 1) whether an unequivocal response was provided; 2) if provided, whether the response was delayed (i.e., commenced greater than 0.3 seconds after the completion of the response mobilizing action) [38]; 3) if provided, whether the response was "aligning" (i.e., whether it supported the response mobilizing action by conforming to the normative expectations it set in place relating to action type and/or linguistic format). Federico and Daisy's responses to first position actions will be referred to as "second position actions" from here onwards. Analysis of each action

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<sup>2</sup> Approximately 4 minutes of the recording were not transcribed. These untranscribed segments included around 1 minute of interaction with the researcher at the beginning and ending of the recording, and around 3 minutes in which Daisy received a phone call.

pairing was undertaken by the first author using established conversation analytic techniques (e.g., next-turn proof procedure, single case analysis; see Barnes et al. [22], for further details). This process yielded five groupings of action pairs: 1) Typical Response; 2) Delayed Response; 3) Disaligning Response; 4) Delayed and Disaligning response; 5) No Response (see tables 2, 3, and 4). Four coded action pairs from each grouping were randomly selected<sup>3</sup> (i.e., twenty in total) and re-coded for reliability. Re-coding was completed by a post-doctoral researcher who was independent of the current project and had expertise in conversation analytic methods. Agreement was achieved for nineteen of the twenty actions. The first author then rechecked the remaining data corpus for consistency. Transcripts of the full data set (organized by grouping) are available for review at: <https://osf.io/bmrz6/>.

((Insert tables 2, 3, and 4 around here))

## **Results**

Frequency counts and percentages for each grouping are provided in table 3. Although these quantitative differences are meaningful—a point we shall return to in the Discussion section—we will instead focus on qualitative differences between responsive practices. Along these lines, for the purposes of the present report, we will collectively characterize second position actions in the Typical Response and Delayed Response groupings as “supportive”, and second position actions in the Disaligning Response, Delayed and Disaligning Response, and No Response groupings as “unsupportive”. We will present an analysis of one supportive response, and then

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<sup>3</sup> Random selection was completed using the random number function in Microsoft Excel. A list of response mobilizing action was assigned random numbers, and then sorted based on these numbers. This first four actions from each group were included in the reliability check.

examine four unsupportive responses<sup>4</sup> more closely. Both first and second position actions will be labelled and bolded in transcript extracts in this section.

*Supportive responses: Typical and Delayed Response groupings*

The Typical Response and Delayed Response groupings represented slightly more than half of the action pairs analysed (52%, see table 3). With these responses, Daisy and Federico supported core aspects of Erin’s response mobilizing actions, accepting their presuppositions, progressing (and/or completing) the course of action they commenced, and fitting the action-based and linguistic expectations they implemented. An example of a second position action from the Typical Response grouping is provided in extract 1. Here, Erin initiates a new topic addressed to Daisy.

As extract 1 begins, Federico is dealing with Daisy’s complaint that she has found a lemon seed in the salad he prepared (not shown). He indicates that he knew there was a seed somewhere in the salad but that it was very difficult to find *amongst* the pine nuts. This leads to a short period of joking about Daisy’s (seemingly recurrent) bad luck with food.

((Insert extract 1 around here))

Erin’s first attempt to introduce a new topic at line 12 ends up on overlap with Daisy, who produces an assertion related to Federico’s joking. Erin yields to Daisy momentarily, and then secures the floor to initiate her topic with an

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<sup>4</sup> Although we have termed them “unsupportive responses”, Daisy and Federico’s conduct in instances assigned to the No Response grouping is designedly *unresponsive*. That is, they provided no evidence of vocal or embodied orientation to Erin’s first position action, or explicitly and wholly rejected the action altogether. So, “unsupportive responses” is something of a misnomer. That said, not responding is also a type of controlled behaviour, and thus is a “responsive choice” of sorts. For this reason (and for reasons of parsimony) we have elected keep the No Response grouping under this heading. See Blythe [39] for further discussion on this point.

assessment/complement at line 15. Erin's topic-initiating first position action characterizes an invitation to dinner from Daisy's romantic partner—"Tim"—as *so lovely*.<sup>5</sup> Daisy responds promptly and supportively. She initially produces an *oh*-prefaced turn focused on Erin (and Federico's) experience of the dinner, but changes tack to provide a complementary assertion about Tim's opinion of Erin and Federico. Daisy's second position action firmly establishes Erin's topic, and promotes the development of further talk from all parties about Tim and the specifics of the meal between lines 23 and 30. In summary, in extract 1, Erin's first position action secures a prompt and fitted second position action, which successfully engenders further related talk. In the sections that follow, we will turn our attention to first position actions that receive less straightforward uptake.

