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## Does Atypicality Entail Impairment? Tracing the Use of a Cohesive Marker in the Interactions of an Individual with Schizophrenia

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There has been a fairly long history of examining the speech of individuals diagnosed with schizophrenia (IwS) (Titone 2010), sometimes referred to as “schizophrenic speech” (Docherty 2012; Rutter 1979). Much early research focused on documenting language anomalies from elicited speech samples and/or monologic speech (Pawełczyk et al. 2018; Pienkos and Sass 2017; Rochester and Martin 1979). While this work continues today, recent research highlights the importance of examining communication as it naturally occurs in interaction—that is, the contexts in which language is dynamically and socially used—to more carefully consider what is impaired. Indeed, based on neurobiological and experimental evidence, some now argue that schizophrenia may be best understood as a “disorder of (social) communication” (Niznikiewicz et al. 2013; Pawełczyk et al. 2018; Wible 2012).

This reconceptualization of schizophrenia frames social communication as a core clinical deficit and offers support for the broader claim that the verbal and nonverbal practices normatively required for

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seamless interaction with others are what characterises impairment common to IwS. Impairment is thus not believed to be *linguistic* per se (Niznikiewicz et al. 2013): that is, it is not defined by phonological and morphosyntactic deficits but is thought to impact extralinguistic or paralinguistic aspects of language that are multimodal (Pawełczyk et al. 2018) and most evident across larger units of discourse. The implication is that capturing what is impaired about “schizophrenic speech” requires a more discursive lens than has previously been applied. This chapter considers some of the theoretical and methodological challenges faced in examining the discourse of IwS, focusing on a case of cohesion, and makes a case not only for examining linguistic structures in situated interaction to catalogue what is marked, or atypical, about “schizophrenic speech,” but also for considering how such atypicality may be effectively functional for IwS in naturally occurring interactions. This chapter thus cautions against presuming that an atypical discourse practice—one that may verge from normative standards whether in frequency and/or use—is necessarily an *impaired* one.

The speech of IwS has been previously described as disconnected and disjointed, leading scholars to systematically examine cohesion and its role in contributing to such characterizations. Cohesion refers to the range of linguistic elements (e.g. words, phrases) that build connectedness within a ‘text,’ whether spoken or written. Halliday and Hasan (1976) developed perhaps the most prominent account of cohesion, which they claim “occurs where the interpretation of some element in the discourse is dependent on that of another.” They continue, “the one [element] presupposes the other, in the sense that it cannot be effectively decoded except by recourse to it” (p. 4). For example, one common cohesive tie is what they refer to as *reference* which includes demonstrative, comparative, and personal (or pronoun) reference illustrated in *I spoke to Angela recently but I haven’t seen her in ages* where the pronoun ‘her’ serves to develop cohesion by tying back to the proper noun *Angela*. Halliday and Hasan (1976) detail other kinds of cohesive ties in addition to *reference*, namely *substitution*, *ellipsis*, *conjunction*, and *lexical*, noting that they are semantic, not merely structural, resources since their interpretation requires reference to some prior ‘text.’ Shortly following Halliday and Hasan’s account of cohesion, Rochester and Martin

(1979), summarizing the literature on impairment in schizophrenic speech, argued that “abnormality appeared to lie in the connection between ideas rather than at the level of individual words and sentences” (as cited in McKenna and Oh 2005, p. 108), thus implicating cohesion as it is situated in discourse as potentially problematic.

To consider the socially situated uses of cohesion in naturalistic interaction, this chapter presents a case study of one IwS with the pseudonym Kevin and analyzes his use of the seemingly high frequency—66 uses in 4 hours of interaction—cohesive marker *like I say* (LIS) that ties back to a prior spate of talk by reformulating it in a new interactional environment. That is, LIS builds connections across conversational turns not only by referencing previous discourse elements, but by introducing reformulations of them. Although such reformulations may allow hearers to engage in some decoding even without reference to the prior element of talk, they nevertheless require reference to that prior talk for their socially situated meaning to be established. Examining a single marker of one individual has obvious limitations for generalizability and realizing broader implications about the nature of “schizophrenic speech.” However, the choice of such a focused case study is responsive to criticisms dating back decades (e.g., Dawson et al. 1980), and continuing today (see Cohen et al. 2016), that our understandings of language and communicative impairment have arisen from analysts’ third-party determinations of problematic uses of linguistic devices stemming from inappropriate data sources void of real-world purpose and meaning (Alverson and Rosenberg 1990; Harvey 1983). In contrast, this case study relies on 15 hours of video recorded interactions in community settings and is thus more amenable to a deeply contextualised analysis of naturally occurring, interactive discourse as it was produced over an extended period of time (one month). Additionally, while many studies highlight relative frequency of use among IwS as compared to neurotypicals, using a conversation analytic approach prioritises how mutual intelligibility is achieved between Kevin and his interlocutors to accomplish social actions in situ. Thus, while cohesion is fundamentally a linguistic construct, this analysis considers more than whether the semantic and structural connections afforded by LIS are (un)clear to a third-party analyst, as is the case of many cohesion

studies. Rather it considers how such connections may establish mutual intelligibility for participants by taking into account what social actions LIS affords the speaker to achieve in particular interactional moments.

## The Meaning of Language Anomalies

Early research on schizophrenia discourse described what has been clinically referred to as “formal thought disorder” (TD; Elevåg et al. 2017). While the status of TD has been contested, even falling out of favour (Sass and Parnas 2017), claims that linguistic anomalies in speech production (and comprehension; see Ditman and Kuperberg 2010) reflect disturbances in thought processes, which could not otherwise be empirically investigated, began with Bleuler (1911/1950) and have persisted over time (Pienkos and Sass 2017; see Covington et al. 2005; Elevåg et al. 2017). As Pienkos and Sass (2017) describe, those who view language anomalies as manifestations of underlying thought “suggest that the particular linguistic problems of schizophrenia indicate disturbances in specific cognitive capacities, such as the ability to determine context relevance and inhibit irrelevant thoughts, integrate disparate information, maintain goal directness ...” (p. 84). Cohesion is often conceptualised to play a role in transposing how thoughts become meaningfully connected and seamlessly integrated into language and has thus been considered a probable indicator of problematic thought processes.

