

Experiment Task List

Task list for AR and VR

Experiment Task List	
Task Category	Instructions for AR
Comfort	Are the glasses fitting well? Too tight too loose?
	Is the sound too loud or soft?
	Can you hear my voice clearly?
Training	Look around you for a cube with three coloured arrows inside it. Pinch the cube with two hands and roll it around to change the data set. Bring the data set into a comfortable view.
	Chose a data point of any colour and pinch it with your fingers to pick it up. Move your hand around and then let it go.
Experimental Navigation	Tap on the individual patient button and look for the new window.
Navigation	Pick up any data point and drag it into the grey panel in the new window.
Reading	What is the sex and risk category of the patient?
Interpret	Looking at the bottom chart... what two gene types show the highest gene expression values?
Interpret	What gene shows the lowest gene expression value?
Navigation	Close the individual patient button by pressing the button again.
Navigation	Open the patient-to-patient button
Navigation	Select and drag a red data point to the grey panel. Now select another red point which is close to the first one you added and drag it to the other grey panel.
Interpret	Are there any similarities? Y / N
Interpret	What is the similarity between these two patients?
Reading	What is the R2 Value in the scatterplot?
Navigation	Select a green data point and replace the right-hand side patient with it.
Interpret	Did the R2 value increase or decrease?
Navigation	Close the patient-to-patient window
Navigation	Open the patient to group button
Navigation	Drag 4 green patients to the group panel
Reading	Looking at the left-hand column in the heat map table for gene type and along the top for the patient. Which patient shows the highest value for the CD34 gene?
Reading	Which other patient shows the next highest value?
Interpret	Looking at the colours as a guide which gene shows a difference between the first high-risk patient and the rest of the patients?
Navigation	Select another high-risk patient from the data and drag it into the group
Interpret	Which gene stands out for them within the table?
Navigation	Close the patient-to-group window
Navigation	Open select data. Select the data set target two risks
Navigation	Close the select data window
Navigation	Open the patient to group window
Navigation	Drag a high-risk patient to the left panel and 4 high-risk patients to the right panel
Navigation	Select the table button in the window that says push me.
Reading	Looking at the table which treatment was most used across the group?
Interpret	Was this treatment successful?
Reading	How many of the group are alive?

Full Participant Survey

Demographics

What is your participant number ?

What is your age?

With what gender do you identify?

- Female
- Male
- Non-binary
- Prefer not to say

What is your prior level of education?

(Please select any that apply)

- Completed HSC or equivalent
- Completed TAFE/Diploma
- Completed University degree

General experience questions

Approximately how many times have you experienced Virtual Reality (VR)?

- No experience at all
- 1 to 3 times
- 3 to 10 times
- 10 or more times

How comfortable are you with using VR?

- N/A (Never tried it)
- Very Uncomfortable
- Slightly Uncomfortable
- Comfortable
- Very Comfortable

Approximately how many times have you experienced Augmented Reality (AR)?

- No experience at all
- 1 to 3 times
- 3 to 10 times
- 10 or more times

How comfortable are you with using AR?

- N/A (Never tried it)
- Very Uncomfortable
- Slightly Uncomfortable
- Comfortable
- Very Comfortable

VR Trials

We will now prepare to work with the VR head-mounted display.

Please let your experimenter know!

VR question set

Reflect on your experience using the Data Visualisation Software with the **Oculus Quest Virtual Reality (VR) Headset**.

Where 1 = Do not agree and 5 = Strongly Agree, rate your agreement with the following statements:

	1 (do not agree)	2	3	4	5 (strongly agree)
I felt very capable and effective at using the software.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt confident in my ability to use the software.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning how to use the software was difficult.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found the interface and controls confusing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It was not easy to use this software.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The software provided me with useful options and choices.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I could get the software to do what I wanted it to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt pressured by the software.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The software felt intrusive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The software felt controlling.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt frustrated when using the software.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Reflecting on your experience within the Virtual Reality environment, please indicate the extent to which your experiences match with the following questions:

In the computer-generated world I had a sense of "being there"...

1 (not at all)	2	3	4	5 (very much)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I felt that the virtual world surrounded me...

1 (fully disagree)	2	3	4	5 (fully agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I felt like I was just perceiving pictures.

1 (fully disagree)	2	3	4	5 (fully agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I did not feel present in the virtual space.