*Unsupportive responses: Disaligning and No Response groupings*

Just less than half (48%, see table 3) of the response mobilizing actions produced by Erin received disaligning responses or no response at all. These responses were unsupportive in the sense that they undermined the basis for Erin's action or ignored the action altogether. Among the Disaligning Response and Delayed and Disaligning Response groupings were generically disaligning responses (e.g., disagreements, claims to lack knowledge), and minimal responses that provided weak acknowledgement (and little more). However, there were also responses that explicitly contested the presuppositions of Erin's response mobilizing actions (e.g., factuality of information, newsworthiness of new topics). Examples of the Disaligning Response and Delayed and Disaligning Response groupings are presented in extracts 2 and 3. Among the No Response grouping were instances where both Federico and Daisy

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<sup>5</sup> Tim is in hospitality, and he hosted Erin and Federico at an establishment he runs.

disattended to Erin's action despite her unambiguous use of response mobilizing tools. The No Response grouping also included conduct designed to wholly reject and block Erin's response mobilizing actions. Examples of the No Response grouping are presented in extracts 4 and 5.

Extract 2 offers an example from the Delayed and Disaligning Response grouping. We will see that, after an extremely long silence, Daisy offers a quiet, minimal receipt of Erin's first position action. Prior to extract 2, Daisy has been talking about her estranged partner, and how she will manage the formal ending of their relationship; specifically, how she will get him to *sign divorce papers* (not shown). His reticence to do so is confirmed at lines 1-5, which Federico assesses as *a bit selfish* at line 9. Erin then suggest that Daisy *put the papers in* (i.e., file for divorce solely). Daisy's response to this is delayed and contains multiple self-repairs, culminating in the assertion *I don't know what he's playing at*. After a long silence at 26, Erin produces the first position action in focus: *well you know Angelina Jolie [a]n[d] Brad Pitt [a]re still having problems*.

((Insert extract 2 around here))

((Insert figure 1 around here))

In the silence at 26 and for much of line 28, Daisy gazes at Erin while drinking from a coffee cup (see figure 1, 2.1). Near the end of the final syllable of *problems*, Daisy gazes away from Erin (and does not return her gaze to Erin for the rest of the extract; see figure 1, 2.1-2.4). Although she is no longer drinking, Daisy keeps the cup poised in front of her face for the duration of the silence at line 30 and is very likely swallowing in the first 1.8 seconds. Erin, on the other hand gazes at Daisy for 1.4 seconds of the 4.8 second silence, before looking down and attending to her plate. Daisy's second

position action at line 31—a quiet *mm* with falling intonation—is among the weakest of response tokens in Australian English, registering a bare acknowledgement of Erin’s first position action [40]. Erin then expands her turn, explicating the reason that they are *still having problems*. Again, Daisy’s response is slow, but it takes up Erin’s nominated topic more substantially. However, it is rather removed from both the particulars of the celebrities’ situation (and her own) and does not specifically project further talk on the topic.

In extract 2, Erin’s first position action does not receive a supportive second position action, and she is unsuccessful with establishing further substantial talk relating to it. Placing to one side just what makes Erin’s first position action problematic—which is perhaps less clear than one might think at first glance—Daisy’s delayed and weak second position action desiccates the responsive pressure exerted by Erin’s turn, which Erin attempts to revive with her talk at 33-34. Both Daisy and Federico resist making substantial contributions to this specific line of talk and it disappears.<sup>6</sup>

Like extract 2, extract 3 sees Erin using a first position action to build on an ongoing line of topic talk to introduce a new topic. Prior to extract 3, Erin and Federico have been talking at length about the circumstances in which they met and began their relationship. As part of this story, Erin mentions that Federico had, at that time, told her his heart was *round or enlarged or something* (not shown). This is news to Daisy, who questions whether it is true or not. Federico confirms that it is, but that it isn’t a problem for his health. As extract 3 begins, Federico describes what an enlarged heart typically means, which he eventually contrasts with his own heart, which is *just a different shape*. The first position action in focus immediately follows at line 21-22. As

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<sup>6</sup> Immediately following Extract 2, Erin mentions the analogous experience of her other daughter (i.e., Daisy’s sister), which both Daisy and Federico collaborate in developing.



Erin delivers this first position action, she gazes towards Federico, and both Daisy and Federico gaze at her.

((Insert extract 3 around here))

Erin's first position action clearly builds on the current topic but shifts the focus from Federico's circumstances to her own. Both Daisy and Federico respond quickly and in a consistent fashion. Their disaligning second position actions undermine Erin's first position action in two clear ways. First, they both they reject the similarity of her heart problems to Federico's, implicitly contesting the segue she is attempting to accomplish. Second, their responses target the newsworthiness of (and possibility of sequence expansion on) this topic by demonstrating authoritative knowledge of it [41]. Following Daisy and Federico's strong, mutual disalignment with her turn, Erin produces another first position action at lines 26-27. She revises it relative to her prior unsuccessful first position action by changing its addressee (i.e., changing from Federico to Daisy), and by adjusting the topic to something Daisy does not have knowledge of (i.e., the current state of her heart health). It too, however, is unsuccessful, and receives no response from Daisy, who promptly gazes to Federico at the end of line 27.<sup>7</sup>

