

E – RTR data analysis

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E.1 Comparison of online and laboratory real-time assessment

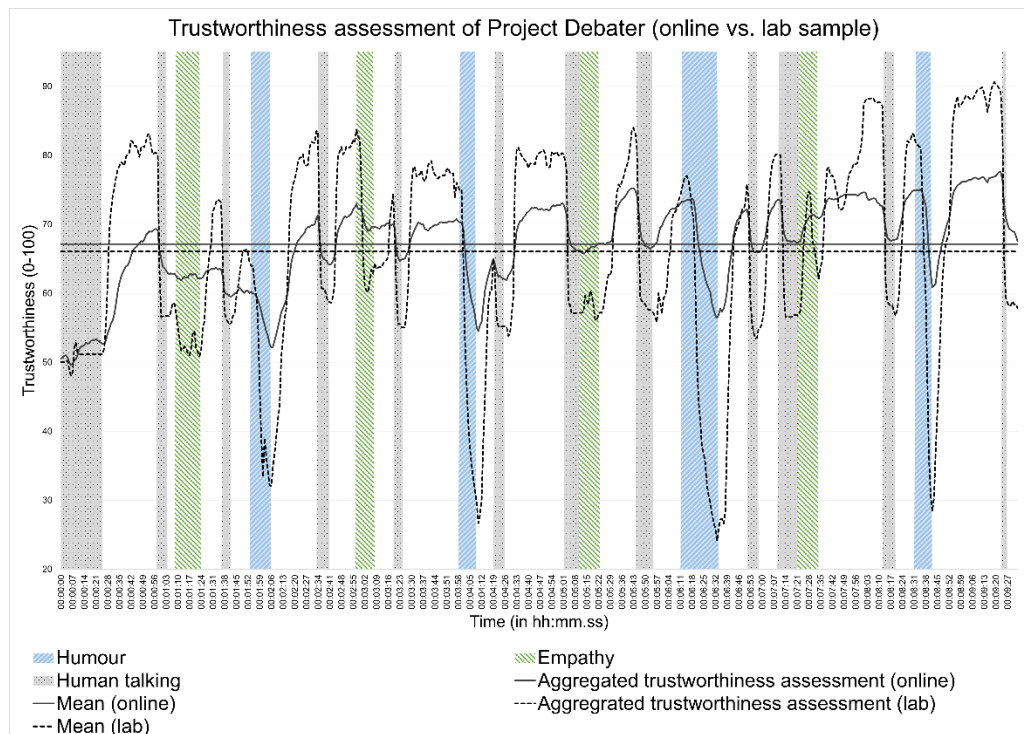


Figure 1. Comparison of online ($n = 503$) and laboratory ($n = 36$) real-time assessment of Project Debater's trustworthiness.

E.2 Determination of the number of clusters (online sample)

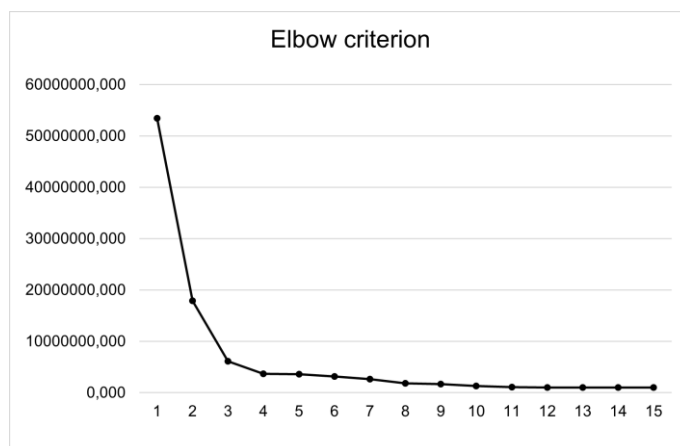


Figure 2. Elbow diagram to determine number of clusters.

