



UNIVERSITY OF
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JUSTIFIABLE REASONS FOR EVERYONE: DIALOGICAL REASONING IN PATIENTS WITH SCHIZOPHRENIA

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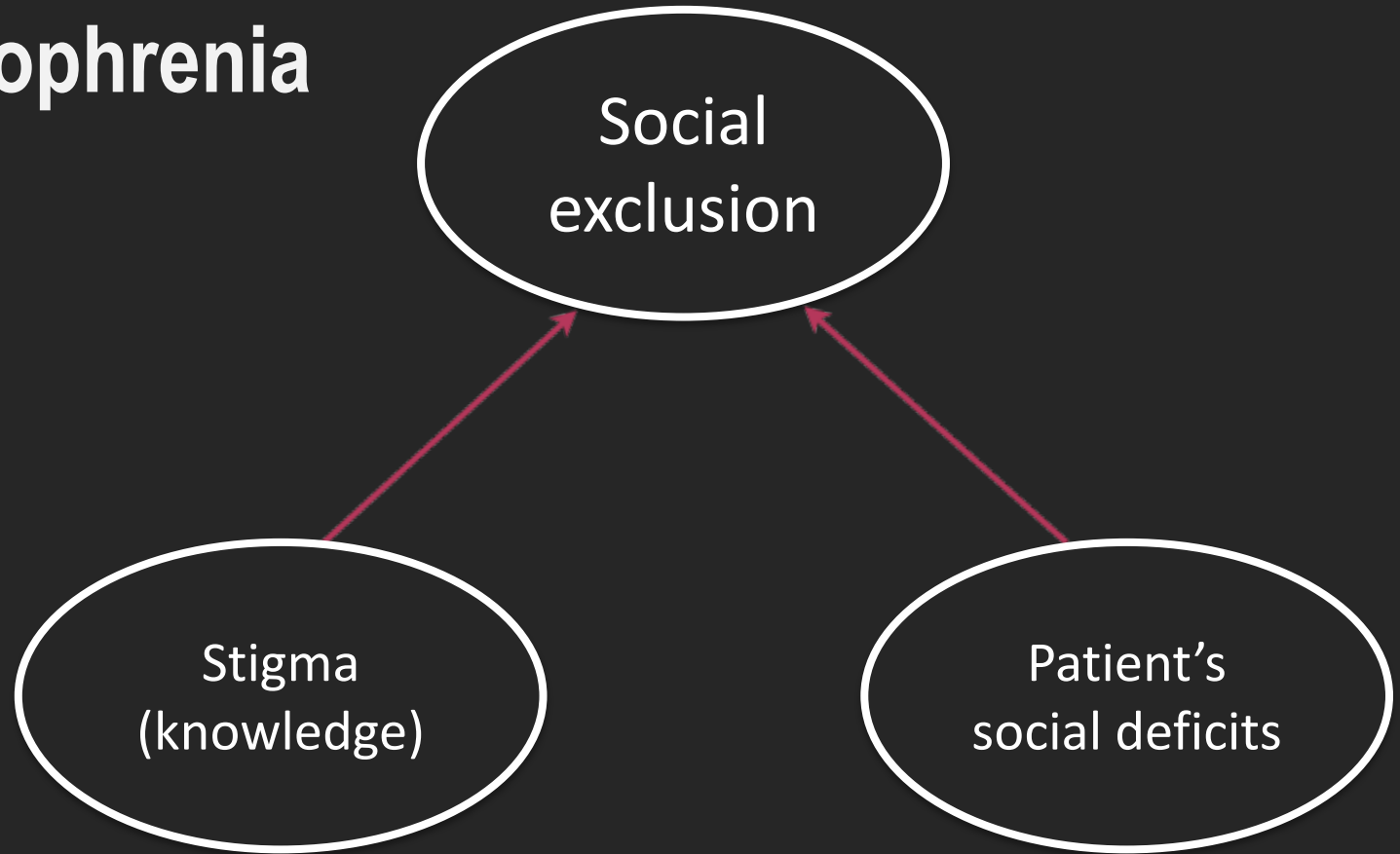
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Why Schizophrenia ?

- Severe mental illness
- 1% population
- Positive & Negative symptoms
- Social exclusion

Schizophrenia



Social deficits

- Social cognition
- Attributing mental states
- Inferring intentions

Interaction deficits

- Self-monitoring
- Turn-taking

Reasoning deficits

- Jumping to conclusions bias
- Evidence integration

Social deficits

- Social cognition

Interaction deficits

- Self-monitoring

- Do (real) interactions involving a patient differ from controls in terms of reasoning?

