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Combining RIAS with the Analysis of Dialogical Moves in Consultations: Insights and New Perspectives

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BACKGROUND:

We show preliminary results of a pilot study aimed at testing the compatibility of two methods for the analysis of interactions in medical encounters: the Roter Interaction Analysis System (RIAS) and the Method for Dialogue Analysis (MeDA), which describes the dialogical structure of verbal interactions. Assuming that both the utterance-level and the dialogical-level of discourse should be taken into account, we hypothesize that the two methods can be used together to produce an enhanced analysis of clinical consultations.
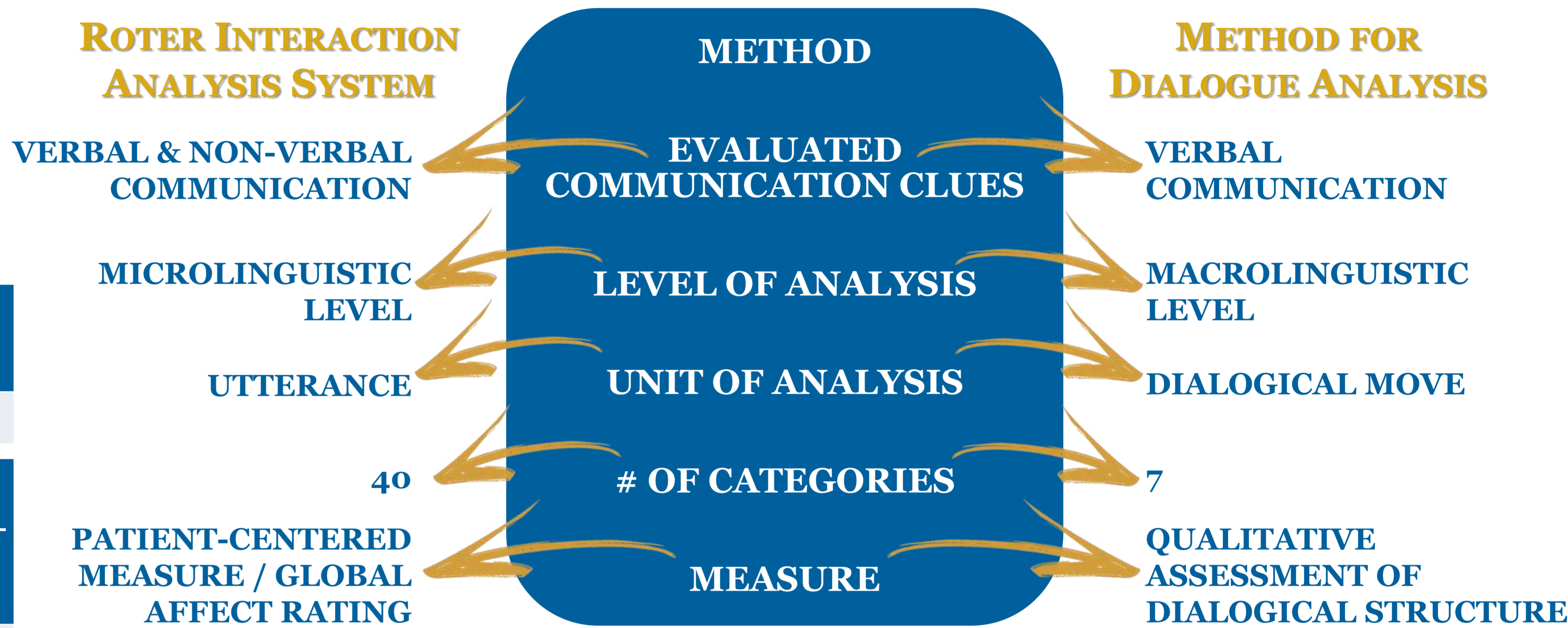
METHOD

We conducted a preliminary analysis using RIAS and MeDA on ten consultations in Medically Assisted Procreation (MAP), focusing in particular on the assessment of deliberation sequences. The MeDA analysis was conducted manually and then uploaded in the RIAS software. A total of three coders worked on the analysis: DL, MGR, FM. MGR performed the coding for both methods.

