CONVERSATIONAL INTELLIGENCE AFTER STROKE: A DRUG TRIAL

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DEDICATION

Most of the ten participants who agreed to take part in this study expressed a desire to feel useful again, to be heard and to stop being invisible. I dedicate this research to them for their bravery and for their optimism. The challenges they experience; their confrontations every day with the things they have lost; are not translatable into words.

'That's the trouble with being in a caring profession when you can't be in it anymore you feel, "Oh well. Now what do I do?" and I keep trying to comfort myself or say, "Well you can still be an example to people how to- how to handle yourself in a positive man- manner. Even after a stroke. And you'll be an example to your family and your grandchildren too". Oh I would love to be useful again' (*Felicity*)

DECLARATION

I, Tali Frankel, declare that this dissertation is my own unaided work,
except for technical assistance as detailed in the Acknowledgements;
that I am responsible for the text of this study and all conclusions reached;
and that no part of this dissertation has been submitted for a degree at any other university.

_____ _____

Tali Frankel Date

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LIST OF RELATED WORK

This research has generated interest in a number of related but not directly relevant topics. Some of this work has been prepared for publication and is accordingly listed below. Where applicable this research is mentioned or elaborated on within the body of the thesis. My thanks go to fellow clinicians and researchers who collaborated on these projects.

Frankel, T. & Penn, C. (2007). Perseveration and conversation in TBI: Response to pharmacological intervention. *Aphasiology, 21 (10/11),* 1039–1078.

Frankel, T., Penn, C., & Ormond-Brown, D. (2007). Executive Dysfunction as an explanatory basis for conversation symptoms of aphasia: A pilot study. *Aphasiology, 21 (6,7,8),* 814–828.

Penn, C., Frankel, T., Watermeyer, J. & Müller, M. (accepted). Informed Consent and Aphasia: Evidence of Pitfalls in the Process. *Aphasiology*

Penn, C., Frankel, T., Watermeyer, J. & Russell, N. (accepted). Executive function and conversational strategies in bilingual aphasia. *Aphasiology*

ABSTRACT

Background: Conversation is the archetypal mode of communication. As a process it draws on numerous skills, and predispositions, adapting to dynamic contexts and coordinated in highly sophisticated ways for successful interaction. The combination of these abilities with contextual variables coalesces uniquely to represent what this research proposes to be *conversational intelligence*. It is argued here that high levels of *conversational intelligence* rest to a large degree on executive functions (EF) which are steadily becoming more widely acknowledged and researched within the communication domain. The impairment of EF in neurologically injured individuals has significant, though as yet undisclosed, repercussions for recovery, response to therapy and ability to integrate communication skills in every day interactions to support conversational success. This study incorporates some new approaches to the study of communication disorders following stroke, including conversation, executive functions and the possibility of pharmacological intervention.

Aims: The aims of this study were to describe in detail the language, executive function and conversational characteristics of ten individuals who had experienced strokes and to examine the relationships among these three areas of functioning. In addition, this research investigated the response of these ten participants to pharmacological therapy on a one month trial of Leviteracetam (LEV).

Methods and Procedures: Ten individuals who had suffered single incident strokes were recruited from local community and rehabilitation facility referrals. All ten participated in a four stage randomised, double blind investigation including baseline, active, placebo and withdrawal phases. At each stage participants underwent testing on an EF battery and were recorded having conversations with familiar interlocutors. In addition, significant others completed a rating scale assessing affective features and behaviours and language testing was conducted at the baseline phase using the WAB. The language and EF data were scored and the conversations subjected to Conversation Analysis. For each participant, profiles were created and assessed for inter-relationships between the executive characteristics and conversational features representative of each executive construct. Repeated measures analysis of variance was conducted on EF data for the four phases of the study to determine significant pharmacological effects.

Outcomes and Results: The majority of the sample presented with significant EF deficits across most areas assessed. Two participants presented with essentially intact profiles which were not explained in terms of types of aphasia or site of lesion. Language results proved to be inconsistently associated with EF deficits, but conversational features reflected underlying executive strengths or deficits with greater consistency. Two participants experienced amelioration (though not statistically significant) of interference control during the active phase, with observable improvements in conversational skill. One participant demonstrated improved conversation without a change in EF scores. The response to LEV is evaluated with reference to potential alternatives.

Conclusions: The existence of EF deficits in individuals with stroke is demonstrated. Furthermore, the impact of these impairments is considerable and observable during naturally occurring conversations, suggesting the centrality of the EF contribution to conversational intelligence. The lack of association between formal language test scores and EF impairments argues for the inclusion of more authentic assessment approaches for stroke patients. The data is explored in terms of specific consequences of different lesion sites on EF and communication and briefly addresses bilingualism as a potential variable in explaining some of the variations in the data. Pharmacotherapy is addressed as an important focus of future research protocols. Implications for assessment and treatment are discussed as well as proposals for future study.

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A NOTE ON ANONYMITY

When the participants were approached about taking part in this study, they were told that their identities would be protected and that they were entitled to anonymity. Two stated that they would be happy to choose pseudonyms for the purposes of the presentation of the results. One stated that it made no difference one way or the other. The other seven not only said that they would have no reservations about their own names being used but specifically requested that they be named. When asked why, they unanimously said that their strokes have to a greater or lesser extent effectively removed them from the public eye. They have been transformed into people who inhabit private and unarticulated lives despite the fact that they want to be heard, want to be "useful" and want "a voice". The participants have reserved the right to claim ownership of their contributions. Eight of them are therefore deliberately named: Cecil, Felicity, Grace, Jeannette, John, Mel, Margaret and Tumi. Jane* and Paul* chose instead to be identified by pseudonyms.

In the conversational transcripts, all participants are identified by their initials. When the researcher is the interlocutor, she is represented by the letter R. Friends, family members or spouses are also identified by initials and are acknowledged in the text.