While most now recognise TD to be merely descriptive of language anomalies associated with schizophrenia rather than an indicator of underlying cognitive deficits (Kuperberg 2010), such “language ‘distortion’” is generally understood to be a “sign – in the medical sense – that is potentially measurable” though is “currently without a universally accepted measure” (Elevåg et al. 2017, p. 510). As noted, however, many studies define impairment as a matter of differences in frequency of use as compared to neurotypical controls. Such documented language anomalies include higher rates of overall grammatical deviance in speech (e.g., Hoffman and Sledge 1988), less syntactic complexity (e.g., Fraser et al. 1986), both fewer and more frequent cohesive devices as well as more unclear cohesive references than controls (e.g. Docherty

and Gottesman 2000). Conceptualising linguistic anomalies as an indicator of impairment has led scholars to largely ignore what IwS do well, particularly if what they do well may be understood as atypical.

## Attending to Situated Discourse: The Status of Cohesion and Coherence

As researchers have become more critical of efforts to catalogue *linguistic* anomalies in contrived speech samples, there has been increased consideration about how to examine linguistic structures in the *situated* discourse of IwS. The importance of coming to terms with how to elicit and examine naturally occurring discourse is important as “schizophrenic speech” has been more recently characterised, not by *language* anomalies, but by “abnormalities at the discourse level” (Ditman and Kuperberg 2010, p. 254). Elevåg (2010), for example, refers to “unconventional discourse” (p. 238) and Marini et al. (2008) describe impairments in “macrolinguistic abilities” relating to “pragmatics and discourse level processing” in contrast to “microlinguistic” abilities such as lexical and morphosyntactic skills. Such efforts to precisely characterise discourse have also been wrought with methodological and theoretical challenges (Alverson and Rosenberg 1990; Cohen et al. 2016), including common orientations to communication as linear, as the “transmission of meaning from speaker to listener” (Docherty 2012, p. 1328), that may mute the interactive and negotiated nature of communication.

Cohesion studies are a case in point. Although even early studies recognised that analyses of cohesive devices must be situated within the sociocultural and interactional contexts in which they are produced (Halliday 1978; Halliday and Hasan 1976), many such studies have adopted coding strategies that neglect such a socially situated orientation (e.g., Rochester and Martin 1979; see Alverson and Rosenberg 1990). Some studies examining cohesion also elicit monologic speech in well-defined tasks and/or speech excerpts too brief to determine how cohesion may facilitate meaning across more than single clauses; indeed, rarely do studies analyzing cohesion among IwS move beyond clause boundaries

(Ditman and Kuperberg 2010). Perhaps contributing to these challenges is Halliday and Hasan's (1976) discussion of how cohesion builds 'texture' across 'texts' which are defined as semantic units. Both of these concepts may seem more elusive in naturally occurring face-to-face interactions than in the selected sets of sentences often used as illustrations: for example, where a 'text' begins and ends in ordinary, multi-party conversation may be hard to delineate since speakers incrementally co-construct sequences of talk that they may close and then revisit.

Fundamental to these potential shortcomings is how cohesion is conceptualised and understood to contribute to coherence. As Carrell (1982) argued years ago, "cohesion is not coherence" and discourse may include few explicit cohesive markers and still be coherent, making cohesion "neither a necessary nor sufficient condition for coherence" (Bublitz 1989, p. 39). Alverson and Rosenberg (1990) provide an illustrative example in which speaker A asks *What time is it?* and speaker B responds *Well, the postman's been already*, which is perfectly coherent but lacks cohesion. They go on to point out that lack of cohesion does not indicate deficit, and as importantly that "there is enormous variation in the level of cohesion exhibited in discourse structures of demonstrable coherence and interpretability" (p. 177). Yet, because cohesion is believed to be "one tool that may help comprehenders establish coherence" (Ditman and Kuperberg 2010, p. 255) and contribute to speakers' illogical discourse trajectories, cohesion has been given a great deal of attention in defining discourse impairments, particularly for IwS identified as presenting with (positive) symptoms of TD (Kuperberg 2010; Martin and Rochester 1979).

There are thus lingering problems with cohesion studies that have yet to be resolved, including presumptions about how to define atypical uses of cohesion and understand what such definitions of atypicality mean for what we can claim about schizophrenia discourse and any associated impairment. These presumptions are bound up in common methodological choices to restrict explorations of "schizophrenic speech" to contrived and well-defined tasks, sometimes written narratives, which poorly represent spoken discourse (Lee et al. 2009, Chapter 3). Consequently, it is not entirely evident how IwS employ such devices in interactive, real-world encounters and what meaningful actions they might achieve beyond the linguistically defined connections they facilitate.

## Data and Methods

This case study presents Kevin, who had a SCID-diagnosis [a Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders (DSM)] of schizophrenia and was 49 years old when he participated in a pilot study (Bromley et al. 2012) that aimed to use a video ethnographic approach to assess the ecological validity of neurocognitive and functional measures of serious mental illness. As part of the original study, Kevin was visited by three field researchers who continuously video recorded daily activities for a total of 15 hours spanning one month (5-3-2009 until 6-5-2009). Regarding formal and clinical assessments, Kevin's composite score on the MATRICS Consensus Cognitive Battery (MCCB) measuring key cognitive domains such as working memory, visual learning and social cognition, was 16 (the MCCB range of the pilot sample was 10–37). On the Brief Psychiatric Rating Scale (BPRS) measuring severity of psychotic symptoms, he scored 57 with two symptom domains—*somatic concern* and *suspiciousness*—scoring as 5 (“moderately severe”), followed by *unusual thought content*, *depression* and *anxiety*, which were scored as 4 (“moderate”). All other BPRS symptoms scored between 1 (“not present”) and 3 (“mild”), and no domains scored as 6 (“severe”) or 7 (“extremely severe”) (see also Mikesell 2013; Mikesell and Bromley 2016).