Extract 4 presents two first position actions from the No Response grouping. They are both directed to Federico, who offers no vocal or embodied orientation to Erin's turns. Prior to extract 4, Daisy and Erin have been talking about an acquaintance who takes a medication for arthritis. This medication had recently been promoted in the media for apparently spectacular improvements in chronic impairments to

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<sup>7</sup> Erin's first position actions at 11 and 26-27 were both included in the No Response grouping.

cognitive and motor functions caused by stroke. At line 1/4, Erin asserts that this acquaintance would be eligible for another medication that had been the subject of similar spectacular claims (i.e., *Etanercept*). Federico then shifts focus, producing a multi-unit turn that links *growth hormone* with *new neuronal connections*. Erin is apparently informed about this research as well, asserting that it is *bran[d] new ... for stroke*. Daisy then asks Federico about the growth hormone treatment, i.e., whether there are *any other effects*. Erin's first position actions follow at lines 25-26 and line 31.

((Insert extract 4 around here))

((Insert figure 2 around here))

Daisy indicates that her polar question at line 22 is addressed to Federico by angling her body and head towards him following her turn (and avoiding gazing towards Erin). Erin also displays an orientation towards Federico taking the floor, progressively shifting her head and torso in his direction between lines 22 and 24. Federico does not produce a responsive turn promptly and is visibly engaged with manipulating the food on his plate. He does, however, scrunch his face and produce a lip smack at lines 23-24 (see figure 2, 4.1). The first lexical sign of turn commencement is his quiet production of the word *well*, but he takes a mouthful of food in the moments that follow. Erin exploits this lack of progress and asks Federico a question of her own about this new treatment; specifically, whether it was *the one they heard about last night in the news*. Daisy gazes to Erin as she produces *the one*, but then back down to her plate after the word *about*. Federico does not attend to Erin for the duration of lines 25-26, looking down at his plate and manipulating food on it (see figure 2, 4.2-4.3). His talk at 27-28 also does not respond to Erin's question, but instead develops

an answer to Daisy. As he speaks, he places down his knife, moves his fork from his left hand to his right hand, and positions it over a pile of food on his plate, all while gazing downwards. During this time, Erin keeps her head angled towards Federico, but retracts her torso slightly. She then produces another first position action—*you don't need it*—addressed to Federico, and which topicalises a matter within his epistemic (i.e., knowledge) domain. Again, Federico and Daisy maintain attention to their plates, and Federico expands his answer in overlap with Erin's first position action (see figure 2, 4.4). Erin continues to look towards Federico until after the word *for* at line 33, at which time she gazes down to the salad bowl between her and Federico (see figure 2, 4.5). She then picks up some salad leaves from her plate and begins eating them as Federico and Daisy continue with the topic.

In summary, in extract 4, Federico fails to provide corresponding second position actions to Erin's first position actions. This is despite her use of powerful response mobilizing tools: interrogative syntax and rising terminal intonation at line 25, epistemic asymmetry at line 31, and marked gaze and bodily orientation in both turns. In each case, there are some evident grounds for Federico's resistance. The initial first position action is produced amidst Federico's (albeit tardy) response to Daisy's question, which he elects to prioritize over responding to Erin's. The subsequent first position action is also ill-fitting the sense that it misses the hypothetical nature of Federico's answer.<sup>8</sup> Nonetheless, Erin effectively abandons both first position actions and allows the talk to progress without her.

The final extract we will examine involves Federico explicitly rejecting a first position action. We will see that, although consistent with immediately prior talk, the topic Erin introduces is characterized by Federico as *not a good idea*. Despite this, she

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<sup>8</sup> This is perhaps encouraged by the segmented nature of his turn, with the first part (i.e., *I wouldn't take it*) potentially hearable as non-hypothetical answer.

finds a creative way of developing it (with support from Daisy). Prior to extract 5, Daisy has been suggesting television shows for her parents to watch. At line 1, Erin mentions that she wants to watch some specific episodes of the show *House of Cards*. This line of talk reaches some oblique references to the sexual assault controversies surrounding a lead actor from the show, the most specific of which is Federico's description of him as *a naughty boy*. This sets the scene for Erin's first position action at lines 17-18/20. This action is the first part of a pre-sequence, and projects the announcement of a newsworthy information [28]. With this pre-sequence, the prospective recipients of this news are provided with an opportunity to indicate whether they are informed or uninformed about it, which has a strong influence on how (and whether) the sequence will be developed.

((Insert extract 5 around here))

((Insert figure 3 around here))

As Erin begins her turn at line 17, she is looking down at her plate, manipulating food with a fork. There is also a visible bulge in her right cheek from the food resting there. Towards the end of the word *hear*, she angles her head upwards, and then leans towards Daisy, indicating that Daisy is the addressed recipient of the first position action. Both Daisy and Federico look down at their plates as Erin develops her turn further. Perhaps encouraged by the marked nature of the verb *accused*, Federico says *okay* at line 19, and Erin quickly turns her head towards him. As Erin continues her turn at 20, Federico straightens his body and raises his left hand, holding his flat palm

in the air as he says *no mention people* (see figure 3, 5.2).<sup>9</sup> Erin looks down towards the end of the word *people*. She holds her gaze at her plate for the duration of 23 and 24 and chews (see figure 3, 5.3). During the silence at line 25, Erin progressively orients back to Federico, and leans towards him as she produces her turn at 25/27, which delivers the initials of the person in question. This allusion sparks laughter from Federico and Daisy (and Erin). Daisy then supports and establishes this topic through her other-initiation of repair at line 34 and guess at line 41.

