

A leader's request and rapport in emergency care simulation: a multimodal corpus analysis

救急医療シミュレーションでの依頼行為とラポール： マルチモーダル・コーパス分析

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Abstract

How healthcare professionals (HCPs) understand the complex context of a healthcare encounter is a key for successful practice. Emergency care is one such context which involves a team of HCPs with various areas of expertise and different levels of experiences. This study investigates team interactions in emergency care simulation training in Japan, focusing on the *rapport management* (Spencer-Oatey, 2000). How a team leader manages rapport within the team in making requests is analysed with his utterances and gaze, applying a multimodal corpus analysis and a discourse-pragmatic approach. The preliminary results show that the leader used downgraders in requests, i.e. ~しようか (shall we) and お願いします (I ask you a favour), with gaze exchanges. However, the leader made requests without any downgraders when talking to a foundation doctor. Thus, two different discourse frames were observed: task collaboration frame and instruction frame. By so doing, the leader regulates the recipient selection, simultaneously indexing his distinct social roles as a colleague and a trainer.

Keywords: emergency care simulation, request, discourse frame, gaze, multimodal analysis

1. Introduction

Healthcare interaction is a complex discursive practice where individual behaviours and an institutional order are interwoven. How healthcare professionals (HCPs)¹ understand the situation is a central theme in the field of healthcare communication. HCPs are required to understand what is happening in a given situation and the understanding should be shared with the members in the community for successful communication. Emergency care is one such context, where a patient and a team of HCPs with various areas of expertise and different levels of experiences are involved, which inevitably generates a dense and complex interaction with multiple modes and channels simultaneously. In previous studies, for example, team leaders' gaze behaviours in emergency care simulation were examined with eye-tracking glasses in Canadian (Szulewski & Howes, 2014) and Australian contexts (Browning et al., 2016). In Japanese emergency care settings,

some studies investigated trajectories and movements of HCPs in actual team interactions during emergency care treatments (Yoda et al., 2012) and doctors' delivery of bad news about critical health conditions of a patient to their family members during resuscitation (Kawashima, 2017). However, team leaders' verbal and non-verbal behaviours in relation to collaborative practices in emergency care team do not seem to be fully explored in an integrated manner yet. To fill the gap, this study investigates team interactions in emergency care simulation training in Japan, focusing on the *rapport management* (Spencer-Oatey, 2000) among HCPs. How a team leader manages rapport within the trauma team when making requests is analysed with his utterances and eye gaze, applying a multimodal corpus analysis and a discourse-pragmatic approach.

Improving on the theory of *politeness* in Brown and Levinson (1987), which is based on the concept of *face*

(individuals' self-esteem) from Goffman (1955) and is criticised due to its focus on self rather than self and other, Spencer-Oatey (2000) coined the term rapport management. It concerns "social relationships and [...] includes the management of sociality rights as well as face" (ibid., p.12), adding social components of rapport, such as *identity face* (a desire to be acknowledged) and *association rights* (being entitled to be associated with others) (ibid., p.14). Five domains are identified to examine rapport in interaction:

1. Illocutionary domain: concerns the rapport-threatening/rapport-enhancing implications of performing speech acts, such as apologies and requests.
 2. Discourse domain: concerns discourse content and discourse structure of an interchange.
 3. Participation domain: concerns the procedural aspects of an interchange, such as turn-taking and the inclusion/exclusion of people present.
 4. Stylistic domain: concerns the stylistic aspects of an interchange, such as choice of tone and choice of genre-appropriated lexis and syntax.
 5. Non-verbal domain: concerns non-verbal aspects of an interchange, such as gestures and eye contact.
- (Adapted from: Spencer-Oatey, 2000, pp.19-20)

The current preliminary study addresses all the domains with a small set of data to analyse a trauma team leader's rapport management:

1. Illocutionary domain: focuses a leader's rapport management strategies in making requests is focused.
2. Discourse domain: examines discourse frames (Goffman, 1974) where the act of making requests occurs. As a similar study, for example, two frames, "schedule coordination" and "record keeping", were recognised in an analysis of a rehabilitation team meeting among a therapist, a speech pathologist and a physiotherapist (Candlin & Roger, 2013, pp. 40-41).
3. Participation domain: concerns turn-taking structures (to whom a leader is talking and how the recipient responds) in making requests.
4. Stylistic domain: categories types of pragmatic strategies a leader uses in making request.
5. Non-verbal domain: investigates a leader's use of eye gaze in making request.

