1 APPENDIX

Table 1. Detailed results for Alteration Experiment. All significant results with $p < 0.05$ are listed. Non-significant effects are not included.

Question	Effect	F-Test and p-value	Post-hoc
Alteration: Comprehension			
Motion Comprehension	Motion Alteration	$F_{(7, 473)} = 27.94$, $p < 0.001$	No Data conditions < all Full and Partial data conditions
	Avatar	$F_{(1, 473)} = 9.47$, $p < 0.01$	Mannequin < Realistic
	Clip Length	$F_{(1, 473)} = 30.59$, $p < 0.001$	Long < Short
Perceived Comprehension	Motion Alteration	$F_{(7, 839)} = 18.61$, $p < 0.001$	Random and Static < all Full and Partial data conditions Passive < all Full and Partial data conditions except Reduced
	Clip Length	$F_{(1, 839)} = 12.17$, $p < 0.01$	Long < Short
	Avatar	$F_{(1, 839)} = 5.51$, $p < 0.05$	Mannequin < Realistic
	Motion Alt : Clip Len	$F_{(7, 839)} = 3.71$, $p < 0.01$	StLong < Long(O, Re, J, Po, Sm), Short(O, Re, J, Po, Sm, Pa, Ra, St) PaLong < Long(O, J, Po, Sm), Short(O, Re, J, Po, Sm) StShort < Long(J, Sm), Short(O, Sm) RaLong < Long(O, Re, J, Po, Sm), Short(O, Re, J, Po, Sm, Pa, Ra)
Alteration: Perception of Character			
Naturalness	Motion Alteration	$F_{(7, 839)} = 14.51$, $p < 0.001$	Jitter < Original; Passive < Original, Reduced, Popping, Smooth Random < Original, Smooth Static < Random, all Full and Partial data conditions
	Clip Length	$F_{(1, 839)} = 11.18$, $p < 0.01$	Long < Short
	Avatar : Clip Len	$F_{(1, 839)} = 10.22$, $p < 0.01$	Mannequin:Long < all other conditions
Realism	Motion Alteration	$F_{(7, 839)} = 6.13$, $p < 0.001$	Passive < Smooth; Static < Orig, Reduced, Popping, Smooth
	Avatar	$F_{(1, 839)} = 55.65$, $p < 0.001$	Mannequin < Realistic
	Clip Length	$F_{(1, 839)} = 6.39$, $p < 0.05$	Long < Short
	Avatar : Clip Len	$F_{(1, 839)} = 7.71$, $p < 0.05$	Mannequin:Long < all other conditions Mannequin:Short < Realistic:Long, Realistic:Short
Appeal	Motion Alteration	$F_{(7, 839)} = 5.74$, $p < 0.001$	Random < Smooth; Static < all Full and Partial data conditions
	Avatar	$F_{(1, 839)} = 13.45$, $p < 0.01$	Mannequin < Realistic
	Clip Length	$F_{(1, 839)} = 10.52$, $p < 0.01$	Long < Short
	Avatar : Clip Len	$F_{(1, 839)} = 13.41$, $p < 0.01$	Mannequin:Long < all other conditions
Familiarity	Motion Alteration	$F_{(7, 839)} = 3.06$, $p < 0.05$	Static < Smooth
	Avatar	$F_{(1, 839)} = 30.70$, $p < 0.001$	Mannequin < Realistic
	Clip Length	$F_{(1, 839)} = 7.09$, $p < 0.05$	Long < Short
	Avatar : Clip Len	$F_{(1, 839)} = 9.40$, $p < 0.05$	Mannequin:Long < all other conditions
Assuredness	Motion Alteration	$F_{(7, 839)} = 3.00$, $p < 0.05$	Static < Original
	Avatar	$F_{(1, 839)} = 10.07$, $p < 0.01$	Mannequin < Realistic
Friendliness	Motion Alteration	$F_{(7, 839)} = 4.18$, $p < 0.01$	Static < Original, Reduced, Smooth
Trustworthiness	Motion Alteration	$F_{(7, 839)} = 5.20$, $p < 0.001$	Random < Original, Reduced Static < Original, Reduced, Jitter, Smooth
	Avatar : Clip Len	$F_{(1, 839)} = 6.69$, $p < 0.05$	Mannequin:Long < Realistic:Long
Agreeableness	Avatar	$F_{(1, 839)} = 13.60$, $p < 0.01$	Mannequin < Realistic
Conscientiousness	Motion Alteration	$F_{(7, 839)} = 3.93$, $p < 0.01$	Random < Original, Jitter, Popping, Smooth Static < Original
Openness to Experience	Motion Alteration	$F_{(7, 839)} = 3.12$, $p < 0.05$	Random < Smooth; Static < Smooth
	Clip Length	$F_{(1, 839)} = 13.55$, $p < 0.01$	Long < Short
Alteration: Social Presence			
Social Presence	Motion Alteration	$F_{(7, 839)} = 5.67$, $p < 0.001$	Static < Full and Partial conditions except Reduced
	Avatar	$F_{(1, 839)} = 6.26$, $p < 0.05$	Mannequin < Realistic