With his talk at 21 and 23, Federico attempts to preclude the course of action foreshadowed by Erin's first position action. Unlike the disaligning second position actions in extract 3, Federico's reply in extract 5 does not engage with the specifics of Erin's turn. Instead, he entirely rejects it, and rules out the possibility of providing a response to it, with a view to preventing her from delivering the projected newsworthy information (i.e., the person's name). Erin decides to pursue this first position action regardless, and skirts Federico's restrictions by doing something other than *mention[ing]* the person in question.

((Insert figure 4 around here))

## Discussion

This study examined response mobilizing actions produced by a woman with right hemisphere communication disorder in everyday conversation. It found that her conversation partners—her husband and their adult daughter—responded

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<sup>9</sup> In subsequent talk, Federico alludes to the fact they are being recorded when Daisy asks why he does not want to *mention people*. He is also discouraging of various other “racy” topics that arise over the course the conversation.

supportively to her first position actions approximately half of the time. Their unsupportive responses included minimal responses, responses that actively contested aspects of the first position action, ignoring the first position action, or rejecting the first position action outright. These unsupportive responses vary with respect to their explicitness and, more fundamentally, whether they are meaningfully responsive. As depicted in figure 4, minimal responses (extract 2) and ignoring (extract 4) are united by their inexplicitness as to the reasons for the failure of the first position action, whereas overtly disaligning responses (extract 3) and rejecting (extract 5) both provide explicit indications that the first position action is troublesome. On the other hand, minimal responses and disaligning responses engage with the first position action, and are meaningfully responsive to it, whereas ignoring and rejecting are not. As we have shown, in most cases, these unsupportive responses resulted in the course of action implicated by the first position action being curtailed or abandoned.

In extract 2-5, there are more and less obvious reasons for Erin's failure to gain support for her turns.<sup>10</sup> In extract 2, Erin's invocation of *Angelina Jolie [a]n[d] Brad Pitt* is abrupt, and unlikely to be practically helpful for Daisy. In extract 3, Erin directs the focus to herself and away from Federico's newsworthy heart problem, while introducing (and seemingly mischaracterizing) matters that were well known to all. In extract 4, Erin asks a question in the midst of Federico's response to Daisy, and then makes an assertion that seemingly misreads his talk. And, in extract 5, she introduces a topic that Federico finds to be unsavory or controversial. It is also interesting to

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<sup>10</sup> It should be noted that first position actions like this are an important source of evidence for developing a clearer account of the conversational symptoms of right hemisphere communication disorder (see Barnes et al. [22] and Barnes [42] on this point). A separate study addressing this topic with the present data is currently in progress. For now, however, using table 4, we can observe that the extreme epistemic stances encoded by questions and K- assertions (i.e., a strongly unknowing stance) and K+ assertions (i.e., a strongly knowing stance) are fairly evenly distributed between the Typical/Delayed and Disaligning/No Response groupings.

consider the ways that Erin reacted to unsupportive responses. In particular, in extracts 3 and 5, Erin used the grounds provided by Daisy and Federico's explicit disalignment and rejection to design subsequent actions with a view to securing uptake; in extract 3, this meant introducing a matter that was unknown to Daisy and, in extract 5, this meant skirting around Federico's stated reason for rejection. However, in extracts 2 and 4, the specific communicative initiatives she launched with her first position actions both faded away.

One of the more striking findings of the present study is the frequency of first position actions assigned to the No Response grouping. As outlined above, only 5% of questions in an American English sample did not receive a response [31], with other Indo-European languages from replication studies registering between 3% and 18% [43-45]. The different coding scheme and wider variety of response mobilizing actions included in the present study makes it difficult to directly compare it with these studies, but it is clear that non-responsiveness is uncommon. Moreover, Stivers [31] comments that the 5% figure may have been affected by the coding scheme she used, and in fact overestimated the presence of true no-responses in her data. In any case, their presence at all in these studies indicates that typical speakers do occasionally employ non-responsiveness when addressing questions, even if it is infrequent. Why, then, did Federico and Daisy employ it so regularly when faced with Erin's first position actions? We will argue that it offers one way of dealing with an intelligible and understandable communicative act that sets up a clear, but somehow troublesome, communicative trajectory.