1 (did not feel)	2	3	4	5 (felt present)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I had a sense of acting in the virtual space, rather than operating something from outside.

1 (fully disagree)	2	3	4	5 (fully agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I felt present in the virtual space

1 (fully disagree)	2	3	4	5 (fully agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How aware were you of the real world surrounding while navigating in the virtual world? (i.e. sounds, room temperature, other people, etc.)?

1 (not at all aware)	2	3	4	5 (extremely aware)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I was not aware of my real environment.

1 (fully disagree)	2	3	4	5 (fully agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I still paid attention to the real environment.

1 (fully disagree)	2	3	4	5 (fully agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I was completely captivated by the virtual world.

1 (fully disagree)	2	3	4	5 (fully agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How real did the virtual world seem to you?

1 (completely real)	2	3	4	5 (not real at all)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much did your experience in the virtual environment seem consistent with your real-world experience?

1 (not consistent)	2	3	4	5 (very consistent)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How real did the virtual world seem to you?

1 (about as real as an imagined world)	2	3	4	5 (indistinguishable from the real world)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The virtual world seemed more realistic than the real world...

1 (fully disagree)	2	3	4	5 (fully agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Reflect on your experience using the Oculus Quest Virtual Reality (VR) Headset:

Did you experience any discomfort while using the Oculus Quest Virtual Reality Headset (e.g., fatigue, eye strain, nausea, headache, or difficulty concentrating)?

- Yes
- No

You answered yes to the previous question, please describe the symptom(s)

What visual design features stood out to you and were they helpful or distracting? (e.g., avatars, buttons etc.)

Was the VR tool useful for performing the patient comparison tasks?

Yes No

AR Trials

We will now prepare to work with the AR head-mounted display.

Please let your experimenter know!

AR question set

Reflect on your experience using the Data Visualisation Software with the **Microsoft HoloLens Augmented Reality Headset**.

Where 1 = Do not agree and 5 = Strongly Agree, rate your agreement with the following statements:

	1 (do not agree)	2	3	4	5 (strongly agree)
I felt very capable and effective at using the software	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt confident in my ability to use the software.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning how to use the software was difficult.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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I felt pressured by the software.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The software felt intrusive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The software felt controlling.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt frustrated when using the software.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Reflecting on your experience within the Augmented Reality environment,

please indicate the extent to which your experiences match with the following questions:

In the computer-generated world I had a sense of "being there"...

1 (not at all) 2 3 4 5 (very much)

I felt that the virtual world surrounded me...

1 (fully disagree) 2 3 4 5 (fully agree)

I felt like I was just perceiving pictures.

1 (fully disagree)	2	3	4	5 (fully agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I did not feel present in the virtual space.

1 (did not feel)	2	3	4	5 (felt present)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I had a sense of acting in the virtual space, rather than operating something from outside.

1 (fully disagree)	2	3	4	5 (fully agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I felt present in the virtual space

1 (fully disagree)	2	3	4	5 (fully agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How aware were you of the real world surrounding while navigating in the virtual world?
(i.e. sounds, room temperature, other people, etc.)?

1 (not at all aware)	2	3	4	5 (extremely aware)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I was not aware of my real environment.

1 (fully disagree)	2	3	4	5 (fully agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I still paid attention to the real environment.

1 (fully disagree)	2	3	4	5 (fully agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I was completely captivated by the virtual world.

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1 (completely real)	2	3	4	5 (not real at all)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much did your experience in the virtual environment seem consistent with your real-world experience?

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How real did the virtual world seem to you?

1 (about as real as an imagined world)	2	3	4	5 (indistinguishable from the real world)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The virtual world seemed more realistic than the real world...

1 (fully disagree) 2 3 4 5 (fully agree)

Reflect on your experience using the Microsoft HoloLens Augmented Reality (AR) Headset:

Did you experience any discomfort while using the Microsoft HoloLens Augmented Reality Headset (e.g., fatigue, eye strain, nausea, headache, or difficulty concentrating)?

- Yes
 No

You answered yes to the previous question, please describe the symptom(s)

Did you find that the real world background was distracting when completing tasks in the AR environment?

- Yes No
-

Please describe how it felt to have a view of both the real and virtual world at the same time.

AR & VR comparison

Which headset did you prefer to use when completing the assigned tasks?