Field researchers, who were blind to Kevin's neurocognitive and clinical assessments (Bromley et al. 2012), described him as “very engaged,” “knowledgeable” with “a lot to say.” They also noted that Kevin sometimes spoke in “monologues” with one researcher noting that it was often difficult to participate in conversation. In the community (outside of interactions with field researchers), Kevin was observed to frequently engage in brief social interactions and service encounters, averaging 26 seconds in length and ranging between two seconds to say “hello” to an unknown passerby and 76 seconds with a bank teller (Mikesell and Bromley 2016). Thus, while Kevin had many interactions in the community, they were generally quite brief.

In reviewing the video data from the clinical pilot study, Kevin's frequent use of LIS was readily observed, particularly in comparison

to the other nine study participants who were not found to use LIS. LIS occurred 66 times in four hours of interaction. Given the number of studies that have focused on the frequency of cohesive devices among IwS, claiming too few or too many devices, it was the apparent frequency of LIS that initially motivated its exploration and questions about what its frequent use might mean: Does its frequency reveal Kevin's *overreliance* on a single cohesive device and therefore suggest some sort of impairment? Or does it suggest some sort of linguistic dexterity, a practice for establishing connections across turns and sequences to establish mutual intelligibility with his interlocutor? To consider these questions, one must examine LIS in situ.

I tracked LIS across four hours of video recorded interactions with Kevin. This included the first two hours from his first visit (recorded on 5-3-2009) and the last two hours recorded from the last visit (6-5-2009) in which the same field researcher (referred to as ETH in the transcripts and subsequent text) visited Kevin. The interactions analyzed take place between Kevin and ETH because it is during these interactions that LIS occurred, likely because these interactions tended to be longer than Kevin's interactions with community members, thus providing the interactional context for Kevin to draw connections to previous talk.

## Analysis

This section first provides an overview of the data, summarizing the formal features of LIS that establish connections across turns and sequences. I then discuss those features as they are situated in an interactional sequence in order to highlight not only the formal properties of LIS but also the situated action that LIS affords Kevin in this particular context. In this particular case, LIS works to facilitate sequence closure in the face of minimal uptake from his interlocutor while simultaneously providing a renewed opportunity for his interlocutor to respond, which would in effect prevent sequence closure. Such uses of LIS occur during the first two meetings between Kevin and ETH when they are just getting to know each other, usually during what might be described as 'small talk'. These extracts thus show difficult moments perhaps



common to many occasions of small talk when topic talk can be hard to sustain with a stranger; they thus illustrate Kevin's efforts to maintain small talk with ETH who he knows he will see again. I then show how Kevin deploys LIS a month later during their last visit when they are no longer strangers. Having established some rapport, Kevin no longer utilizes LIS to exit challenging topics of small talk but to achieve a range of other social actions reflective of their growing familiarity. Collectively, these uses of LIS show how Kevin is attentive to both the local, immediate context of the talk (when building semantic connections to prior linguistic elements) and to the wider context of his evolving relationship with ETH (by selectively referencing ETH's recently acquired and now shared knowledge).

## Summary of LIS and LIS in Action

Fifty-nine viable<sup>1</sup> cases of LIS were identified in four hours of data. All instances of LIS prefaced a reformulation (or second mention) of a prior spate of talk (or first mention). However, there were varying temporal distances between the first and second mentions that LIS connected. The *minimum* distance between the first mention and the second mention introduced by LIS was 9 seconds. The *maximum* distance was 103 minutes, with the average time intervening between first and second mentions being 9.2 minutes. LIS only referred back to first mentions that occurred within the same encounter; that is, they never reached back to build ties to talk that occurred during a previous day.

Extract 1 illustrates a 'short range' connection typical of Kevin and ETH's early interactions shortly after they first met each other. The second mention prefaced by LIS—"like I say it's kind of confu:sing" (line 13)—is a reformulation of the first mention produced 13 seconds earlier: "I don' understa:nd" (lines 3–4).

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<sup>1</sup>A total of 66 cases of LIS were identified in the data. However, four of these cases did not have a first mention that could be identified from the data, which may have been because the first mentions were produced off camera or because they were not produced at all. Three cases were abandoned in mid-production.



the first mention: “I don’ understa:nd.” This connective feature of LIS that links the first and second mentions was common across all of the cases and can establish connections not only within clause boundaries but across several conversational turns (see Ditman and Kuperberg 2010).

Additionally, the use of LIS does not only achieve these connections between first and second mentions. In Extract 1, for example, LIS occurs in sequence closing position. Indeed, it seems designedly placed to facilitate closing, which may hinge on two features of LIS and the bit of talk it prefaces: First, LIS explicitly marks the upcoming talk—a reformulation of something previously said—as repetitive, which may indicate that there is not much more for Kevin to say on the matter and thus provides a practice to exit the sequence. Second, the reformulation that LIS introduces is an assessment, which is also a regular practice for closing a sequence (Goodwin and Goodwin 1987). We might also consider the nature of the reformulations themselves that LIS introduces and how they contribute to what LIS discursively achieves. Here, the first mention is formulated as “I don’ understa:nd.” while the second mention is reformulated as “it’s kind of confu:sing.” While the first mention identifies the problem as one of individual difficulty—it is Kevin who does not understand why the street is called Irene—the reformulation reframes the problem as a more generalised one that may be shared. Positioning the difficulty as one not necessarily unique to him but arising from the situation itself moves the problem from personal to generalizable and thus more accessible to ETH. During the sequence thus far, ETH has either not responded to Kevin’s turns (line 2) or offered mere acknowledgements (lines 5, 9, 11). In this context of making small talk with a stranger, Kevin’s LIS turn in line 13 may then work to enable ETH to engage with his assessment about the problematic naming of streets in ways that he has yet to do (e.g. offering a confusing experience of his own) while also affording sequence closure in the event that ETH continued to remain unresponsive.