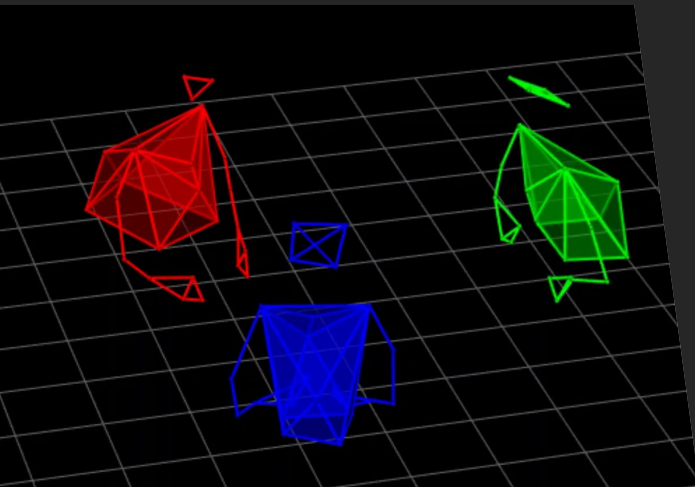
Reasoning deficits

- Jumping to conclusions bias
- Evidence integration



Study design

- 40 Interactions
- Unfamiliar
- Unaware of diagnosis
- No overt symptoms
- Matched healthy participants



Who would you throw out?

William Harris: Balloon pilot

Susanne Harris: 7 months pregnant

Robert Lewis: Cancer research scientist

Heather Sloan: Musical child prodigy

Annotation

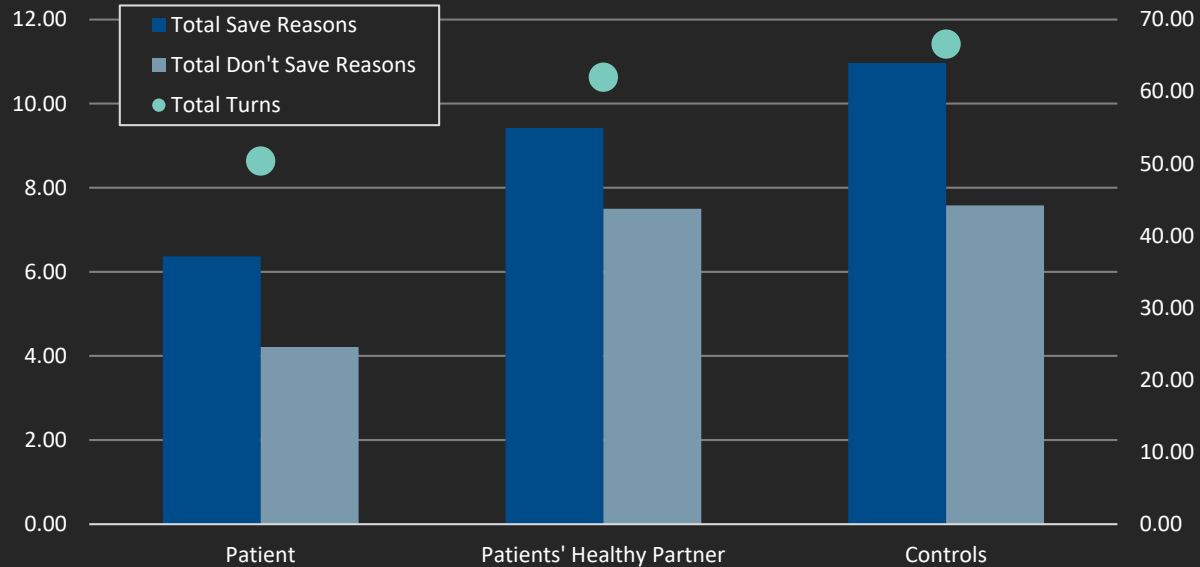
Does the utterance make an argument that is directly or indirectly a reason for saving or not saving one, or all, of the passengers?