Acquired communication disorders like aphasia and dysarthria affect participation in everyday conversation by making turn construction very difficult (or impossible), which can cause extended and complex communication breakdown and repair [46-48]. In these instances, there are typically shared efforts at identifying and

resolving communicative trouble. That is, the reasons for communicative difficulty are, to some extent, transparent to all parties and, once addressed, the business of the conversation can proceed. Erin's response mobilizing actions are suggestive of a rather different set of challenges. As we have seen, both Daisy and Federico resisted supporting some of Erin's first position actions, but they rarely other-initiated repair (i.e., signaled a problem with hearing or understanding Erin's first position action).<sup>11</sup> Instead, when faced with varied, and less tangible problems with the design and/or positioning of Erin's first position actions, Federico and Daisy found ways of blunting them. Their inexplicit unsupportive responses avoided engaging with the basis for the problems-at-hand, obscuring just what had gone awry, or that there were problems at all. As we have seen, this laid the ground for the dissipation of the first position action. On the other hand, their explicit unsupportive responses targeted the basis for the problems-at-hand (and who was responsible for them), which risked both ruptures in social affiliation and promoting further talk about them. Together, this conduct rendered ineffective just less than half of Erin's most powerful (i.e., most response mobilizing) communicative acts in a way that did not indicate problems with mutual understanding. The upshot of this is that Erin's communicative efficacy was diluted through more and less explicit disalignment with, and unresponsiveness to, her communicative acts, reducing her ability to shape the direction of the conversation. In summary, then, the findings of the present study suggest that failure to secure support for communicative initiatives—in the absence of communication breakdown and repair—is one manifestation of right hemisphere communication disability in everyday conversation. They also suggest that right hemisphere communication

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<sup>11</sup> Only one of Erin's 78 first position actions was met with other-initiation of repair.



disability can be characterized by non-responsiveness from routine communication partners.

It is interesting to consider these communicative patterns in relation to Erin's chronicity. We might speculate that Federico and Daisy arrived at this way of dealing with the conversational symptoms of right hemisphere communication disorder over time, as a consequence of repeatedly encountering them in their routine conversations, rather than through agreement between each other, training from a therapist, or other more intentional avenues. Such changes in responsivity could then have progressively affected Erin's communicative behaviour [49], and perhaps her subjective experience of communicating. Following this line of reasoning, it seems likely that the cumulative, longitudinal negative effects of right hemisphere communication disability detected by a measure like the SPRS-2 (as per Hewetson et al. [19]) are (at least partially) grounded in the ongoing management of individual communicative moments like the ones we have reported on. Therefore, the present findings may provide insight into the real-time communicative mechanisms through which social participation is both transiently and cumulatively realized.

The findings of the present study are suggestive of some novel ways for measuring and conceptualizing communication disability, which we might summarily describe as an "enchronic" perspective (see Barnes and Bloch [3]). Participation in everyday life by people with communication disorders has been largely explored using retrospective data collection methods, such as diaries, surveys, and interviews [4,5,7,19]. These data collection methods have provided useful insights into the subjective experience of communication disability, but this is qualitatively different from participation in communication in real-time, i.e., enchrony [3,50]. The fine interactive behaviours explored in the present study can provide a window into how people are dynamically understanding one another, and mutually analyzing their

relevant abilities, entitlements, and obligations in social life. Systematic description of these processes sets the scene for novel ways of conceptualizing social participation and communication disability through focusing on disruptions to (micro-) social agency. Agency, from this perspective, is a function of the ability to control, compose, and anticipate potential outcomes of behaviour as others dynamically evaluate it (see Enfield [51]). An enchronic perspective on communication disability resonates with the emerging approach of Ecological Momentary Assessment, which involves dynamically collecting physiological, behavioural, and experiential information as people participate in everyday life activities [50]. Like Ecological Momentary Assessment, it has the potential to offer dynamic and detailed information about the consequences of health conditions and disabilities for everyday life, supporting clinical assessment and intervention with high sensitivity and ecological validity.

With a view to current clinical assessment for right hemisphere communication disorder, it is interesting to compare and contrast the observations and findings of the present study with Erin's MEC Protocol results, including Federico's responses to the Communication Screening Questionnaire. Our analyses and the information collected via the MEC Protocol provide converging evidence of Erin's communication disorder. However, the conversation sampling provides more granular details on Erin's conversational symptoms, and how her conversation partners deal with them, neither of which would be recoverable from the MEC Protocol alone. Speech pathologists should therefore consider sampling everyday conversation alongside testing, observational rating, and client- and significant other-report measures. The analytic strategies adopted here provide conceptual and methodological resources that clinicians can employ to guide descriptions of clients' and significant others' communication behaviours [52].

This study is limited by its focus on a single person with right hemisphere communication disorder, and it employs no methodological strategies to generalize its findings beyond the present dataset. It is also limited by its single point of conversational sampling. The quantitative distributions observed may have shifted given a larger corpus for analysis, or if the participants were followed longitudinally from earlier in recovery. In addition, analyses of qualitative patterns in (un)responsiveness may have been enhanced by more detailed inspection of the design of Erin's first position actions<sup>12</sup> and, perhaps, Erin, Daisy, and Federico's reflections on their behaviour in these communicative moments [53]. Future studies should aim to explore the ways that conversations between people with right hemisphere communication disorder and their familiar conversation partners change over time. This should involve observational research methods that directly document interaction in real-time—such as conversation analysis—as well as research methods that capture participants' perspectives on and experiences of everyday life. Together, this will provide a precise basis for designing conversation-focused assessment and intervention methods that address communication problems specific to right hemisphere communication disability, and are inclusive of the real-time management of communication, the subjective experience of communicating, and the longitudinal consequences of right hemisphere communication disability for social participation [54].