- Oculus Quest Virtual Reality Headset Microsoft HoloLens Augmented Reality Headset
-

Why did you find this to be your preferred headset?

Which headset do you believe would be more practical to use in a work setting? (e.g., office, clinic)

- Oculus Quest Virtual Reality Headset Microsoft HoloLens Augmented Reality Headset
-

Why do you think your preferred headset would be more practical?

What did you think about the music and sound effects within the program?

Please leave any additional comments you have about using the headsets and/or carrying out the tasks.

Parametric SPSS Output - Edited

Table F1

Descriptive Statistics for all Measures Across AR and VR

Descriptive Statistics						
	N	Minimum	Maximum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
AR Presence	38	16	57	38.00	1.701	10.488
VR Presence	38	29	61	48.16	1.124	6.930
AR Navigate (secs)	38	189.00	910.74	384.0171	31.04354	191.36524
VR Navigating (secs)	38	128.97	587.68	270.4021	19.39233	119.54234
AR Reading (secs)	38	34.11	174.85	80.6134	5.93496	36.58558
VR Reading (secs)	38	31.88	155.61	70.8584	4.68946	28.90779
AR Interpreting (secs)	38	52.03	286.65	126.8937	8.99766	55.46528
VR Interpreting (secs)	38	32.28	197.91	103.1247	6.09636	37.58050
AR total time	38	294.00	1105.92	588.3892	37.07036	228.51704
VR total time	38	192.30	697.45	377.9447	22.84632	140.83417
AR Accuracy Rate	38	83.33	100.00	93.6866	.80214	4.94474
VR Accuracy Rate	38	83.33	100.00	96.4034	.66990	4.12955
AR Autonomy	38	13	25	19.79	.619	3.814
VR Autonomy	38	13	25	20.92	.577	3.559
AR Competence	38	9	25	17.34	.823	5.074
VR Competence	38	10	25	20.66	.620	3.822
Valid N (listwise)	38					

Table F2

Hypothesis 1 Presence Paired Samples Statistic

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	AR Presence	38.00	38	10.488	1.701
	VR Presence	48.16	38	6.930	1.124

Table F3

Hypothesis 1 Presence Paired Samples Test

Paired Samples Test										
		Paired Differences						Significance		
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	One-Sided p	Two-Sided p
					Lower	Upper				
Pair 1	AR Presence - VR Presence	-10.158	10.691	1.734	-13.672	-6.644	-5.857	37	<.001	<.001

Table F4

Hypothesis 1 Presence Paired Samples Effect Sizes

Paired Samples Effect Sizes

		Standardizer ^a	Point Estimate	95% Confidence Interval		
				Lower	Upper	
Pair 1	AR Presence - VR Presence	Cohen's d	10.691	-.950	-1.330	-.561
		Hedges' correction	10.914	-.931	-1.303	-.550

a. The denominator used in estimating the effect sizes.
 Cohen's d uses the sample standard deviation of the mean difference.
 Hedges' correction uses the sample standard deviation of the mean difference, plus a correction factor.

Table F5

Hypothesis 2 Time Paired Samples Statistics

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	AR total time	588.3892	38	228.51704	37.07036
	VR total time	377.9447	38	140.83417	22.84632

Table F6

Hypothesis 2 Time Paired Samples Test

Paired Samples Test

		Paired Differences				t	df	Significance		
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference			One-Sided p	Two-Sided p	
					Lower					Upper
Pair 1	AR total time - VR total time	210.44447	175.94516	28.54207	152.61274	268.27621	7.373	37	<.001	<.001

Table F7

Hypothesis 2 Time Paired Samples Effect Sizes

Paired Samples Effect Sizes

		Standardizer ^a	Point Estimate	95% Confidence Interval		
				Lower	Upper	
Pair 1	AR total time - VR total time	Cohen's d	175.94516	1.196	.773	1.609
		Hedges' correction	179.61495	1.172	.757	1.577

a. The denominator used in estimating the effect sizes.
 Cohen's d uses the sample standard deviation of the mean difference.
 Hedges' correction uses the sample standard deviation of the mean difference, plus a correction factor.