Annotation

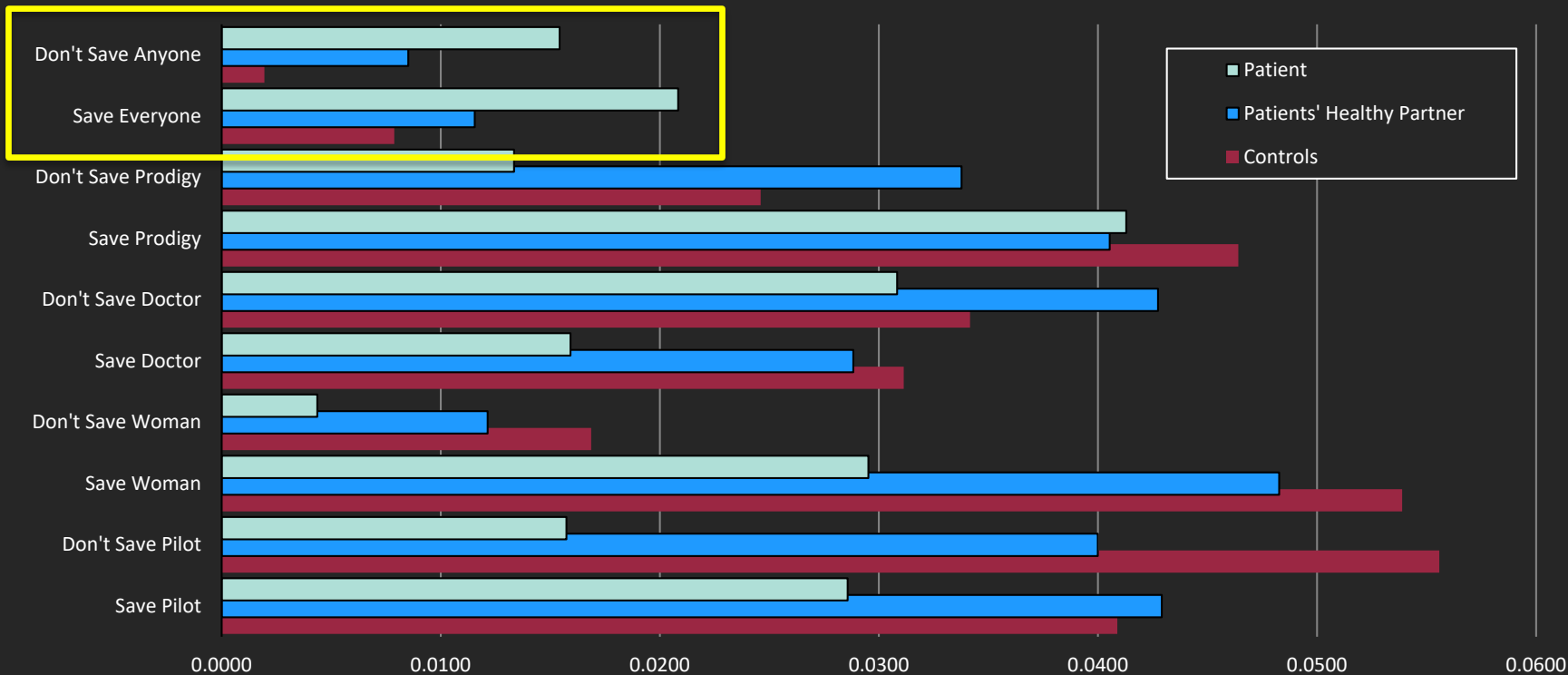
Does the utterance make an argument that is directly or indirectly a reason for saving or not saving one, or all, of the passengers?

And let's give the child a future cause she is a prodigy	Save Prodigy
Well she is a prodigy but having said that you know, like, what's she gonna do for anyone?	Don't Save Prodigy
he's coming to like discovering this new cure, but he's probably been working with others	Don't Save Doctor
Think about how many child prodigies that we could save with Robert Lewis's cancer treatment	Save Doctor Don't Save Prodigy
Nobody's gonna go they they can control the balloon	Save Everyone
Everybody should go down with the ship	Don't Save Anyone

Reasons by Participant type



Reasons per turn by participant type



Save no-one

3: [you just have] to you have to accept everybody
you have to [accept]

1: [everyone.]

1: yeah.

3: [<unclear/>]

2: [You think] we should all jump?

