# THE SECRETS OF SUCCESSFUL VIRTUAL MEETINGS

EXPLORING THE DYNAMICS OF CONVERSATIONAL INVOLVEMENT IN GROUP SETTINGS: THE INFLUENCE OF INDIVIDUAL BACKGROUNDS

### AUTHOR

Ana Hobai, A.hobai@student.tudelft.nl

# **I INTRODUCTION**

# **BACKGROUND AND MOTIVATION**

To understand conversational dynamics in a group setting, it is a importance to explore the influence of individual backgrounds, gender, demographics, and virtual experience differences. For i research found girl students as more active in virtual group discu to boys [2]. A study on age stereotypes in the workplace empha consider age as an important factor when examining conversatic intergenerational groups [3]. Older adults were found to be less or increase their level of involvement in a discussion as compargeneration, which is more active [4]. However, this study will bui discoveries and use the MEMO Corpus to further explore the dy conversational involvement and their implications for group interation

# **RESEARCH QUESTIONS AND HYPOTHESES**

Does the conversational involvement of a group change based backgrounds of each member?

(a) To what extent does age impact conversational involvemer (null: Older adults have a negative impact on group involvement)

(b) To what extent does gender influence the overall conversa group? (null: Women are more involved in group conversations of

(c) Do demographics and virtual meetings experience have an involvement in a virtual meeting? (null: Demographics and Online the overall engagement of a group)

# OBJECTIVE

Overall, this paper seeks to contribute to a better understanding conversational involvement in group settings of virtual interaction dynamics can be influenced by personal backgrounds. The findi could have implications in various fields, such as communication organizational behaviour.

#### References:

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[9] S. Hennekam and Y. Shymko, "Coping with the covid-19 crisis: Force majeure and gender performativity," Gender, Work & Org

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of great such as age, instance, prior cussions compared hasizes the need to fonal involvement in s likely to maintain red to the younger uild on these	<ul> <li>II METHODOLOGY</li> <li>Definition of group involvement:</li> <li>The "perceived degree of interest or involvement of t</li> <li>[5]</li> <li>Definition of conversational involvement:</li> <li>The "process by which individuals in an interaction state perceived connection to one another".</li> <li>[6]</li> <li>Annotations: <ol> <li>Randomly split the video collection into 4, an over includes a 10% overlap between each two annota</li> <li>Calculated the inter-annotator agreement using IC</li> </ol> </li> </ul>
ynamics of ractions.	highest = 0.75 → moderate-good reliability. 3. Combined the four sets by taking the mean of the → our target variable.
on the individual ent in a group setting?	Data Analysis and Modelling: 1. Encoded the categorical values using the One-Ho 2. Multicollinearity checks (heatmaps and Variance Figure 2)
ational engagement of a compared to men.) by effect on group e backgrounds impact	<ol> <li>The k-fold cross-validation method is used for test (LR), Decision Tree (DT), Random Forest (RF) and I (GLMM).</li> <li>The Root Mean Squared Error (RMSE), Mean Absolute Error (MAE), and Median A (MAPE), Mean Absolute Error (MAE), and Median A metrics are used to detect the best model performance.</li> </ol>
ng of the dynamics of ons, and how these dings of this research on, psychology, and	X - fixed Z - rando DATA - MEMO Corpus (collection of group discu 19 - includes a set of questionnaires and videos on (non-)verbal signals, based on human comr collaboration) β x (independent vars.)
1966, ISSN: 0033362X, 15375331. [Online]. nces in face-to-face and online discussion 10.14742/ajet.1557. ch directions†," Journal of Management - J d Aging, vol. 10, no. 1, p. 111, 1995.	inter- & intra- personal characteristics (of participants) estimate/predict ord • DecisionTree • Random Forest
2005, pages 489–492, 2005. gence, vol. 166, no. 1-2, pp. 140–164, 2005. ecurity logs. IEEE, 2019. D10. rganization, vol. 27, no. 5, pp. 788–803, 2020.	<ul> <li>Linear Negression</li> <li>Linear Mixed Effects</li> <li>g(E[y u]) = βX + uZ</li> </ul>