## LIS-Prefaced Turns in the Face of Minimal Interlocutor Uptake

The following extract similarly shows an exchange that may also be characterised as ‘small talk’ between strangers (it occurred about 20 minutes after Kevin and ETH first met) and similarly illustrates how LIS-prefaced reformulations establishing connections across turns may be in the service of sequence closure. In this case, ETH launches a topical discussion about favorite sports—perhaps a canonical ‘getting-to-know-you’ question—but when Kevin responds, ETH provides minimal uptake and at times no response at all, leaving Kevin to either close the sequence or independently keep the topic alive.

## Extract 2

01 (4.0)

02 ETH: So um- so what's your favorite sport.

03 KEV: Well I like (0.3) basketball and football, you know

04 ETH: Nyea.

05 KEV: I admire baseball,

06 (0.2)

07 KEV: I admire all athletes you know.

08 ETH: Uh huh.

09 KEV: Da (0.9) I would say the work they have to do (0.5) to

10 develop the(y) skills.

11 (0.2)

((lines omitted))

12 KEV: I like track and field, uh (0.3) **I was amazed by the**

13 **Olympics.**

14 (0.4)

15 KEV: You know I was amazed by that an' stuff.

16 (0.5)

17 KEV: And um (3.2) **like I say it was fascinating the Olympics.**

18 (0.3)

19 KEV: It was kinda intimidating

20 ETH: Uh huh

21 KEV: a little bit you know(0.4)to see a billion people .hhh

22 in synchronization.

23 ETH: Ye[aheh heh

24 KEV: [you know at the [(bird's nest).

25 ETH: [Way- oh yea::, the-

26 KEV: Yea

27 ETH: The u:m

- 28 KEV: At [the opening cerem[ony  
 29 ETH: [ ( ) [the opening s- yea: it was-  
 30 KEV: You know it was kinda intimidating to me.=And I was  
 31 kinda (.) mesmerised. I'm like  
 32 ETH: Yeah me too. I saw i:t-

ETH launches a new sequence (line 2) asking, “So um- so what’s your favorite sport.” to which Kevin identifies two sports he likes (basketball and football). ETH acknowledges Kevin’s turn (line 3) but does not reciprocate with his own preferences or follow-up on Kevin’s. Kevin then transitions in stepwise fashion (Jefferson 1984) from sports he likes to a sport he admires (line 5). Again upon receiving no uptake, he continues, noting his admiration for “all athletes” (line 7). ETH produces a continuer, passing up his turn (Schegloff 1982; line 8) and after a bit of a delay, Kevin elaborates on what he finds admirable (lines 9–10).

After identifying additional sports (hockey and soccer) that he does not watch but admires (not shown), Kevin identifies another sport he likes (track and field; line 12), followed by a declaration of amazement for the Olympics (one of the few times perhaps that track and field events are televised). Upon receiving no uptake from ETH (line 14), he reiterates a near identical sentiment about the Olympics prefaced with “you know” (line 15; see Clayman and Raymond, under review), which again receives no uptake (line 16). Kevin continues, appearing to search for more small talk in the face of an unresponsive interlocutor, with an *and*-prefaced turn (line 17; cf. Heritage and Sorjonen 1994) that is suspended for 1.6 seconds. He then articulates for a third time his impressions of the Olympics, this time prefaced with *like I say*, which explicitly references his prior turn, only now reformulated as “it was fascinating the Olympics.”

There are notable similarities with this use of LIS and the prior extract. Most evidently, it connects to a linguistic item in a prior turn by reformulating an earlier produced bit of talk. Additionally, the reformulation it introduces is notably similar to the reformulation we saw in Extract 1. While the prior mention (“I was amazed by the Olympics”) presents the Olympics as something unique or personal to him, the LIS-prefaced second mention (“it was fascinating the Olympics”) is formatted so as to present a more generalizable assessable, that is, not just an event that he

was amazed by but that is itself fascinating, which others may also appreciate and more easily comment on. This reformulation of the assessment resembles Extract 1 in reframing an assessment as one that is personal to one that is common. While Kevin's turn in line 17 turns out not to close the sequence as it did in Extract 1, its production nevertheless can provide for this possibility and allow Kevin to exit a sequence of small talk during which his interlocutor is not as readily contributing.<sup>3</sup> At the same time, as an assessment of a world event that ETH likely has access to, reformulating the assessment in more general terms may also work to invite from ETH a second assessment (Pomerantz 1984). However, following a (0.3) second gap where there is still no uptake (line 18), Kevin continues his turn with a new assessment ("It was kinda intimidating"; line 19) to which ETH passes on taking a turn with his production of another continuer (line 20), prompting Kevin to go on to explain what was intimidating (eventually eliciting a more elaborated response from ETH in lines 25, 27, 29).

If one examined Kevin's three consecutive turns (across lines 12–17) in isolation or for only what the cohesive marker achieves referentially, it might be tempting to characterize this bout of talk as repetitive (Kevin produces nearly identical assessments across lines 12–13, again in line 15 prefaced with "you know" similarly displaying Kevin's efforts to facilitate intersubjectivity when faced with 'reception difficulties' (Clayman and Raymond, under review), and a third time in line 17) and consider what it might suggest about impaired integration of ideas or disordered/disorganised thinking. While LIS immediately re-introduces nearly the same turn that was produced only seconds prior, when examined sequentially in the context of getting to know an unfamiliar interlocutor, redoing the turn, explicitly recognizing it as repetitive with the LIS preface, and producing a generalised reformulation may collectively work to elicit a response that has not been forthcoming while also enabling sequence closure in the event that his interlocutor does not readily respond.