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<sup>12</sup> For instance, there is diversity in the “K+ assertion” category, which includes both assessments and fact-oriented assertions, and some of which are initiating novel topics and courses of action. Again, interested readers are encouraged to explore the complete dataset at <https://osf.io/bmrz6/>.

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Table 1. Erin's performance on the MEC Protocol.

Task	Sub-task	Raw score	Alert Point <sup>a</sup>
Questionnaire on deficit awareness	N/A	4/5	Above
Conversational discourse	N/A	<b>24/34*</b>	<b>Below*</b>
Verbal fluency	Without constraint	69	Above
	Orthographic	27	Above
	Semantic	24	Above
Semantic judgement	Responses	22/24	Above
	Explanations	10/12	Above
Speech act interpretation	N/A	34/40	Above
Linguistic prosody	Comprehension	<b>4/12*</b>	<b>Below*</b>
	Repetition	10/12	Above
Emotional prosody	Comprehension	12/12	Above
	Repetition	10/12	Above
	Production	17/18	Above
Narrative discourse	Partial re-telling	11/17	Above
	Total re-telling	6/13	Above
	Comprehension questions	6/12	Above

<sup>a</sup>The "Alert Point" is described in the MEC Protocol Manual (p. 18) as the "...minimum score at which the examiner should start suspecting the presence of deficits due to brain injury". This is usually equal to performance at the 10<sup>th</sup> percentile rank.

Table 2. Counts and percentages for Erin's first position actions

First position actions	Count	Percentage
Question	36	46
K+ assertion	21	27
Other-initiation of repair	8	10
Newsmarker	5	6
K- assertion	4	5
Request	2	3
Summons	2	3
Total	78	100

Table 3. Counts and percentages for action pair groupings

Grouping	Count	Percentage
Typical	34	44
Delayed	6	8
Disaligning	5	6
Delayed and disaligning	12	15
No response	21	27
Total	78	100

Table 4. Counts of first position actions by pair groupings

First position actions	Typical	Delayed	Disalign. <sup>a</sup>	Del. & Dis. <sup>b</sup>	No resp. <sup>c</sup>	Total
Question	15	3	1	5	12	36
K+ assertion	6	2	4	6	3	21
Other-initiation of repair	7	0	0	0	1	8
Newsmarker	4	0	0	0	1	5
K- assertion	0	1	0	0	3	4
Request	2	0	0	0	0	2
Summons	0	0	0	1	1	2
Total	34	6	5	12	21	78

<sup>a</sup>Disalign. = disaligning response. <sup>b</sup>Del. & Dis. = Delayed and disaligning response. <sup>c</sup>No resp. = No response.

**Figure captions list**

Figure 1. Screenshots 2.1, 2.2, 2.3, and 2.4 (left to right)

Figure 2. Screenshots 4.1, 4.2, 4.3, 4.4, and 4.5 (left to right)

Figure 3. Screenshots 5.1, 5.2, and 5.3 (left to right)

Figure 4. Dimensions of unsupportive responses to Erin's response mobilizing actions





		<i>Responsiveness</i>	
		-	+
<i>Explicitness</i>	-	Ignoring	Minimal response
	+	Rejecting	Disaligning response



**Extract 1 (15:45-16:22)**

001 F i had ↑no hope 'v finding it- amo:ngs' the pine nuts,=  
002 D =.hh  
003 (.  
004 F .mtKh who gets ↑it? (0.3) (s:-) .gH .gHm (1.1) .hh  
005 °↓daisy.° s'like the °.h° (0.3) s'like the- the  
006 chillies; (0.2) ° '↑member;°=  
007 D =mm.  
008 (0.4)  
009 E m[↑m::.]  
010 F [.h H-]  
011 (0.6)  
012 E .mtk O:H- it [w's ] so [ lovely n' ]  
013 D [yes.] [the joke's always on] me;  
014 (.  
**A1** 015 **E** daisy it w's so lovely 'v tim to invite us  
016 [°(for dinner)°]  
**A2** 017 **D** [o::h i hope ] you had a nice ti-=[he loves ] you=  
018 F [we ↑did; ]  
019 **D** =guys so much.  
020 (0.2)  
021 E it w's rea[lly [love]ly. ]  
022 F [we [did,] ]  
023 D [he ] ALWAYS] is talking about how  
024 great you a:re;=n' (0.6)  
025 F we had a ↑lovely; (0.2) °°(↑m-)°° °(↓mm)°=dinner.=  
026 =we had too mu:↑ch,  
027 (1.2)  
028 E .mk (0.7) an' he- he makes the food so  
029 tas[ty with [ s]auces [n' little]  
030 D [ mm::; ] [.hh ] i told him your=