Table F8*Hypothesis 2 Time Interpreting Paired Samples Statistics*

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	AR Interpreting (secs)	126.8937	38	55.46528	8.99766
	VR Interpreting (secs)	103.1247	38	37.58050	6.09636

Table F9*Hypothesis 2 Time Interpreting Paired Samples Test*

Paired Samples Test										
		Paired Differences						Significance		
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	One-Sided p	Two-Sided p
					Lower	Upper				
Pair 1	AR Interpreting (secs) - VR Interpreting (secs)	23.76895	54.75734	8.88281	5.77066	41.76724	2.676	37	.006	.011

Table F10*Hypothesis 2 Time Interpreting Paired Samples Effect Sizes*

Paired Samples Effect Sizes							
				Standardizer ^a	Point Estimate	95% Confidence Interval	
						Lower	Upper
Pair 1	AR Interpreting (secs) - VR Interpreting (secs)	Cohen's d		54.75734	.434	.099	.764
		Hedges' correction		55.89944	.425	.097	.749

a. The denominator used in estimating the effect sizes.

Cohen's d uses the sample standard deviation of the mean difference.

Hedges' correction uses the sample standard deviation of the mean difference, plus a correction factor.

Table F11*Hypothesis 2 Accuracy Paired Samples Statistics*

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	AR Accuracy Rate	93.6866	38	4.94474	.80214
	VR Accuracy Rate	96.4034	38	4.12955	.66990

Table F12

Hypothesis 2 Accuracy Paired Samples Test

		Paired Samples Test							Significance	
		Paired Differences			95% Confidence Interval of the Difference		t	df	One-Sided p	Two-Sided p
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper				
Pair 1	AR Accuracy Rate - VR Accuracy Rate	-2.71684	4.08620	.66287	-4.05994	-1.37374	-4.099	37	<.001	<.001

Table F13

Hypothesis 2 Accuracy Paired Samples Effect Sizes

		Paired Samples Effect Sizes				
		Standardizer ^a	Point Estimate	95% Confidence Interval		
				Lower	Upper	
Pair 1	AR Accuracy Rate - VR Accuracy Rate	Cohen's d	4.08620	-.665	-1.013	-.309
		Hedges' correction	4.17143	-.651	-.992	-.303

a. The denominator used in estimating the effect sizes.
 Cohen's d uses the sample standard deviation of the mean difference.
 Hedges' correction uses the sample standard deviation of the mean difference, plus a correction factor.

Table F14

Hypothesis 3 – Autonomy t test Paired Samples Statistics

		Paired Samples Statistics			
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	AR Autonomy	19.79	38	3.814	.619
	VR Autonomy	20.92	38	3.559	.577

Table F15

Hypothesis 3 – Autonomy t test Paired Samples Test

		Paired Samples Test							Significance	
		Paired Differences			95% Confidence Interval of the Difference		t	df	One-Sided p	Two-Sided p
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper				
Pair 1	AR Autonomy - VR Autonomy	-1.132	4.055	.658	-2.464	.201	-1.720	37	.047	.094

Table F16*Hypothesis 3 Autonomy t test Paired Samples Effect Sizes*

		Standardizer ^a	Point Estimate	95% Confidence Interval	
				Lower	Upper
Pair 1	AR Autonomy - VR Autonomy	Cohen's d	4.055	-.279	.047
		Hedges' correction	4.139	-.273	.046

a. The denominator used in estimating the effect sizes.

Cohen's d uses the sample standard deviation of the mean difference.

Hedges' correction uses the sample standard deviation of the mean difference, plus a correction factor.

Table F17*Hypothesis 3 Competence t test Paired Samples Statistics*

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	AR Competence	17.34	38	5.074	.823
	VR Competence	20.66	38	3.822	.620

Table F18*Hypothesis 3 Competence t test Paired Samples Test*

		Paired Differences					t	df	Significance	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				One-Sided p	Two-Sided p
					Lower	Upper				
Pair 1	AR Competence - VR Competence	-3.316	5.919	.960	-5.261	-1.370	-3.453	37	<.001	.001

Table F19*Hypothesis 3 Competence t test Paired Samples Effect Sizes*

		Standardizer ^a	Point Estimate	95% Confidence Interval	
				Lower	Upper
Pair 1	AR Competence - VR Competence	Cohen's d	5.919	-.560	-.214
		Hedges' correction	6.042	-.549	-.210

a. The denominator used in estimating the effect sizes.

Cohen's d uses the sample standard deviation of the mean difference.