Extract 3 similarly highlights an interactional context in which ETH produces little uptake to Kevin's turns or continuers explicitly passing the opportunity to take a turn, again illustrating how reintroducing talk

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<sup>3</sup>In that sense, his stepwise topical transitions noted above, while not used to exit the same kind of troubles telling contexts that Jefferson (1984) originally described, may work to exit a different sort of trouble—a sequence of small talk with an unfamiliar interlocutor who is minimally responsive.

with LIS may serve as a practice for navigating a challenging sequence with an unfamiliar, unresponsive interlocutor. This extract also occurs not long after Kevin and ETH meet (just minutes before Extract 1). They have just left Kevin's apartment and as Kevin is locking his door, Kevin shows his prosthetic arm to ETH.

### Extract 3

- 01 KEV: There ya go. I- it can [open an' clo:se.  
 02 ETH: [Oh wo-  
 03 (0.2)  
 04 ETH: That- 's [(ne- )  
 05 KEV: [But **it's real tight. It's real tight.=**  
 06 = [Don't put your hand in there.  
 07 ETH: [So don' put your >hand in there<Okay.  
 08 KEV: Yea you know cause [it- **it's real crushing.**  
 09 ETH: [(>°uh<)  
 10 KEV: It's not [really sensitive,  
 11 ETH: [Oh:,.  
 12 (0.2)  
 13 ETH: °nkay.  
 14 KEV: y'know [to the touch.  
 15 ETH: [Can you open it half way? Or does it jus'  
 16 open or clo:se °er  
 17 KEV: It jus' open and clo:se.  
 18 ETH: °Okay.  
 ((lines omitted; 53 seconds))  
 23 ETH: That's >cool.<=I've always wondered how those things work.  
 24 KEV: Ah man it- it's fascinating thu-uh (0.3) say the uh  
 25 industry of it.  
 26 (.)  
 27 KEV: Y'know it has came a lo:ng wa:ys.  
 28 (0.3)  
 29 KEV: Y' [(know and uh:)  
 30 ETH: [Yea I guess.  
 31 (.)  
 32 KEV: .hh From my understanding y'know it's gonna get better over



33 the yea:rs.  
 34 ETH: [Yea.  
 35 KEV: [Y'know they'll make it whe:re (0.2) it's not as sensitive  
 36 (.)  
 37 KEV: [like y'know (.) to the [touch.  
 38 ETH: [Right. [Nyea.  
 39 (.)  
 40 KEV: .hh 'Cause like I say if you were to pick up a ca::n or a  
 41 (0.2) or a cup or something, like (you-) a cup of coffee  
 42 <y'know<=like a [styrofoam cup with it? .hh it would=  
 43 ETH: [Uh huh  
 44 KEV: =crush it.  
 45 ETH: Uh huh.

In Extract 3, Kevin points out his prosthetic arm to ETH (not shown). He then explains how the prosthetic works (lines 1–2) and subsequently describes it as “real tight” (line 6), which ETH demonstrably understands as a warning to not “put your >hand in there<” (line 7). Shortly after, Kevin reiterates his warning that “it’s real crushing” (line 8). After Kevin finishes explaining how the prosthetic works, ETH appreciates his new understanding (line 23), and Kevin transitions to talk about the “industry of it” (line 25). Up until this point the conversation has been about the mechanics of the prosthetic and how it works. However, when the conversation shifts to the future of the industry, ETH provides no immediate uptake (line 26), and Kevin elaborates that the industry has “come a lo:ng wa:ys”. After a gap, ETH tentatively responds in overlap with Kevin’s continuation (lines 29–30). Kevin then remarks that the industry is “gonna get better over the yea:rs” (lines 32–33) and elaborates on what getting better means (lines 35, 37): the industry will “make it whe:re (0.2) it’s not as sensitive” to the touch. Receiving mere acknowledgement tokens, Kevin then references his earlier talk with LIS (that his prosthetic is “real crushing”) in lines 40–42, 44, only here it is repackaged in this new sequential environment to illustrate where prosthetics are still lacking: because “if you were to pick up a ca::n or a (0.2) or a cup or something, like (you-) a cup of coffee <y’know<=like a styrofoam cup with it? .hh it would crush it.”

The first mention of the sensitivity of the prosthetic (it's real tight; it's real crushing) occurs in the context of showing ETH how the prosthetic functions and discursively serves as a warning to not put his hand in it. In this talk about the here-and-now, ETH readily responds demonstrating understanding of the warning. He also shows appreciation for Kevin's demonstration of how the prosthetic functions. The second mention introduced by LIS and produced 81 seconds later is in the context of discussing the future progress of prosthetics, a topic of talk that ETH less readily responds to, offering continuers and acknowledgment tokens only. Not receiving much uptake to this topical transition of the future of prosthetics, Kevin uses LIS to re-invoke the idea that his prosthetic is real crushing, this time not as a warning, but to identify a current design flaw and thus the kind of progress the industry is likely to make. His LIS-turn, by drawing a connection to the mechanics of his prosthetic that ETH showed enthusiasm for may, similarly to the previous extracts, provide a renewed opportunity for ETH to respond to this related topic.

The prior extracts showed how LIS-prefaced reformulations were employed in the face of ETH's minimal engagement with Kevin's efforts to navigate small talk by, on the one hand, facilitating sequence closure, and on the other, providing a renewed opportunity for ETH to respond. Extracts 1–3 occurred early during the first visit between Kevin and ETH, shortly after they meet and when they are just getting to know each other, also illustrating Kevin's sensitivity to the context of establishing a new relationship. The following extracts show LIS-prefaced reformulations that occur later in Kevin and ETH's relationship and which achieve a range of social actions.

