



Faculty of Arts
& Social Sciences

NM3237 Health Communication Final Report

Perceived Dimensions of Risks from Perceived Anthropomorphism in Chatbots Delivery of Healthcare Services

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8 Appendices

Appendix A: Validity and Reliability for Constructs in Perceived Anthropomorphism

Total Variance Explained									
Component	Total	Initial Eigenvalues		Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
		% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.766	68.087	68.087	4.766	68.087	68.087	2.891	41.297	41.297
2	.620	8.855	76.943	.620	8.855	76.943	2.495	35.645	76.943

(Out of 8 items)

Rotated Component Matrix ^a		
	Component	
	1	2
The chatbot responses made me feel that it is conscious	.939	
The chatbot's responses made the interaction feel lifelike	.829	
The chatbot's responses made the interaction feel natural	.721	
The chatbot appearance made me feel that it is conscious	.716	
The chatbot's appearance made the interaction feel lifelike		
The chatbot's responses made it feel humanlike		
The chatbot's appearance made it feel humanlike		.882
The chatbot's appearance made the interaction feel natural		.811

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.848
Bartlett's Test of Sphericity	Approx. Chi-Square	549.916
	df	28
	Sig.	<.001

Component 1: Audio Cues

Component 2: Visual Cues

Reliability for Perceived Anthropomorphism:

Audio Cues:

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.912	.912	4

Visual Cues:

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.769	.781	2

Appendix B: Validity and Reliability for Constructs in Perceived Dimensions of Risks

Component	Total Variance Explained								
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.420	22.581	22.581	5.420	22.581	22.581	4.008	16.701	16.701
2	4.171	17.378	39.960	4.171	17.378	39.960	3.341	13.921	30.622
3	2.282	9.509	49.469	2.282	9.509	49.469	2.664	11.099	41.720
4	1.833	7.639	57.107	1.833	7.639	57.107	2.568	10.700	52.421
5	1.407	5.863	62.970	1.407	5.863	62.970	2.532	10.550	62.970
6	1.283	5.345	68.316						

(Out of 24 items)

Rotated Component Matrix^a

	Component				
	1	2	3	4	5
I feel anxious about how I should reply to the chatbots when they talk to me	.872				
I feel anxious about being unable to understand what the chatbot says to me	.809				
I feel anxious about how I should talk to chatbots	.786				
I feel anxious about whether chatbots understand the contents of what I say to them					
I may not understand what the chatbot says to me					
The chatbot may understand me					
I think that chatbots may talk about something irrelevant during conversation					
The chatbot would be a good conversation partner					
Chatbots have the functionalities I need		.800			
I can talk with the chatbot about serious things I cannot talk with others about		.788			
I would like to try to treat the chatbot as if it were a human					
I will feel empathy towards the chatbot					
I believe chatbots are effective at what they are designed to do					
Chatbots are able to keep my attention			.829		
It would be enjoyable to interact with chatbots			.715		
Chatbots are able to communicate a variety of content					
I can hold a conversation with chatbots in real-time					
Chatbots may be inflexible to converse with				.857	
Chatbots may not be able to understand complex stories				.850	
I am comfortable with using chatbots					.699
I usually trust chatbots until they prove to me that I shouldn't trust them					
Chatbots can provide competent guidance if needed					
Chatbots are able to give immediate answers to questions					
Chatbots are reliable					

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

Component 1: Perceived Performance Anxiety

Component 2: Perceived Communication Barrier

Component 3: Perceived Interactive Risk

Component 4: Lack of Trust

Component 5: Lack of Rapport

Reliability for Perceived Anthropomorphism:

C1: Perceived Performance Anxiety:

C2: Perceived Communication Barrier:

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.852	.852	4

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.875	.877	2

C3: Perceived Interactive Risk:

C4: Lack of Trust

C5: Lack of Rapport

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.636	.630	3

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.534	.532	3

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.796	.795	3

Appendix C: Simple Linear Regression and Multiple Linear Regression Models

Relationship between Perceived Anthropomorphism and Perceived Risk

Correlations

		Perceived Risk Dimensions
Pearson Correlation	Perceived Risk Dimensions	1.000
	Perceived Anthropomorphism	.419
Sig. (1-tailed)	Perceived Risk Dimensions	.
	Perceived Anthropomorphism	.000

Elucidating the various constructs of Risk with SLR and MLR:

		Perceived Anthropomorphism
Pearson Correlation	Perceived Anthropomorphism	1.000
	Perceived Performance Anxiety	.199
	Trust Factor	.526
	Perceived Interactive Risk	.215
	Perceived Communication Barriers	-.157
	Rapport Factor	.154
Sig. (1-tailed)	Perceived Anthropomorphism	.
	Perceived Performance Anxiety	.037
	Trust Factor	.000
	Perceived Interactive Risk	.026
	Perceived Communication Barriers	.079
	Rapport Factor	.084

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change
1	.641 ^a	.411	.372	1.11349	.411

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	3.853E-17	.123		.000
	Perceived Performance Anxiety	.282	.124	.199	2.261
	Trust Factor	.744	.124	.526	5.974
	Perceived Interactive Risk	.305	.124	.215	2.447
	Perceived Communication Barriers	-.222	.124	-.157	1.786
	Rapport Factor	.218	.124	.154	1.750

Elucidating the various dimensions of Risk with SLR and MLR:

		Perceived Anthropomorphism_X
Pearson Correlation	Perceived Anthropomorphism_X	1.000
	Relational Elements_Y3	.481
	Functional Elements_Y2	.030
	Perceived Interactive Risk_Y1	.215
Sig. (1-tailed)	Perceived Anthropomorphism_X	.
	Relational Elements_Y3	.000
	Functional Elements_Y2	.396
	Perceived Interactive Risk_Y1	.026

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change
1	.528 ^a	.278	.251	1.21658	.278

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	1.933E-17	.134		.000
	Relational Elements_Y3	.481	.096	.481	4.999
	Functional Elements_Y2	.030	.096	.030	.308
	Perceived Interactive Risk_Y1	.305	.136	.215	2.240

a. Dependent Variable: Perceived Anthropomorphism_X