The act of making requests is an intriguing phenomenon for linguists. In their seminal work, Blum-Kulka, House and Kasper (1989) conducted a comparative study of the use of direct/indirect requests in distinct contexts across cultures, classifying syntactic (i.e. I was wondering if you could tidy up your desk?) and lexical downgraders (i.e. Can you tidy up your

desk, please?). Based on their study, several strategies for making requests used by superiors in Japanese workplaces were identified in Takano (2005) and Minegishi-Cook (2018):

1. Verb + *te/ro (ne/yo)* [Do X]
 2. Verb + *koto/you ni* [Do X]
 3. Verb + *te kudasai* [Please do X]
 4. X + *onegai shimasu* [I ask you a favour. Please do X]
 5. Verb + (y)oo/mashoo(yo/ka) [Let's/Should we do X?]
 6. Verb + *kureru?* [Will you do me the favour of doing X?]
 7. Verb + *moraeru?* [Could I have you do X?]
 8. Verb + *te kamawanai* [Doing X is alright]
 9. Verb + *te giran* [Doing X for me]
 10. Verb + *nai toikenai* [It wouldn't work unless you do X]
 11. X + *houga ii* [I think doing X would be better]
- (Adapted from: Takano, 2005, p.642)

The first two strategies (Do X) are direct requests without mitigation, but the others include downgraders to reduce the imposition of a request. In reference to the classification in the existing studies, this study investigates how a leader manages rapport of a team in emergency care training by analysing his strategies of making requests. The current study also concerns the use of a leader's eye-gaze when initiating a request from a perspective of turn allocation as Auer's (2017) study construes that eye-gaze functions as a mechanism to select an addressee in a multi-party interaction.

2. Research Data and Method

For the preliminary study, one data set of a simulated training session (about 17 mins in total) was analysed, applying the methods of a multimodal corpus analysis (Adolphs & Carter, 2013; Knight, 2011; Tsuchiya, 2013) and a discourse-pragmatic approach (Drew, Chatwin, & Collins, 2001). The recording took place in the resuscitation area at Yokohama City University Medical Centre in Japan as a part of regular simulation training. Several recording devices were set up in the room: four video cameras, five IC recorders, which were carried by the participants, and a pair of eye-tracking glasses (Tobii, 2018). The team comprising a senior consultant of the emergency care department (ED) as a team leader with the eye-tracker (Kato), another two ED doctors (Murai, Hirasaka)³, a foundation doctor (FD), who is a trainee doctor enrolled in a medical internship, two nurses and a simulated patient took part in a scenario of a brain haemorrhage. The eye-tracking data was first stored in the analysis tool, iMotions (iMotions, 2018). The data was then imported into another multimodal annotation tool, ELAN (2001-2015), to annotate instances of the leader's making requests with his eye gazing and the recipients' responses manually. Ethical approval for this study was obtained from the Ethics Committee of Yokohama City University.

3. Results

Table 1 summarises the numbers of the times the leader made requests, showing to whom the leader asked and whether these requests were accompanied with downgraders.

There were 41 instances of the leader's making requests in total and 13 of them were addressed to two colleague doctors, Murai and Hirasaka, with or without downgraders. The leader also made requests to a foundation doctor (FD) five times, all

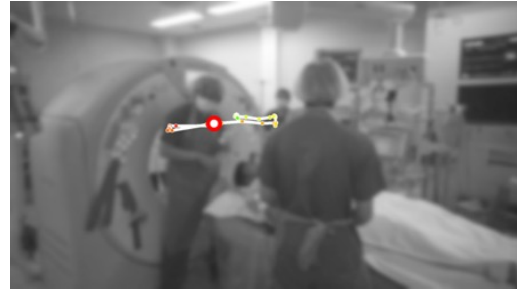


Figure 1: The leader's gaze at Murai⁵

Table 1: The number of instances of the leader's making requests

Recipient	With downgraders	Without downgraders	Total
Doctor	8	5	13
Foundation Doctor	0	5	5
Nurse	8	1	9
Others	14	0	14
Total	30	11	41

Table 2: Strategies of the leader's making requests

To Doctor	To Foundation Doctor
Verb + <i>te</i> [Do X]	X [Do X] 2
Verb + <i>yoo</i> [Let's/Shall we do X?]	Verb + <i>te</i> [Do X] 3
Verb + <i>te kudasai</i> [Please do X]	
X + <i>onegai shimasu</i> [I ask you a favour. Please do X]	

of which were categorised as requests without downgraders. While to nurses, the leader used downgraders in most of the cases (eight times out of nine). The instances of requests to multiple recipients and other members of the team (cf. radiation technologists) were classified as others in the table, all of which were downgraded.