Hedges' correction uses the sample standard deviation of the mean difference, plus a correction factor.

Table F20*Hypothesis 3 Needs Satisfaction AR Correlations*

		Correlations		
		AR Presence	AR Autonomy	AR Competence
AR Presence	Pearson Correlation	--		
	N	38		
AR Autonomy	Pearson Correlation	.399*	--	
	Sig. (2-tailed)	.013		
	N	38	38	
AR Competence	Pearson Correlation	.466**	.790**	--
	Sig. (2-tailed)	.003	<.001	
	N	38	38	38

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

Table F21*Hypothesis 3 Needs Satisfaction AR Confidence Intervals*

Confidence Intervals				
	Pearson Correlation	Sig. (2-tailed)	95% Confidence Intervals (2-tailed) ^a	
			Lower	Upper
AR Presence - AR Autonomy	.399	.013	.091	.638
AR Presence - AR Competence	.466	.003	.172	.684
AR Autonomy - AR Competence	.790	<.001	.629	.886

a. Estimation is based on Fisher's r-to-z transformation.

Table F22*Hypothesis 3 Needs Satisfaction VR Correlations*

		Correlations		
		VR Presence	VR Autonomy	VR Competence
VR Presence	Pearson Correlation	--		
	N	38		
VR Autonomy	Pearson Correlation	.029	--	
	Sig. (2-tailed)	.863		
	N	38	38	
VR Competence	Pearson Correlation	.000	.777**	--
	Sig. (2-tailed)	1.000	<.001	
	N	38	38	38

** . Correlation is significant at the 0.01 level (2-tailed).

Table F23*Hypothesis 3 Needs Satisfaction VR Confidence Intervals*

	Confidence Intervals			
	Pearson Correlation	Sig. (2-tailed)	95% Confidence Intervals (2-tailed) ^a	
			Lower	Upper
VR Presence - VR Autonomy	.029	.863	-.293	.345
VR Presence - VR Competence	.000	1.000	-.320	.320
VR Autonomy - VR Competence	.777	<.001	.608	.878

a. Estimation is based on Fisher's r-to-z transformation.

Table G1*Hypothesis 2 Total Time Descriptive Statistics (Median)*

Descriptives			Statistic	Std. Error
AR total time	Mean		588.3892	37.07036
	95% Confidence Interval for Mean	Lower Bound	513.2775	
		Upper Bound	663.5009	
	5% Trimmed Mean		575.7219	
	Median		529.9350	
	Variance		52220.037	
	Std. Deviation		228.51704	
	Minimum		294.00	
	Maximum		1105.92	
	Range		811.92	
	Interquartile Range		327.92	
	Skewness		.898	.383
	Kurtosis		-.059	.750
	VR total time	Mean		377.9447
95% Confidence Interval for Mean		Lower Bound	331.6537	
		Upper Bound	424.2358	
5% Trimmed Mean			370.4580	
Median			341.4650	
Variance			19834.264	
Std. Deviation			140.83417	
Minimum			192.30	
Maximum			697.45	
Range			505.15	
Interquartile Range			201.51	
Skewness			.789	.383
Kurtosis			-.247	.750

Table G2*Hypothesis 2 Total Time Wilcoxon Signed Ranks Test Statistic***Test Statistics^a**

	VR total time - AR total time
Z	-4.967 ^b
Asymp. Sig. (2-tailed)	<.001

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Table G3*Hypothesis 2 Interpreting Time Descriptive Statistics (Median)***Descriptives**

		Statistic	Std. Error	
AR Interpreting (secs)	Mean	126.8937	8.99766	
	95% Confidence Interval for Mean	Lower Bound	108.6627	
		Upper Bound	145.1247	
	5% Trimmed Mean	123.1230		
	Median	106.1250		
	Variance	3076.397		
	Std. Deviation	55.46528		
	Minimum	52.03		
	Maximum	286.65		
	Range	234.62		
	Interquartile Range	76.47		
	Skewness	1.090	.383	
	Kurtosis	.726	.750	
VR Interpreting (secs)	Mean	103.1247	6.09636	
	95% Confidence Interval for Mean	Lower Bound	90.7723	
		Upper Bound	115.4771	
	5% Trimmed Mean	102.2644		
	Median	97.8800		
	Variance	1412.294		
	Std. Deviation	37.58050		
	Minimum	32.28		
	Maximum	197.91		
	Range	165.63		
	Interquartile Range	65.60		
	Skewness	.420	.383	
	Kurtosis	.108	.750	