3: I think

3: well that er th- ah everybody should go down with the ship, yeah

Save everyone

3: [Well who do you think should go?] Who do you think should

2: **Nobody's gonna go they they can control the balloon** <pause> knows the pilot <pause>
but he don't want to [**<unclear/>**]

1: [But one of] them has to go one of [the four]=

3: [has to]

1: = has to go

2: [**<unclear/>**]

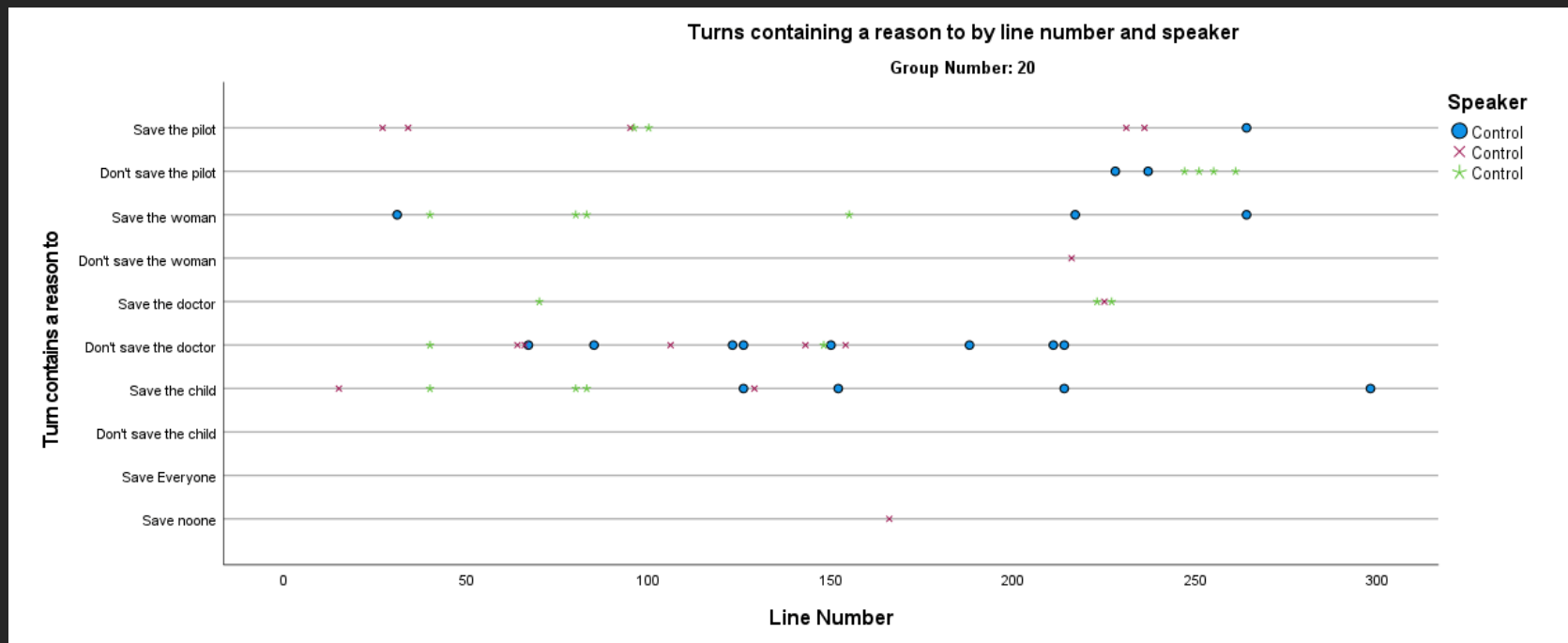
1: [Otherwise] they [all die.]

2: [I don't know.] <pause> I don't know. <pause> If you're gonna die, the pilot
is there.