The strategies of requests the leader used to the colleague doctors and FD are listed in Table 2.

Three types of downgrading strategies are recognised in the requests to the doctors: verb + *yoo* [Let's/Shall we do X?] (4 times), verb + *te kudasai* [Please do X] and X + *onegai shimasu* [I ask you a favour. Please do X] (twice each). Extract 1 describes the suggestory form, verb + *yoo* [Let's/Shall we do X?]. The leader, Kato, first looked at his colleague doctor, Murai (see Figure 1), and asked him to intubate after the IV line by using an address, 村井先生 (Dr Murai), and the suggestory form, 挿管しようか (shall we intubate?), which was followed by Murai's verbal acceptance はい (okay) without looking back to Kato.

Extract 1: Asking Murai to intubate⁴

- 1 Kato <\$E> Kato looks at Murai </\$E>
 村井先生 ルート取れたら挿管しようか。
Now, Dr Murai, shall we intubate after the IV line has been done?
- 2 Murai はい。
Okay.

cases (eight times out of nine). The instances of requests to multiple recipients and other members of the team (cf. radiation technologists) were classified as others in the table, all of which were downgraded.

The strategies of requests the leader used to the colleague doctors and FD are listed in Table 2.

The leader also used the strategies of verb + *te kudasai* [Please do X] and X + *onegai shimasu* [I ask you a favour. Please do X]. Extract 2 is an example of the former, where Kato first looked at Murai, asking him to evaluate A (airway) and B (breathing) with an address term, 村井 (Murai), and a downgrader, 評価してください (please evaluate). Murai then responded to Kato's request with the action, starting the evaluation and talking to SP, わかりますか? (can you hear me?) in line 2. Soon after making the request, Kato left the bed, where Murai was standing, and moved to the other side of the room.

Extract 2: Request to Murai with Verb + *te kudasai*

- 1 Kato <\$E> Kato looks at Murai </\$E>
 村井 A B評価してください。
 Murai, please evaluate A and B.
- 2 Murai わかりますか。 <\$E> Murai talks to SP </\$E>
 Can you hear me?
- 3 Kato <\$E> Kato leaves the bed and walks to the other side of the room. </\$E>

The other strategy observed in the leader's requests with downgrading is X + *onegai shimasu* [I ask you a favour. Please do X], an instance of which is observed in Extract 3. The leader, Kato, looked at his colleague doctor, Hirasaka, uttering an address, 平坂くん (hirasaka-kun, which consists of his surname and a honorifics, kun) and asking with a downgrader, A ガスもお願いします (I ask you a favour, please check the arterial gas). Hirasaka looked back to Kato without any verbal response, and then Kato again left the bed side where Hirasaka was standing.

Table 3: Two types of interaction frames

Task collaboration frame (to Doctor)	Instruction frame (to FD)
L's gaze at R	L's gaze at R
L's addressing R	(L's addressing R)
L's making request (with downgraders)	L's making request without downgraders
(R's gaze at L)	R's gaze at L
(R's verbal acceptance)	R's verbal acceptance
R's execution of a requested act	R's execution of a requested act
	L's monitoring R's act

Note. L = leader; R = recipient.

Extract 3: Request to Hirasaka with X + *onegai shimasu*

- 1 Kato <\$E> Kato looks at Hirasaka </\$E>
あと平坂くん Aガスもお願いします。
Then, Hirasaka-kun, I ask you a favour,
please check the arterial blood gas.
- 2 Hirasaka <\$E> Hirasaka looks back to Kato </\$E>
- 3 Kato <\$E> Kato leaves the bed and walks to the other side of the room. </\$E>

As described above, the leader made requests to his colleague doctors with downgrading and an address term.

The bald requests without downgraders are also observed in the leader's making requests to both the doctors and FD, most of which are the form, verb + *te* [Do X]. In Extract 4, the leader looked at FD, who was standing next to a monitor, and asked them to put it on without downgrading, uttering モニタつけて (put on the monitor). FD, then looked back to Kato and responded verbally, saying はい (Yes).