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t of the majority of the group".

start, maintain and end their

overall of 17 hours  $\rightarrow$ otators

ng ICC3k  $\rightarrow$  lowest = 0.52,

f the overlapped annotations

e-Hot Encoder [7] nce Inflation Factor (VIF) [8],

r testing the Linear Regression and Mixed Effects Models

Absolute Percentage Error ian Absolute Error (MedAE) erformance (Table 1, Figure 4). S: GLMM formula fixed effects (predictors), random effects (groups) iscussions on Coviddeos containing info communication and

Group involvement ordered categorical

1. Very low

- 2.Low 3. Moderate
- 4. High
- 5. Very high



with the highest value of 3.35 registered for Group 2.

# **III RESULTS/FINDINGS**

(a) Younger people improve overall group in

(b) Male-preponderant groups score higher

(c) Groups with participants from the studen have had prior experience with online discus increase in group engagement compared to (d) Age, gender, demographics and virtual e enough information to the models used to r group involvement predictions.

y\_test = Actual values y\_predicted = Predicted values RMSE = sqrt(mean((y\_test - y\_predicted)^2)) MAPE = mean((y\_test - y\_predicted) / y\_test) MAE = mean(|y\_test - y\_predicted|) MedAE = median(|y\_test - y\_predicted|)

# **IV CONCLUSIONS**

- Age differences affect group involvement were found to be more engaged, which ali concerning age effects.
- 2. Males showed to be more active in virtual contradictory to prior findings. (women wer Covid-19 - stress, anxiety and overwhelmir more engaged in group discussions compa conversations [1].
- 3. Based on these personal characteristics, better than GLMM and LR, and is comparal

# **V LIMITATIONS**

The Corpus discussions were based on

Figure 1: Involvement of each group based on gender, Figure 2: Heatmap of predictors. Figure 3: GLMM results (beta coefficient, standard error and p-value (vr\_Previous = virtual\_experience\_Previous)

		Variable		Coef.	Std. Err.	P> z
ivolvement. (Figure 3) involvement. (Figure 1) it demographic who ssions show an o the others (Table 2).		age		0.690	0.050	0.000
		Gender		0.085	0.075	0.260
		middle		0.285	0.153	0.062
		parent		0.276	0.094	0.003
		student		0.707	0.103	0.000
		virtual_expe	rience_Previo	us 0.135	0.106	0.201
experien	ice provide	Group Var		0.033	0.167	
esult in	accurate		Table 2: Gl	IVIIVI res	Ults	
	Madal	DMCD	MADE	MAT	Mad	A TC
	CLAM	RIVISE 0.224	MAPE 0.002	MAE 0.296	0.28	AE
	GLMM Lincer Perroceion	0.524	0.095	0.280	0.28	) 1
	Decision Tree	0.200	0.0000	0.165	0.10	1
t <b> ) * 1</b> 00	Random Forest	0.010	0.002	0.009	0.00	2
	Random Forest	0.062	0.022	0.000	0.000	0
	Table 1: Perforr	mance metr	rics (k-fold c	ross-va	lidation)	•
t in a vir	tual cotting stude	nto	RF			
	lual setting, stude		0.082			
ligns wit	in the null hypothe	SIS 0	016			
		U	.010			
l conver	rsations than wom	ien,				
ere emo	tionally impacted	by				GLMM
na feelii	nas [9]) Also mei	n are				0.324
ng iccu	womon in rool life					
bared to	women in real-life					, ,
		0.20				
Randor	n Forest performs	>				
able to t	he DT model.			roo foi -		
		rigure 4	. KIVIJE SCOI	es ior a	ll mode	<i>'</i> IS.
	• • • •	• • ~				
n the Co	ovid-19 topic, com	prising of	UK reside	ents, na	ative in	
	foront ocrosso mos					

English. Conducting the same research on a different corpus may lead to a different outcome.