Table 2. Detailed results for Intensity Experiment. Non-significant effects are not included.

Jitter: Comprehension

Question	Effect	F-Test and p-value	Post-hoc
Motion Comprehension	Clip Length	$F_{(1, 255)} = 15.02, p < 0.01$	Long < Short

Jitter: Perception of Character

Naturalness	Motion Intensity	$F_{(3, 458)} = 29.53, p < 0.001$	JitterLow < Original JitterMed < Original JitterHigh < Original, JitterLow, JitterMed
Realism	Motion Intensity	$F_{(3, 458)} = 4.72, p < 0.05$	JitterHigh < Original
	Avatar	$F_{(1, 458)} = 25.78, p < 0.001$	Mannequin < Realistic
Appeal	Motion Intensity	$F_{(3, 458)} = 5.45, p < 0.05$	JitterHigh < Original, JitterLow
	Avatar	$F_{(1, 458)} = 12.09, p < 0.01$	Mannequin < Realistic
Familiarity	Avatar	$F_{(1, 458)} = 23.80, p < 0.001$	Mannequin < Realistic
Assuredness	Motion Intensity	$F_{(3, 458)} = 16.27, p < 0.001$	JitterMed < Original, JitterLow JitterHigh < Original, JitterLow
	Avatar	$F_{(1, 458)} = 14.07, p < 0.01$	Mannequin < Realistic
Conscientiousness	Motion Intensity	$F_{(3, 458)} = 6.44, p < 0.01$	JitterHigh < Original, JitterLow
Emotional Stability	Motion Intensity	$F_{(3, 458)} = 16.10, p < 0.001$	JitterMed < Original JitterHigh < Original, JitterLow, JitterMed

Jitter: Social Presence

Social Presence	Motion Intensity	$F_{(3, 458)} = 4.22, p < 0.05$	JitterHigh < Original
	Motion Int : Clip Len	$F_{(3, 458)} = 4.20, p < 0.05$	JMed:Long < Orig:Short JHigh:Short < Orig:Short, JLow:Long JHigh:Long < Orig:Short

Popping: Comprehension

Motion Comprehension	Clip Length	$F_{(1, 247)} = 16.22, p < 0.01$	Long < Short
Perceived Comprehension	Avatar	$F_{(1, 456)} = 11.21, p < 0.05$	Mannequin < Realistic

Popping: Perception of Character

Realism	Avatar	$F_{(1, 456)} = 18.35, p < 0.01$	Mannequin < Realistic
Familiarity	Avatar	$F_{(1, 456)} = 11.80, p < 0.05$	Mannequin < Realistic
Assuredness	Avatar	$F_{(1, 456)} = 11.16, p < 0.05$	Mannequin < Realistic

Smooth: Comprehension

Motion Comprehension	Clip Length	$F_{(1, 263)} = 19.06, p < 0.001$	Long < Short

Smooth: Perception of Character

Realism	Avatar	$F_{(1, 466)} = 39.17, p < 0.001$	Mannequin < Realistic
	Avatar : Clip Len	$F_{(1, 466)} = 8.91, p < 0.05$	Mannequin:Short < Long:Realistic Mannequin:Long < all other conditions
Appeal	Avatar	$F_{(1, 466)} = 9.52, p < 0.05$	Mannequin < Realistic
Familiarity	Avatar	$F_{(1, 466)} = 14.70, p < 0.01$	Mannequin < Realistic
Assuredness	Avatar	$F_{(1, 466)} = 14.08, p < 0.01$	Mannequin < Realistic

Smooth: Social Presence

Social Presence	Avatar	$F_{(1, 466)} = 12.11, p < 0.05$	Mannequin < Realistic

Table 3. Detailed results for the Virtual Reality experiment. Non-significant effects are not included.