## Resuming a Prior Course of Action

The following extract shows how LIS-prefaced reformulations maintained the context-renewing function illustrated in the small talk sequences even after Kevin and ETH had spent some time together. In this case, Kevin deploys LIS, not to provide a renewed opportunity for ETH to respond to a topic he is not readily engaged in, but, quite

contrastively, to resume a prior course of action that is in danger of being lost to ETH's intervening turns.

#### Extract 4

01 ETH: Nor:: y'know I-I: would only get something like that  
 02 if (1.1) if I was filthy rich [and it was like you know  
 03 KEV: [Yea.  
 04 KEV: Bill Gates or somebo[dy.  
 05 ETH: [nyea: it's like [nothing (to me.)  
 06 KEV: [ye (h) a (h) huh  
 07 [some (h) b (h) o (h) dy  
 08 ETH: [An' then- and then I'd keep it in a showroom.=Probably(h)  
 09 Hh: heh  
 10 KEV: Yea: (h)  
 11 ETH: [heh °heh  
 12 KEV: [Y'know then: you know something like that- (0.2) like  
 13 you say (.) '**cause you never know how (0.6) sa:y the**  
 14 **popular demand it might be**.  
 15 (.)  
 16 KEV: The economy might cha:nge.  
 17 ETH: Yea: [h:.  
 18 KEV: [An' the car y'know (.) look at the Hummers.  
 19 ETH: Oh yea(h) heh.  
 20 KEV: (You pay-) y'know people who own Hummers now are  
 21 pretty much stuck with 'em.  
 22 ETH: Ye(h)a(h) [heh heh heh  
 23 KEV: [But see ([0.2) [only- only agencies I can  
 24 ETH: [.hh [heh  
 25 KEV: see buyin' the Hummer is a federal agency:.=  
 26 ETH: =Yea where >did I< see- js- jus' the other da:y .hhh (0.3)  
 27 advertising at a dealer like on the ten somewhere um (.)  
 28 KEV: °G[o right here.  
 29 ETH: [fifteen- (0.3) fifteen gra:nd off (0.2)

- 30 KEV:           ↑Ewh.  
 31 ETH:           on selected [Hummers.  
 32 KEV:                           [↑Ehw:.  
 33               (0.2)  
 34 ETH:           [heh heh  
 35 KEV:           [Like I sa:y y'know th-the value of 'em, (0.3) the retail  
 36           sale of 'em  
 37               (0.5)  
 38 ETH:           [Ye::s.  
 39 KEV:           [Can you resell 'em? [(                ) so I can see like the  
 40 ETH:   [Right. (                ) )  
 41 KEV:           federal government buying 'em.=

In Extract 4, Kevin and ETH are discussing luxury vehicles and ETH has earlier stated his preference for small cars because they use less gas (petrol). He here offers further support for such a practical position (lines 1–2), arguing he would only buy a luxury vehicle “if I was filthy rich.” Moments later, Kevin contributes to ETH’s line of reasoning, remarking that another reason to avoid luxury cars is that the “popular demand” for them is uncertain (lines 12–13). This becomes the bit of talk he later refers to.

Following Kevin’s concern about the fluctuating popular demand, he references Hummers as an illustration. The upshot, according to Kevin, is that owners are “pretty much stuck with ‘em” (line 21), and further, they may only be resellable to federal agencies (line 25). At this point, ETH comes in to corroborate Kevin’s point about Hummers’ loss in value, telling about how he saw Hummers being sold at a considerable discount (lines 26–27, 29, 31). Kevin audibly appreciates ETH’s turn (lines 30, 32) and then produces LIS to introduce a reformulation of his earlier point about the uncertain popular demand (i.e., the first mention in lines 13–14), here reformulated as “the value of ‘em” or “the retail sale” (lines 35–36).

The reformulation introduced by LIS—similar to the prior extracts—structurally ties back to previous talk, and prefaces a reformulation of a

prior mention. It also similarly enables Kevin to, in essence, reproduce or renew an earlier sequential environment. However, in this case, the sequential environment is not renewed to provide ETH another opportunity to respond or for Kevin to close a difficult sequence. Rather, reproducing the prior sequential environment enables Kevin to continue with his prior course of action that was in danger of being lost when ETH came into tell his story about discount Hummers.

### **Juxtaposing Contrasting Positions**

Although less frequent, during the last visit between Kevin and ETH, LIS was also employed to juxtapose two seemingly contrastive positions in a way that was integrative or coherent. In Extract 5, the topic of conversation is notably not a topic perhaps common to small talk between strangers such as neighborhood streets or sports but is a more personal story about Kevin's past. He tells ETH about his time in a detention center when he was young (lines 3–4).

## Extract 5

01 KEV: I had a good mouthpiece. My lawyer you know[w  
02 ETH: [Yea [heh  
03 h[eh  
03 KEV: [and stuff >I mean< 'cause I had went for like a  
04 forgery an' a grand theft.  
05 (.)  
06 ETH: Okay.  
*((lines omitted))*  
07 KEV: And- you know if- **I was ashamed(d) of it.**  
08 (0.2)  
09 KEV: and so on and so forth but you know over the yea:rs  
10 I look at (.) ma::n these guys that (0.4) rapists and  
11 murder[ers and child molesters, they made me look like  
12 ETH: [Yea:.  
13 KEV: a saint compared to (0.3) what they do:.  
14 (0.3)  
15 KEV: You know **like I say I kinda regret** because it was more a  
16 trust issu:e (0.3) because I tried going to (0.2) like you  
17 say (.) the finance wo:rld, (0.2) you know that can come  
18 back and haunt you . . .