Inter-rater reliability	Doctors	Female patients	Male patients	Average
RIAS	0.848	0.785	0.864	0.83

Inter-rater reliability	% Agreement	Scott's Pi	Cohen's Kappa	Krippendorff's Alpha	N Agreements	N Disagreements	N Cases	N Decisions
MeDa	87.9%	0.848	0.848	0.848	2996	412	3408	6816

DESCRIPTION OF RIAS AND MeDA

ROTER INTERACTION ANALYSIS SYSTEM		METHOD FOR DIALOGUE ANALYSIS
	METHOD	
VERBAL & NON-VERBAL COMMUNICATION	EVALUATED COMMUNICATION CLUES	VERBAL COMMUNICATION
MICROLINGUISTIC LEVEL	LEVEL OF ANALYSIS	MACROLINGUISTIC LEVEL
UTTERANCE	UNIT OF ANALYSIS	DIALOGICAL MOVE
40	# OF CATEGORIES	7
PATIENT-CENTERED MEASURE / GLOBAL AFFECT RATING	MEASURE	QUALITATIVE ASSESSMENT OF DIALOGICAL STRUCTURE

MeDA CATEGORIES FOR THE ANALYSIS OF DELIBERATION

MeDA categories are defined by combining dialogical intentions with macro-topics in a conversation. The coding criteria, based on the notion of dialogical relevance, are:
1. Sequential coherence (expected response, e.g. a question requires an answer)
2. Textual coherence (topic)

DIALOGICAL INTENTIONS	TOPICS	CODES
Information sharing (exchange of information on specific macro-topics)	• personal (e.g., P's personal life, habits, preferences, beliefs, emotions; includes rapport building)	1
	• procedural (e.g., calendar; medical exams; administrative issues; technical issues, …)	2
	• clinical (e.g., symptoms; biomedical parameters; prescriptions of clinical exams, …)	3
Proposal (moves expressing recommendations, proposals, agreement with and/or refusal of proposal, counter-proposals)	• clinical (e.g., symptoms; biomedical parameters; prescriptions of clinical exams, …)	4
	• procedural (e.g., calendar; medical exams; administrative issues; technical issues, …)	5
Persuasion (arguments in support of or against the desirability, reasonableness or acceptability of an opinion or behavior)		6
Other (any move that is dialogically irrelevant)		7

THE METHOD FOR DIALOGUE ANALYSIS:

• is based on the assumption that it is possible to identify and describe individual dialogical intentions in conversations, i.e. what the interlocutors want to do with their utterances in order to achieve a joint communicative goal;
• takes as the minimal units of analysis *dialogical moves*, defined as individual dialogical intentions that concur to the realization of the higher-level communicative function of the overall discourse;
• can provide a description of the dialogical organization of a conversation, systematic dialogical patterns and suboptimal realizations of specific dialogical intentions.

FINDINGS

COHERENCE

• The analysis shows a high degree of conceptual coherence between RIAS and MeDA. The most frequent RIAS utterances coincide with the most frequent MeDA categories: Information sharing clinical (31,6%; 2068 utterances); Information sharing procedural (30,39%; 1989 utterances); Information sharing personal (12,13%; 794 utterances).

MeDA CATEGORIES	1	2	3	4	5	6	7	NC
Tot # of Utterances: 6545	794	1989	2068	260	452	661	221	100
%	12,13	30,39	31,60	3,97	6,91	10,10	3,38	1,53

• RIAS Counsel med/thera is most frequent in MeDA Proposal categories, where recommendations and suggestions for action are discussed.
• The frequency of RIAS Counsels ls/ps is quite low and coincides mostly with MeDA Information sharing personal, Proposal and Persuasion categories: this is coherent both with the moments of the consultation in which lifestyles are discussed, and with typical MAP topics because decisions are usually not about lifestyles.
• RIAS Gives ls/ps coincides almost entirely with MeDA Information sharing personal.
• The majority of utterances of RIAS Ask for reassurance falls under Procedural categories (Information sharing and Proposal) (58%); the majority of these utterances are produced by physicians (70% in case of info sharing procedural; 85% in case of proposal procedural). The physicians seem to devote much attention and time to reassuring patients concerning the procedural aspects of treatments.
• RIAS Orientation coincides mostly with MeDA Procedural categories.