Table G4*Hypothesis 2 Interpreting Time Wilcoxon Signed Ranks Test Statistic***Test Statistics^a**

	VR Interpreting (secs) - AR Interpreting (secs)
Z	-2.415 ^b
Asymp. Sig. (2-tailed)	.016

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Table G5*Hypothesis 2 Accuracy Rate Descriptive Statistics (Median)*

			Statistic	Std. Error
AR Accuracy Rate	Mean		93.6866	.80214
	95% Confidence Interval for Mean	Lower Bound	92.0613	
		Upper Bound	95.3119	
	5% Trimmed Mean		93.9112	
	Median		93.3300	
	Variance		24.450	
	Std. Deviation		4.94474	
	Minimum		83.33	
	Maximum		100.00	
	Range		16.67	
	Interquartile Range		6.67	
	Skewness		-.500	.383
	Kurtosis		-.412	.750
VR Accuracy Rate	Mean		96.4034	.66990
	95% Confidence Interval for Mean	Lower Bound	95.0461	
		Upper Bound	97.7608	
	5% Trimmed Mean		96.7544	
	Median		96.6700	
	Variance		17.053	
	Std. Deviation		4.12955	
	Minimum		83.33	
	Maximum		100.00	
	Range		16.67	
	Interquartile Range		6.67	
	Skewness		-1.104	.383
	Kurtosis		1.058	.750

Table G6*Hypothesis 2 Accuracy Rate Wilcoxon Signed Ranks Test Statistic***Test Statistics^a**

	VR Accuracy Rate - AR Accuracy Rate
Z	-3.310 ^b
Asymp. Sig. (2-tailed)	<.001

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Table G7*Hypothesis 3 Autonomy Descriptive Statistics (Median)*

			Statistic	Std. Error
AR Autonomy	Mean		19.79	.619
	95% Confidence Interval for Mean	Lower Bound	18.54	
		Upper Bound	21.04	
	5% Trimmed Mean		19.85	
	Median		21.00	
	Variance		14.549	
	Std. Deviation		3.814	
	Minimum		13	
	Maximum		25	
	Range		12	
	Interquartile Range		7	
	Skewness		-.310	.383
	Kurtosis		-1.251	.750
VR Autonomy	Mean		20.92	.577
	95% Confidence Interval for Mean	Lower Bound	19.75	
		Upper Bound	22.09	
	5% Trimmed Mean		21.11	
	Median		22.00	
	Variance		12.669	
	Std. Deviation		3.559	
	Minimum		13	
	Maximum		25	
	Range		12	
	Interquartile Range		5	
	Skewness		-.710	.383
	Kurtosis		-.481	.750

Table G8*Hypothesis 3 Autonomy Wilcoxon Signed Ranks Test Statistic*

Test Statistics^a	
VR Autonomy - AR Autonomy	
Z	-1.757 ^b
Asymp. Sig. (2-tailed)	.079

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Table G9*Hypothesis 3 Competence Descriptive Statistics (Median)*

			Statistic	Std. Error
AR Competence	Mean		17.34	.823
	95% Confidence Interval for Mean	Lower Bound	15.67	
		Upper Bound	19.01	
	5% Trimmed Mean		17.35	
	Median		18.00	
	Variance		25.745	
	Std. Deviation		5.074	
	Minimum		9	
	Maximum		25	
	Range		16	
	Interquartile Range		8	
	Skewness		.016	.383
	Kurtosis		-1.230	.750
VR Competence	Mean		20.66	.620
	95% Confidence Interval for Mean	Lower Bound	19.40	
		Upper Bound	21.91	
	5% Trimmed Mean		20.93	
	Median		21.00	
	Variance			
	Std. Deviation			
	Minimum		10	
	Maximum		25	
	Range		15	
	Interquartile Range		7	
	Skewness		-.804	.383
	Kurtosis		.278	.750

Table G10*Hypothesis 3 Competence Wilcoxon Signed Ranks Test Statistic*

Test Statistics^a	
	VR Competence - AR Competence
Z	-3.424 ^b
Asymp. Sig. (2-tailed)	<.001

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.