Kevin remarks that “I was ashamed(d) of” his priors (line 7) and mitigates his wrongdoings by presenting them as relative, even saint-like (line 13), when compared to the “rapists and murderers and child molesters” (lines 10–11). Upon no uptake from ETH (line 14), Kevin continues, producing an LIS-prefaced reformulation of his first mention, “I was ashamed(d) of it,” now formulated as “I kinda regret” followed by the reason for his regret, which is a practical one: his earlier crimes have impeded his efforts to participate in “the finance wo:rl” (lines 15–18), presumably because he is perceived as less trustworthy (line 16).

While Kevin’s LIS-prefaced reformulation occurs in the face of no interlocutor uptake, much like Extracts 1–3, in this case, it does not only seem to renew an opportunity for ETH to respond but also seems

to resolve a potential challenge that might prevent ETH from easily responding: Across this spate of talk, Kevin presents two positions that may be heard as in opposition to each other. The first position acknowledges being ashamed of his earlier crimes (line 7), which is followed by a second position presenting these same crimes as relatively minor when looked at comparatively (lines 9–11, 13). Structurally, LIS re-introduces his original position (I was ashamed of it) but prefaces a reformulation of it which is presented with some mitigation (I *kinda* regret it) followed by a subordinated *because*-clause explicating the reason for regretting the crimes, a reason that coherently integrates these two contrastive positions. In other words, his regret introduced by LIS is not presented as a moral one but a practical one. Consequently, Kevin is able to present a coherent perspective on his earlier crimes, displaying how one can be ashamed of and regret crimes that one also perceives as relatively ‘saint-like.’

### **Accounting for a Current Action**

Only at rather long temporal distances (with significant time intervening between the first and second mentions) was LIS employed to re-introduce a prior bit of talk to account for or justify Kevin’s current action that was under scrutiny. These uses of LIS-prefaced reformulations were also only observed during the last visit once Kevin and ETH had a more established relationship.

## Extract 6

- 01 KEV: . . . she used to work with baby doctors.
- 02 (0.2)
- 03 KEV: .hh And so you know when I see children, babies especially
- 04 .hh I'm like okay this is what my mother used to do as a
- 05 ( ),
- 06 ETH: Yea.
- 07 KEV: You know a:n' .hh **she kind of taught me some thi:ngs (.)**
- 08 **as of (.) emergency (0.3) respo:nse.** (Be)cause you know
- 09 when you do see-pee-are (CPR) on a baby, you have to be
- 10 more s:ensitive,
- 11 ETH: Yeah.
- 12 KEV: Then you know doing it on an adult.
- 13 (0.2)
- 14 KEV: And [stuff so you know I'm like-
- 15 ETH: [heh.
- 16 ETH: I- I've never tried. (on a baby) heh heh heh I'm nervous.
- 49mins, 25secs elapse
- 17 ETH: Do you have allergies or something?  
(*(lines omitted)*)
- 18 ETH: Oh no, but I meant with your- the um- (0.2) tsk with
- 19 the breathing, the mask.
- 20 KEV: Oh no [that was y'know (0.3) from the: (0.3) the current
- 21 ETH: [(with) the mask.
- 22 KEV: events we see on tee-[vee (TV).
- 23 ETH: [Oh the swine flu(h) [heh
- 24 KEV: [Yes the
- 25 [current events >we see< on tee-vee.



- 26 ETH: [Yea so wh(h)en you see somebo(h)dy cou(h)ghin(h)'?
- 27 KEV:
- 28 (0.3)
- 29 KEV: Ye[:s.
- 30 ETH: [Ny(h)e(hh)a(h) heh heh
- 31 KEV: I mean you know it came in [my: first aid kit.
- 32 ETH: [heh hm
- 33 ETH: [(my caw-)
- 34 KEV: [my emergency preparedness kit?
- 35 ETH: Oh yea[:.
- 36 KEV: [So- (.) they gave us a lot of ma:sk:s.
- 37 ETH: Oh that's what that is.=
- 38 KEV: =Yes.
- 39 ETH: Oka[y.
- 40 KEV: [An' like the American Red Cross, they come to
- 41 our buildi:ng,
- 42 (0.2)
- 43 KEV: once a year.
- 44 ETH: Nyea.
- 45 KEV: An' you know they teach us first ai:d and see-pee-
- 46 are (CPR).
- ((lines omitted))
- 47 (0.2)
- 48 ETH: Y[ea.
- 49 KEV: [So once you complete y'know you get your certificate,
- 50 (0.6) you know say first aid you know see-pee-are (CPR)
- 51 then they give us a ba::g,
- 52 ETH: Okay.
- 53 KEV: =full of emergency preparedness equipment.
- 54 (0.3)

- 55 KEV: Like they call it triaa:ge?
- 56 ETH: [Yea:
- 57 KEV: Y'know\_
- 58 (0.2)
- 59 KEV: So (0.3) **like I say my mother used to be an emergency**  
60 **worker.** So I- >y'know< I kinda think like she do.
- 61 ETH: Nuh hu[h h(he(h) heh heh
- 62 KEV: [At ti:mes. Y'know what I'm sayin'.<'Cause I seen  
63 her (0.2) go into action (.) on the freewa:y,

The first mention comes when Kevin is telling ETH about his mother's profession—she was a pediatric nurse and emergency responder (not shown) who “used to work with baby doctors” (line 1). He then mentions how she “taught me some thi:ngs (.) as of (.) emergency (0.3) respo:nse” (lines 7–8), which is the bit of talk referenced later. They go on to discuss the challenges of responding to emergencies with babies as compared to adults.

About 50 minutes later as they are walking around town, ETH launches a new sequence asking Kevin “Do you have allergies or something?” (line 17). This turns out to be a question referencing a facemask Kevin is wearing around his neck, but Kevin responds to it as a genuine question about allergies (not shown). ETH clarifies his intention that he was asking about the facemask (lines 18–19). Kevin explains that the mask is because of the “current events we see on TV” (line 22), which ETH identifies as the swine flu with laugh tokens (line 23). Kevin confirms this understanding (line 24), and ETH starts to present the upshot “so wh(h)en you see somebo(h)dy cou(h)ghin(h)?” produced with laugh particles and a tone of skepticism. As Kevin confirms (line 26), ETH continues his laughter, clearly making fun of Kevin's cautious behaviour.