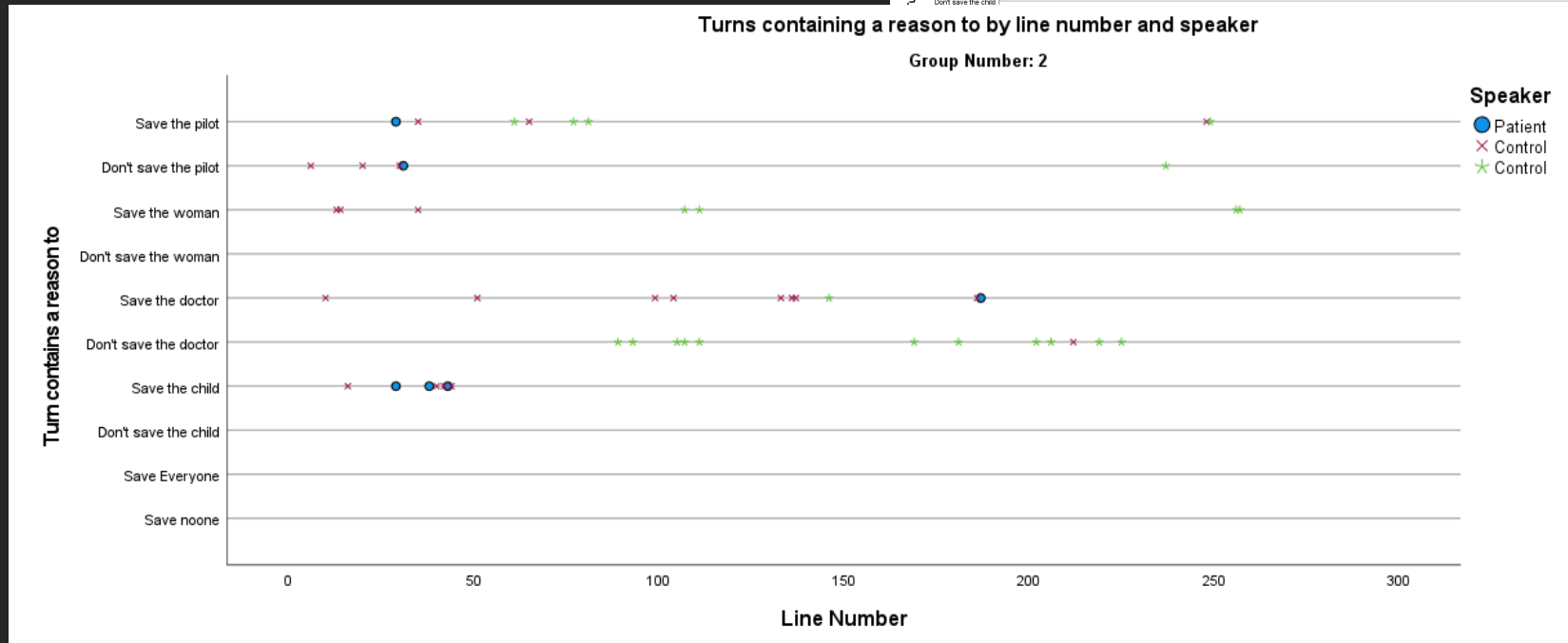
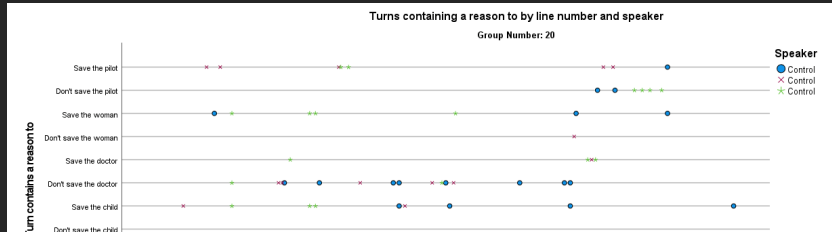
1: But that's the premise of the issue [that there a-]