VR Compare

Question	Effect	F-Test and p-value	Post-hoc
Motion Comprehension	Motion Condition	$F_{(1, 31)} = 58.52$, $p < 0.001$	Static < Original
Conscientiousness	Motion Condition	$F_{(1, 31)} = 5.06$, $p < 0.05$	Static < Original

VR Compare - Alteration Experiment

Agreeableness	Experiment	$F_{(1, 85)} = 28.37$, $p < 0.001$	VR Compare < Alteration Experiment
Conscientiousness	Experiment	$F_{(1, 85)} = 12.76$, $p < 0.001$	VR Compare < Alteration Experiment
Emotional Stability	Experiment	$F_{(1, 85)} = 30.12$, $p < 0.001$	VR Compare < Alteration Experiment
Openness to Experience	Experiment	$F_{(1, 85)} = 9.77$, $p < 0.01$	VR Compare < Alteration Experiment

VR Comfort

Comfort	Motion Condition	$F_{(13, 448)} = 6.68$, $p < 0.001$	JMed < All other conditions except JLow, JHigh, PoHigh JHigh < All other conditions except JMed
Naturalness of Motion	Motion Condition	$F_{(13, 448)} = 12.76$, $p < 0.001$	JLow < Original, Reduced, JHigh, Smooth(Low, Med, High) JMed < All other conditions except JLow, JHigh JHigh < All other conditions except JMed

VR Rank

Question	Effect	χ^2	Alteration 1	Alteration 2	Differences
Ranking Comfort of Interaction	Motion Condition	$\chi^2(7) = 95.77$, $p < 0.001$	Original	Jitter	141
			Original	Passive	71
			Original	Static	93
			Reduced	Jitter	123
			Reduced	Static	75
			Jitter	Popping	135
			Jitter	Smooth	146
			Jitter	Passive	70
			Jitter	Random	93
			Popping	Passive	65
			Popping	Static	87
			Smooth	Passive	76
			Smooth	Static	98

Table 4. Full details of the information gathering questionnaire. All questions were asked in Alteration, Intensity, and VR Compare Experiments. ★ : Question also asked in VR Comfort; ∗ : Question only asked in VR Comfort; ○ : Question only asked in VR Rank.

Factor	Question(s)		Format	Scale	Origin
Motion Comprehension	What word or noun is being acted out? What movie title is being acted out?		Text	n/a	-
Perceived Comprehension	I understood what the other meant. The other's thoughts were clear to me.		7pt Likert	Strongly Agree - Strongly Disagree	Biocca et al. [2001]
Naturalness★	I see the virtual character as:		7pt Likert	Extremely Unnatural - Very Natural	-
Realism				Extremely Abstract - Extremely Realistic	McDonnell et al. [2012]
Appeal				Extremely Unappealing - Extremely Appealing	
Familiarity				Extremely Unfamiliar - Extremely Familiar	
Assuredness				Extremely Eerie - Extremely Reassuring	
Friendliness				Extremely Unfriendly - Extremely Friendly	
Trustworthiness				Extremely Untrustworthy - Extremely Trustworthy	
Extraversion	I see the virtual character as:	Extraverted, enthuestiac Reserved, quiet (reversed)	7pt Likert	Disagree Strongly - Agree Strongly	Gosling et al. [2003]
Agreeablness		Critical, quarrelsome (reversed) Sympathetic, warm			
Conscientiousness		Dependable, self-disciplined Disorganized, careless (reversed)			
Emotional Stability		Anxious, easily upset (reversed) Calm, emotionally stable			
Openness to Experience		Open to new experiences, complex Conventional, uncreative (reversed)			
Social Presence	To what extent was this like a face-to-face meeting?		9pt Likert	A lot like face-to-face - Not like face-to-face at all	Nowak and Biocca [2003]
	To what extent was this like you were in the same room with the virtual character?			A lot like being in the same room - Not like being in the same room	
	To what extent did the virtual character seem "real"?			Very real - Not real at all	
	How likely is it that you would choose to use this system of interaction for a meeting in which you wanted to persuade others of something?			Very likely - Not likely at all	
	To what extent did you feel you could get to know someone that you met only through this system?			Very well - Not at all	
Comfort	How comfortable would you feel interacting with this character for an extended period of time? ∗		7pt Likert	Not at all comfortable - Very comfortable	-
	Rank how comfortable you would feel interacting with this character from most comfortable (1) to least (8). ○		Assigning Ranks	1 - 8	-

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