Following ETH's mild ridicule, Kevin explains that the mask came in a first aid kit, providing an account for why he has it (line 31). He then further explains that it was ‘they’ (line 36)—the American Red Cross (line 40)—that provide the equipment and teach emergency response to the residents in his building, extending his account for why he wears the mask. Receiving only an acknowledgement of understanding from

ETH (line 37) and rather minimal uptake (lines 39, 44, 52, 58) of his accounts for carrying the mask, Kevin produces LIS to re-introduce a fact he mentioned 50 minutes earlier (lines 7–8), that his mother was an emergency worker so he “kinda thinks like she do” (lines 59–60), further justifying why he wears the facemask and framing it as reasonable behaviour—not as overly cautious but as being prepared to help like his mother. Drawing on this much earlier bit of talk may be rather convincing as a justification for a current behaviour under scrutiny because this justification for wearing the mask was already made available to ETH but for a quite different purpose.

## Discussion

With increasing recognition that abnormalities characteristic of schizophrenia are most likely to occur at the discourse rather than linguistic level, there is also an increasing awareness that “abnormalities can only be understood within the confines of dyadic” (or multiparty) exchanges (Dombrowski et al. 2014; see Titone 2010) and are “dynamic across time and context” (Cohen et al. 2016). This contextualised examination of LIS, a device employed so frequently it was produced on average every 3.5 minutes, as it is employed in interaction highlights how this single marker can be used to draw connections to prior talk to achieve a variety of real-world social actions, thus cautioning against presuming that abnormalities or atypical discourse practices necessarily entail impairment. It also shows how these uses dynamically evolve across the development of a new and ongoing relationship between Kevin and an unfamiliar interlocutor who he has committed to seeing over multiple occasions, illustrating how Kevin remains sensitive to both the local, interactional sequence of talk and the broader context of his relationship with the researcher. Notably, Kevin’s early uses of LIS (i.e. those occurring during the first hours of their first meeting) when Kevin and ETH are engaged in small talk may be easily interpreted to be problematic. For instance, LIS-prefaced reformulations often connect to prior talk that was produced mere seconds earlier and may thus be interpreted as repetitive and not integrating turns to build a coherent sequence of

talk. However, one may similarly interpret ETH's lack of responsiveness to Kevin's efforts to engage in small talk as equally problematic. Thus when these early uses of LIS are examined sequentially, it becomes evident that they occurred when Kevin's interlocutor is not forthcoming and the hearable repetitiveness can be understood as a practice for navigating sequences of 'belabored' small talk. Specifically, these early uses constitute a practice for providing Kevin two possible paths for dealing with challenging moments of getting to know someone: first, they provide a renewed context for ETH to respond when he was not immediately forthcoming or responsive to Kevin's attempts to make small talk. Second, they provide Kevin the opportunity to exit from a belabored topic in the event that ETH continues to remain unresponsive. Thus, these early interactions, rather than demonstrating some sort of undisputable impairment integrating turns at talk or sustaining a coherent goal, illustrate Kevin's work to maintain conversation with an unfamiliar interlocutor. Contrastively, during the last visit after Kevin and ETH had spent several hours together and ETH was often more forthcoming, Kevin's uses of LIS to reformulate prior talk were no longer employed to achieve this same function and were produced at 'longer' range distances. Rather, reformulating prior talk during their last visit enabled a range of social actions reflective of a more established relationship such as responding to ETH's critical teasing of Kevin's cautious behaviour.

This study is certainly not without limitations. Schizophrenia is a heterogeneous disorder (Ahmed et al. 2018; Kuperberg 2010; see also Mikesell and Bromley 2016), and not all IwS exhibit language anomalies or communication impairments (Docherty 2012), however those impairments are defined and measured. This case study of a single linguistic structure is thus significantly limited in its ability to generalise across IwS or to make sweeping claims about the status of cohesion and how it is implicated in understandings of language and discourse anomalies. Although small in scope, this work, nevertheless, may serve as an illustration to the ongoing research on investigations into language anomalies in "schizophrenic speech" to help bring it more closely in alignment with current understandings that real-world, dyadic/multiparty interactions are where linguistic structures need to be examined. More importantly, it highlights that although the production of linguistic structures

might, on the surface, appear to be atypical (i.e. occurring too frequently or not frequently enough, or determined to establish unclear or inappropriate references), new understandings may arise when they are examined sequentially for what social actions they afford speakers to achieve in interaction. For instance, when Kevin's uses of LIS and the reformulations they introduced were analyzed for how they might achieve mutual intelligibility, it was evident that the actions they afforded were sensitive to a developing and highly unusual (i.e. a long-term researcher-participant) relationship he was attempting to navigate.

Relatedly, this work may offer some real-world insight as to why previous studies find that diagnosed individuals use both fewer and more cohesion markers than neurotypical controls. In four hours of interaction, Kevin employed LIS 66 times or, as noted above, about every 3.5 minutes. Although without a baseline measure for comparison, we cannot know if this is relatively few or many, on the face of it, this seems a rather frequent usage of a single marker. What it means if a speaker uses many or few markers is still not well understood, particularly for what these differences may (or may not) suggest about impairment. While Kevin's high frequency use of LIS may indeed be *atypical*, the prior analysis perhaps more aptly demonstrates that such "vocal abnormalities require grounding within the contextual demands of the conversational partner, and are not abnormal in-and-of themselves" (Cohen et al. 2016, p. 306). This potentially atypical practice then may just as easily be argued to demonstrate Kevin's dexterity in utilizing a single 'ready-made' linguistic device for referencing and reformulating prior talk to serve a range of interactional needs.

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