2: [**No I don't I] don't think they're gonna die.**

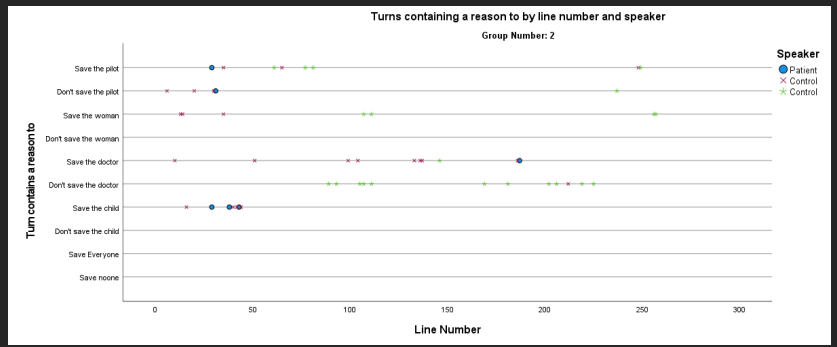
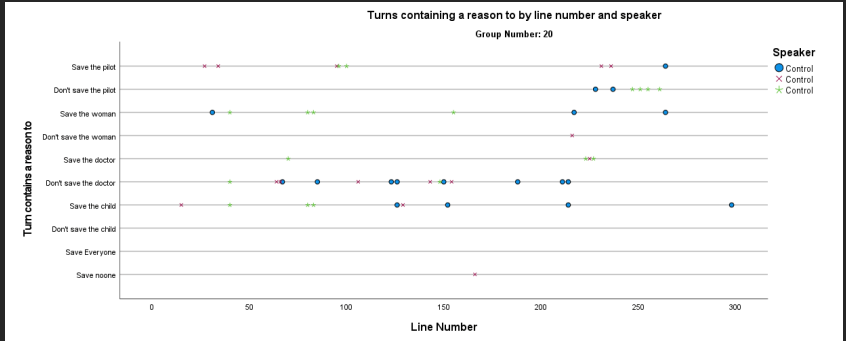
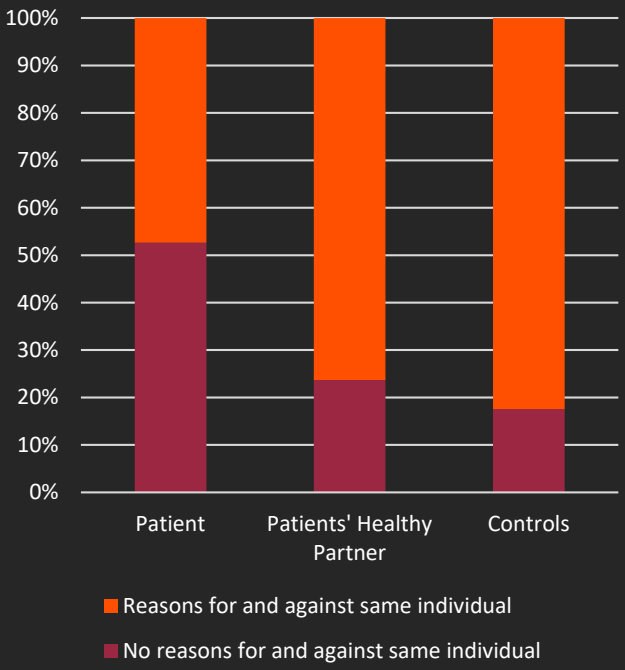
Consistency