**Extract 2 (21:08-22:12)**

001 D =he replied t' me said it's not a priority f'r him;  
002 (1.3)  
003 E t' get divo:rced;  
004 (0.2)  
005 D (.mk) °yep.°  
006 (4.3)  
007 F °yeah bu' 't 'is f' you;°  
008 (0.6)  
009 F °°'s a bit selfish,°°  
010 (0.5)  
011 E °(↑mm-)°  
012 (0.3)  
013 E [w'll ↑you]  
014 D [°oh he]'s (uh-)°(0.5)  
015 E you put th' papers in\_ .h (.) i'll back you\_i'll pay for  
016 the filing fee;  
017 (0.6)  
018 E °.hh°  
019 D (ma-)  
020 (0.2)  
021 E .HH  
022 (0.9)  
023 D .MTK it's (.) it's jus' that he c'n then c'n- he-  
024 (°ughh°) i don't know;=i jus don't know what he's \*gonna  
025 do.\* (.) i don' know what he's- .hh (0.7) playing at.  
026 (2.1)  
027 D .hh=  
**A1** 028 **E** =well #you know angelina jolie n' brad pitt 're still  
#2.1  
029 having problems;  
030 (-#-----1-----2-----#3-----4-----)  
#2.2 #2.3  
**A2** 031 **D** °m#m; ;°  
#2.4  
032 (0.7)  
033 E b'cause ↑she wants t' take the six children back to  
034 e:ngland with while she makes a movie;  
035 (0.2)  
036 F .hhhh  
037 (2.8)  
038 D .hhh (0.6) °i's hard when there are children,°  
039 (0.5)  
040 E mm; ;=  
041 D =.mTK  
042 (1.4)  
043 D °.hhh°  
044 (5.6)

**Extract 3 (53:44-54:25)**

001 F .hh (.) (normal' it is,)=i m'n if someone has an enlarged  
002 heart- (0.8) °an' it means th't- y' know;=things aren't  
003 working prop'ly.°  
004 (.)  
005 F (h)and u[h-]  
006 E [(n]ye::s;)  
007 (0.4)  
008 F °ye(h)ah;°  
009 (0.5)  
010 D K[GH  
011 E [↑d]i[d you] [really] °have a[n enlarged heart-?° ]  
012 F [but- ] [ ] [ ]  
013 D [.NHH ] [i think i need t' kn]ow:  
014 this  
015 (0.6)  
016 D stu[ff;  
017 F [°hh°  
018 (0.3)  
019 F i think it's=j'st a different shape,  
020 (0.3)  
**A1** 021 **E** ↑w'll i: had 'n enlarged heart, 'n- (.) they thought it  
022 w's cardiomyopathy:.,  
**A2<sub>1</sub>** 023 **F** °↓ye[s.↓° (b't this) w's different.]=you had fluid=  
**A2<sub>2</sub>** 024 **D** [w'll you had fluid. ]  
025 **F** =around the heart an:=n: real [issues with (the valve),]  
026 **E** [b't the funny thing is ]  
027 daisy, my heart's really go↑od now::¿ .hh  
028 (0.7)  
029 **E** doctor kimble said eri:n every time i see: you the last  
030 three or four times, .hh you're getting better an'  
031 better an' better, every tim::e;  
032 (.)  
033 **F** °mm:..°

## Extract 4 (14:16-15:15)

001 E [ oa↑::]h, (m-) well she's eligible;  
002 F [°°right.°°]  
003 (1.3)  
004 E for [ et]anerc[e:pt,  
005 F [but] [ ]  
006 D [no=this is the one that they give you  
007 befo:re (.) °,etānercept.°  
008 (0.6)  
009 F >w'll they've done some< early research that- (0.5)  
010 sho:ws that if you o:n a (0.2) °.hh° (.mk) growth  
011 hormone h (0.7) .hh (1.1) you- (1.7) improves  
012 the ability of ne:w (0.5) connections being formed  
013 amongst th- y'know the (new-) neuronal  
014 connec[tions].  
015 D [ oah:=[yeah; ]  
016 E [ mm]:.  
017 (0.2)  
018 E this is bran:d n[ew:. ]  
019 D [but what-]  
020 (0.3)  
021 E for stroke;  
022 D are there any other: effects;  
023 (-----#--1)  
#4.1  
024 F .MTK °.hh (↓well)° (1.8)  
**A1<sub>1</sub>** 025 **E is that the one we heard about last night in the**  
026 **#ne:ws, channe[l nine, ]**  
#4.2  
∅ 027 F [put #it this] way, °i-° i wouldn'  
#4.3  
028 take it;  
029 (0.8)  
030 F °.mtkh° if um (0.5) .mtK y' didn' have a need for it,  
031 (0.6)  
**A1<sub>2</sub>** 032 **E you don' [need it.]**  
∅ 033 F [bec#ause] some ↑people take it °for:° (0.3)  
#4.4  
034 #°like-° (0.3) .HH (0.5) they inject themselves with  
#4.5  
035 growth hormone[s if they're tryna] °build fitness n'=  
036 D [oah fitness, ]  
037 F =stuff.°  
038 (0.2)  
039 F °>try'n t-< not fitness. b'cause it's anything but  
040 fitness to° .hh (0.3) °try n- (.h) [build up the=  
041 D [no b't the=  
042 F =[muscles=>(anyone)<°]  
043 D =[body- d]on't body builders\_ =