Extract 4: Request to FD without downgrading

- 1 Kato <\$E> Kato looks at FD </\$E> モニタつけて。
Put on the monitor.
- 2 FD <\$E> FD looks back to Kato </\$E> はい。
Yes.

The other strategy the leader used to make a request to FD is to utter the name of a piece of equipment or an object, which was observed only in his request to FD. Extract 5 includes one such example. Kato looked at FD (see Figure 2) and just uttered 酸素残量 (oxygen level) first, then adding いくつ? (how much?).

Extract 5: Request to FD without downgrading

- 1 Kato <\$E> Kato looks at FD </\$E>
酸素残量. いくつ?
Oxygen level. How much?
- 2 FD <\$E> FD looks back to Kato </\$E>
- 3 Kato 酸素残量。
Oxygen level.
- 4 FD はい。
Yes.

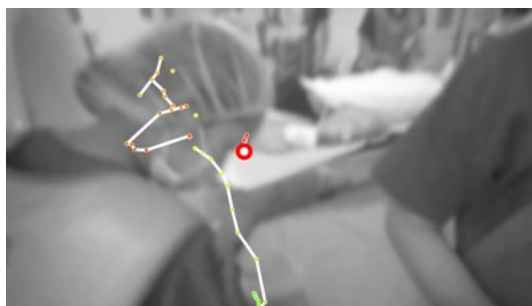


Figure 2: The leader's gaze at a foundation doctor



Figure 3: The leader's monitoring of a foundation doctor's act

FD looked back to Kato and Kato uttered again, 酸素残量 (oxygen level). Then FD provided a verbal response はい (yes), which was followed by Kato's confirmation with はい (yes). FD then read the meter on the oxygen tank (see Figure 3), saying 13.5. The FD's action was monitored by Kato (see the fixation of the leader's gaze in Figure 3, who was looking at the meter together with FD). Kato responded to FD's

reporting the oxygen level, saying オッケー (okay) in line 7. Discursive practices the leader realised through these different strategies in making requests are discussed in the following section.

4. Discussion

Through the observation, two interaction frames were identified from the leader's making requests: *task collaboration frame* in the interactions between the leader and his colleague doctors and *instruction frame* between the leader and FD. Distinct request sequences are recognised between the two frames (see Table 3).

In both frames, the leader (L) looks at a recipient (R) before or at the time of initiating a request. In the task collaboration frame, the leader then addresses the recipient and makes a request with or without downgraders. The recipient executes the task requested with or without a verbal response, which is sometimes accompanied with their gaze back to the leader. While, in the instruction frame, the leader does not use downgraders in his request. FD always gazes back to the leader and also responds verbally. FD's execution of a requested act is also monitored by the leader. The different pragmatic strategies in the leader's making a request and the recipients' responses seem to co-construct different discourse frames, which also function as a mechanism of recipient selection.

5. Conclusion

This study focused on a team leader's rapport management in emergency care interaction, analysing his strategies of making requests and the use of eye gaze. The preliminary results showed that the leader used downgraders in requests, i.e. ~しようか (shall we + verb) and お願いします (I ask you a favour) more often when interacting with his colleague doctors, which was termed task collaboration frame. In the instruction frame, however, the leader used a different strategy to manage rapport with FD: he asked without any downgraders and firm gaze exchanges between the leader and FD were observed. The leader also monitored FD's execution of the act. By so doing, the leader also regulated the recipient selection in turn-taking, simultaneously indexing his distinct social roles as a colleague and a trainer doctor. This study, although based on a single recording data, can be the basis of our future larger research.

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Notes

¹ Healthcare professionals (HCPs) is an umbrella term, which includes doctors, nurses, X-ray technicians and any other practitioners in healthcare and medicine.

² The act of making requests is termed as requests in Blum-Kulka, House and Kasper (1989), but in Takano (2005) and Minegishi-Cook (2018), the term directives are used. The current study adapts the former and uses the term request.

³ All names are pseudonyms.

⁴ The annotation system of the Cambridge and Nottingham Corpus of Discourse in English (CANCODE) (Adolphs, 2008,

pp. 137-138) was applied to the transcripts. <E>...</E> shows extralinguistic information and <O>...</O> indicates overlapping speech. English translations of the original Japanese utterances were added in italic. Underlined parts indicate downgrading strategies in request.

⁵ In the figures, a circle indicates a fixation of the leader's eye gaze.

Ethics approval

The Ethics Committee of Yokohama City University approved the study.

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