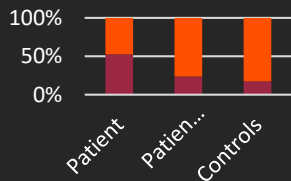
Consistency



Consistency

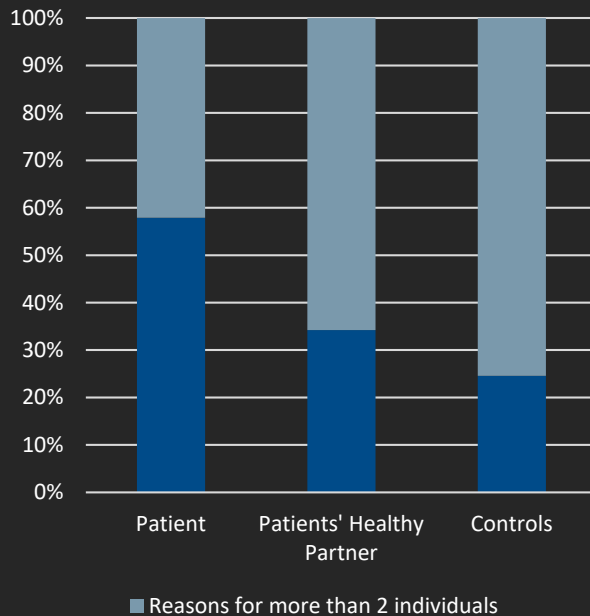


Consistency



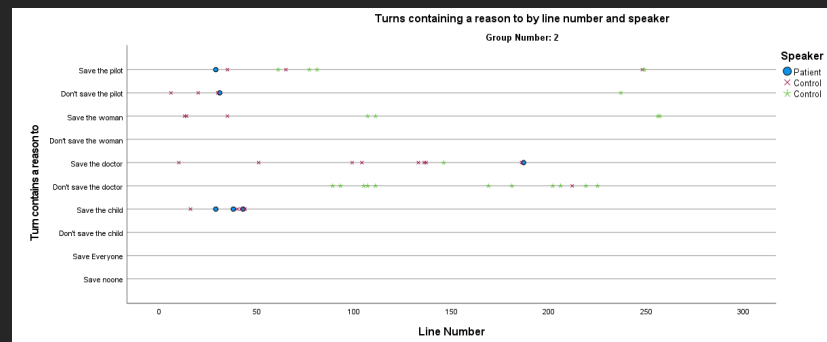
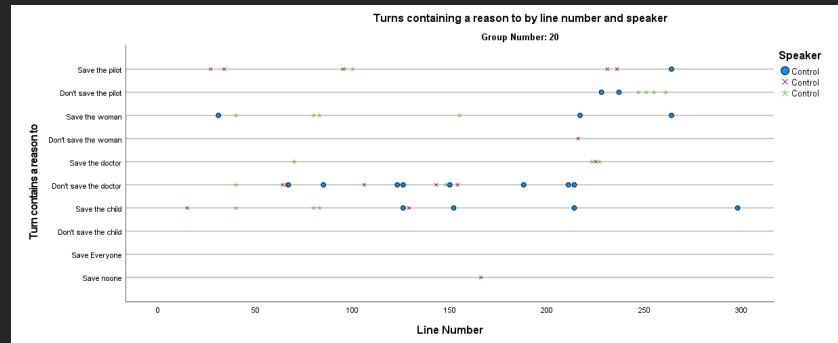
Reasons for and against same individual

No reasons for and against same individual



Reasons for more than 2 individuals

Reasons for 2 or fewer people



Consistency

3: [Well] all the all his wife has got going for her

1: <laughter/> [**<laughter/>**]

3: [is that] his <pause> she's his wife. <pause>
And she's <pause> expecting.

2: but it's it's just not right <pause> **it's two people.**
<pause> there's a baby there as well

1: yeah.

it's two people. there's a baby there as well *[line 62]*

Consistency

3: yeah [I know.]

1: [it is] <pause> You're [killing two]=

2: [<unclear/>]

1: = lives [not just one]=

2: [so there's two] [lives in there]

3:[but I still] that that means it goes back to the weight as well innit? <pause> she's a little bit extra [you know]

it's two people. there's a baby there as well *[line 62]*
[so there's two] [lives in there] *[line 70]*

3: = I personally would say throw the wife out. <pause>
That's probably the <pause> pilot be happiest then.

2: No child [can deserve that.]

3: [<laughter/>][<laughter/>]

1: [<laughter/>]

2: There's a baby you want there, his [baby]

1: [yeah] [it's a bit bad]

3: [yeah, but]

it's two people. there's a baby there as well *[line 62]*

[so there's two] [lives in there] *[line 70]*

There's a baby you want there, his [baby] *[line 97]*

3: [There ain't a baby] there

1: I think if you throw the wife out though

1: I think the pilot [will]=

2: [mmm.]

1: = s- won't be able to control the balloon [or he might]=

2: [mmm.]

1:= jump off

2: and you'd be killing two lives too

it's two people. there's a baby there as well *[line 62]*

[so there's two] [lives in there] *[line 70]*

There's a baby you want there, his [baby] *[line 97]*

and you'd be killing two lives too *[line 110]*

3: [There ain't a baby] there

1: I think if you throw the wife out though

2: [mmm.]

1: = s- won't be able to control the balloon [or he might]=

2: [mmm.]

1:= jump off

2: and you'd be killing two lives too

Consistency

3: but the baby's not born yet. <pause> <laughter/>[<laughter/>]

2: [no but it's a] it's a life isn't it?

3: It is a life but <pause> the baby's [not]

2: [couldn't] live live with myself. <pause> Do you know what I mean

1: Right.

2: Cause I'm a mother <laughter/>[<unclear/>]

3: [I'm a fa]ther

2: [Because]

3: [<laughter/>]<laughter/>

2: Well you never carried a baby.

Conclusions

- A greater proportion of the patients' reasons involve rejecting the constraints of the task
- Patients were more consistent than non-patients
- Patients do not have an impaired reasoning ability but reason on the basis of a different view of the task

Next steps

- Annotating specific underpinning reasons (*topoi*)
(thank to PhD students Bill Noble and Anna Lindahl)
- Linking reasoning to previous work on
 - disfluencies
 - turn-taking
 - gesture



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Part of the *Dialogical Reasoning in Patients with Schizophrenia* project

www.christinehowes.com/drips