## Extract 5 (02:57-03:52)

001 E an' i want t' see house of ca:rds episode ↑series ↑six,  
 002 (1.8)  
 003 D [mm:.  
 004 F [°(alright),°  
 005 (0.9)  
 006 F .HH (0.5) i think this time they really killed the  
 007 president.  
 008 (4.0)  
 009 D .H (.) w'll he's not in it anymore,=is [he; ]  
 010 F [°>th]at's what i  
 011 meant=(nah).°<  
 012 D .hhh  
 013 (1.4)  
 014 F na:h=>'e w's a< naughty boy.  
 015 (0.3)  
 016 D hm[:. ]  
**A1** 017 **E** [did] you ↑hear ↓the #latest person who's been accused  
 #5.1  
 018 **by-.h (0.2)**  
 019 F (m- o[kay]);]  
 020 **E** [ s|even or eight women [came forward, ]  
 ∅ 021 **F** [(NO) ment#io]n peo°ple.°  
 #5.2  
 022 (1.0)  
 023 **F** °not (a good #idea).°  
 #5.3  
 024 (2.1)  
 025 E °(m-° (.) <his name starts with e[:m ] and=  
 026 F [HH-]  
 027 E =[↓(e(h):(h)v).>]  
 028 F [ .HH ]=  
 029 D =huh huh h[m ↑hm ]  
 030 F [h- huh] .hh  
 031 (1.1)  
 032 F °°mm-°°  
 033 (0.3)  
 034 D what- em `n what?=  
 035 F =(h) ↑hm-  
 036 (0.2)  
 037 E e:ff  
 038 (.)  
 039 E eff f'r freddie.  
 040 (0.6)  
 041 D is there a jay in the middle?;=nah.  
 042 (1.0)  
 043 E \*(mm:);\*  
 044 (1.1)  
 045 E em uh eff;  
 046 (2.7)  
 047 D hm. (0.2) °(↑on't [know]);°  
 048 E [(he's)] f↑a:mous,  
 049 (0.4)  
 050 F °↑o:h,°  
 051 (.)  
 052 F °mmkay,°  
 053 (2.2)  
 054 D what does `e do;

## Supplementary material: Transcription conventions

The transcription conventions used in the present study are outlined below. Hepburn and Bolden [37] provide a comprehensive survey of conversation-analytic transcription conventions.

### *Standard conventions*

[okay]	Square brackets mark overlap; left where it begins, right where it ends.
=	Talk linked by equal signs carries on continuously. Within the same speaker's turn, this indicates talk that carries over non-contiguous transcript lines, or words that are "rushed-through". Between different speakers, it indicates latching.
(0.5)	Silences in tenths of seconds. Parentheses enclosing a single period are less than two tenths of a second.
? ɛ ,	Strongly rising terminal intonation, less strongly rising, and slightly rising respectively.
_ ; .	Level terminal intonation, slightly falling, and strongly falling respectively.
↑ ↓	Up and down arrows mark sharp shifts in pitch.
l:ong	Colons mark lengthening of the preceding sound.
bu-	Hyphens mark an abrupt cut-off.
<u>stress</u>	Underlining marks emphasis.
LOUD	Capitals mark talk that is substantially louder than surrounding talk.
°quiet°	Degrees symbols mark talk that is quieter than surrounding talk.
>fast<	Inward less than/greater than symbols mark talk that is faster than surrounding talk.
<slow>	Outward less than/greater than symbols mark talk that is slower than surrounding talk.
.hh hh (h)	In-breaths, out-breaths, and aspiration with a word respectively.
.mtk .tk	Lip smacks and alveolar clicks
(unsure)	Text in parentheses are a transcriptionist's "best guess".
((activity))	Text in double parentheses are a transcriptionist's description of events.

*Additional conventions*

- A1**            Bolded “A1” and “A2” indicate the lines on which the target response mobilising actions begin. The corresponding lines of transcript are also presented in bold. “Ø” indicates an absent response.
- A2**
- Ø
- (-----)      An alternative system for transcribing silence involves enclosing hyphens between parentheses. Each hyphen represents one tenth of a second, with every number indicating a corresponding second of silence. This notation is used when it is necessary to iconically depict the duration of silence.
- #here*           Hash marks in italics signify the precise timing of screenshots presented in figures. The hash mark on the transcript line indicates the moment of the screenshot relative to talk or silence. The corresponding screenshot is depicted with a hash mark and a number immediately below. The number indicates the data extract, and order of the screenshot (e.g., the third screenshot for extract 5 would be labelled “#5.3”).
- #1.1*