COMPLEMENTARITY

• The highest number of RIAS Back channels appears under NC, because MeDA does not consider them as dialogical moves.
• RIAS Approval coincides mostly with MeDA Other category, because in many cases it cannot be considered dialogically relevant.
• For the same reasons, RIAS Laughs appear not only in MeDA Information sharing personal but also under NC.

Distribution of RIAS coding on the Meda categories.

RIAS/MEDA	(1)	(2)	(3)	(4)	(5)	(6)	(7)	NC
Personal	2,5	0,2	0	0	0	0	15,4	0
Laughs, jokes	13	0,2	0,5	0,4	0	0,9	6,8	17
Approvals	0,9	0,5	0,1	0	0,7	0	10	0
Compliments	0,4	0,1	0	0	0	0	0,9	0
Disagreements	3	0,9	0,9	1,9	1,5	3,5	1,8	0
Criticisms	3,3	0,6	0,1	0,4	0,2	0	0,9	2
Empathy	0,5	0	0	0	0	0	0,5	0
Legitimation	0,9	0,2	0	0	0	1,1	0	0
Concern, worry	8,9	3,4	2,5	7,3	3,3	15,1	5,4	1
Reassures	7,3	3,9	6,2	5,8	7,5	13,8	3,6	1
*Partnership Statements	0,3	0,4	0	1,9	0	0,2	0	0
*Self-disclosure	0,6	0	0	0	0	0	0	0
Gives med info	6,5	22,4	40,7	8,5	10,6	20	2,3	4
Gives thera info	1,9	15,6	10,3	26,5	20,8	10,7	1,4	1
Gives ls info	14,2	2	0,3	0	0,7	2,5	0,5	0
Gives ps info	7,8	0,4	1	6,5	0,7	5,3	0,9	0
Gives other info	0,8	0,1	0	0	0	0	3,2	0
Agreements	11,1	15,5	11,8	16,9	18,8	13,2	23,5	13
Back channels	0,3	0,2	0,4	0	0	0,5	1,8	6
Checks for understanding	5,8	9,3	7,6	3,8	5,1	3,6	3,2	1
Transitions	2,9	2,5	1,9	1,9	2,4	1,8	5,4	3
Orientations	0,8	11,3	2,5	4,2	11,1	1,2	5	0
Closed med questions	0,5	2,8	7,8	0,4	0,2	0	0	0
Closed thera questions	0,4	2,2	1,8	1,9	1,3	0	0	0
*Asks for opinion	8,4	4,5	6,4	8,5	8,8	14,2	8,6	0
*Asks for permission	9,2	1	1,2	6,5	1,5	5,4	10,9	0
Asks for reassurance	7,7	14,7	5,6	7,3	13,7	3,6	12,2	5
Asks for understanding	0,1	1,2	0,7	2,3	3,5	2,3	1,4	1
Bid for repetition	0	0	0,1	0	0	0	0,9	1
*Counsels med/thera	0,5	3	0,2	4,6	8,2	1,4	0	0
*Counsels ls/ps	0	0,2	0,1	1,2	1,5	1,7	0,5	0
Unintelligible	0,3	0,1	0,3	0	0	0	2,7	49

■ Most representative RIAS categories for each MeDA category.
■ Focus on the distribution of RIAS Counsels med/thera.
■ Focus on the distribution of RIAS Asks for understanding.
□ Focus on the distribution of RIAS Reassurance and Asks for reassurance
■ Focus on the distribution of RIAS Disagreement
* Physician only category

FOCUS ON: ASK FOR REASSURANCE

	1	2	3	4	5	6	7	NC
% TOTAL	10	48	19	3	10	4	4	1
% DOCTORS	48	70	40	58	85	50	56	100
% PATIENTS	52	30	60	42	15	50	44	0

NEXT STEPS

In order to refine the MeDA-RIAS analysis, we will try to correlate the index of patient centeredness with the quality of deliberation for each consultation. We intend to expand the corpus of data for a more comprehensive analysis of recurrent patterns in chronic care consultations.