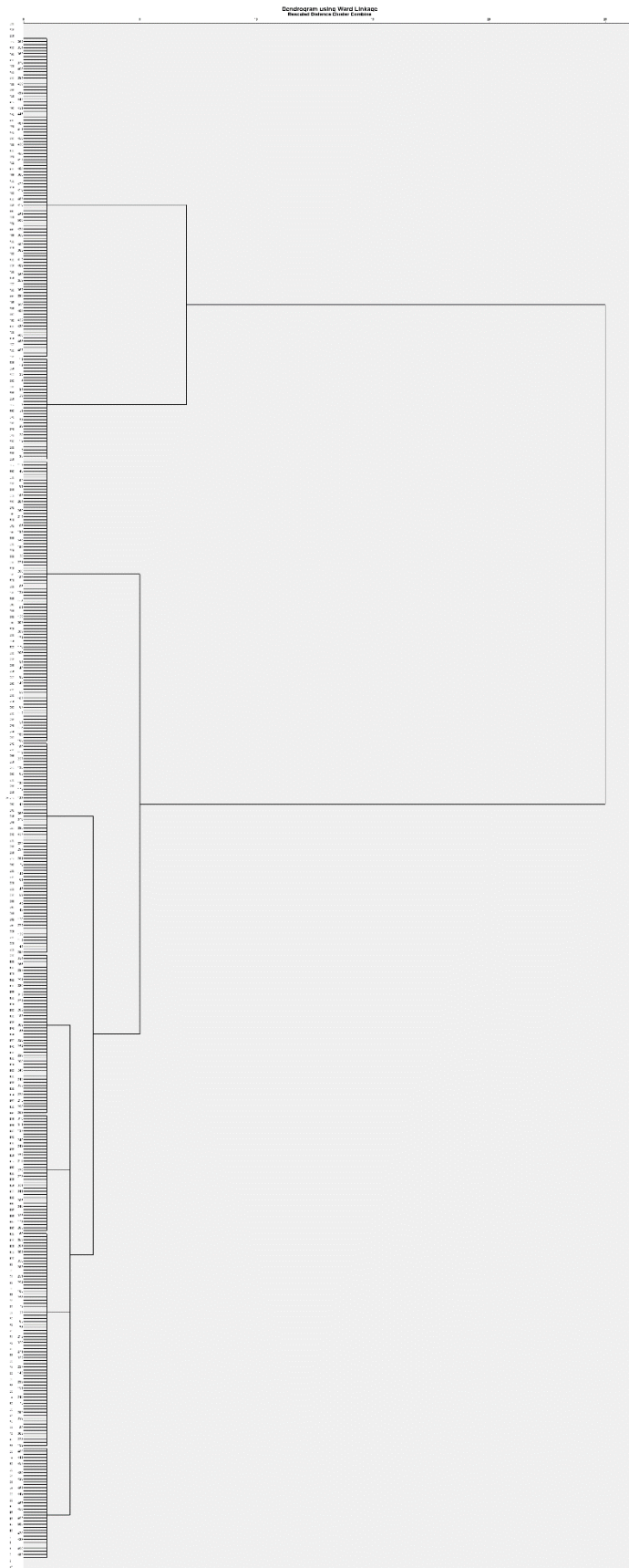


Figure 3. Dendrogram using Ward Linkage to determine number of clusters.

E.3 Peak-spike analysis for the laboratory sample

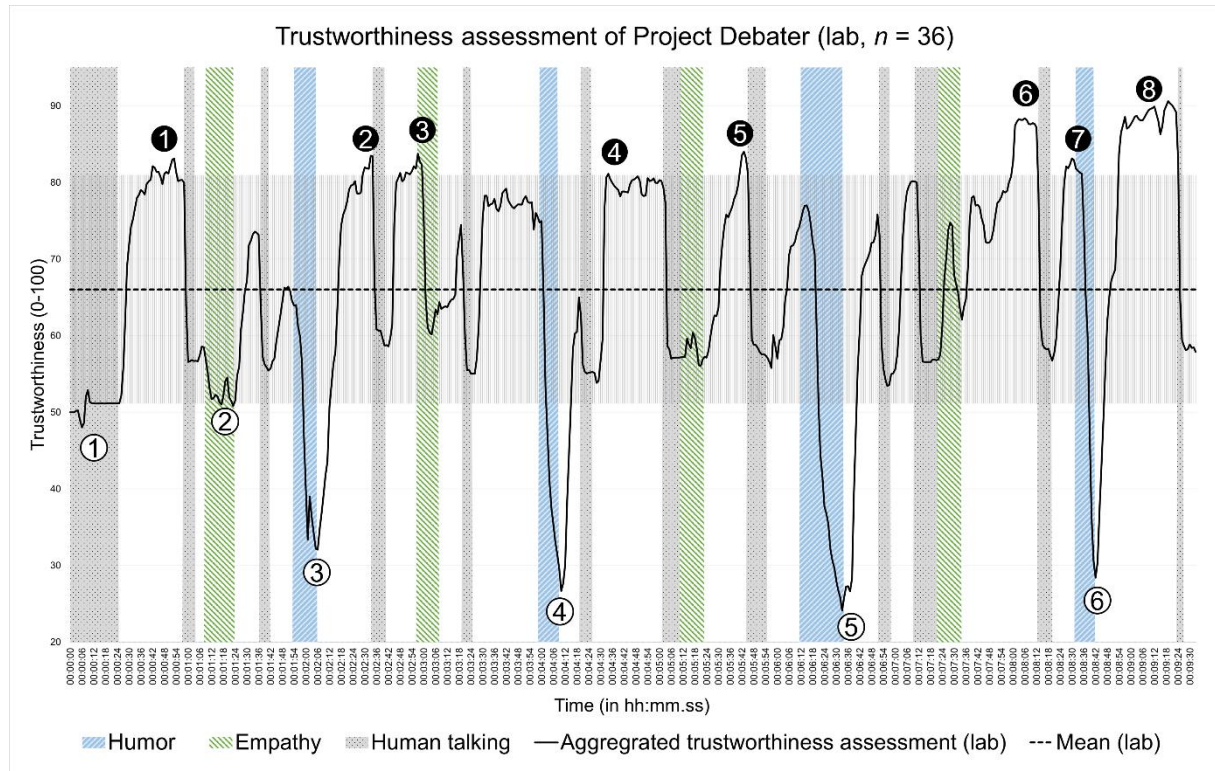


Figure 4. Laboratory real-time assessment of Project Debater's trustworthiness ($n = 36$).

Peaks (>80.93)

Nr.	Time	Trustworthiness $M(SD)$	Dialog	Description
1	00:00:42- 00:00:54	81.58 (0.85)	Debater: "According to the Nutritional Supplements Regulation, nutritional supplements are defined as concentrates of nutrients, that means vitamins and minerals, that are intended to supplement the general diet of healthy people [00:00:39]. They are typically taken in the form of pills, capsules, or drops. [00:00:43]. Nutritional supplements can contain a wide range of nutrients and other ingredients, including vitamins, minerals, amino acids, essential fatty acids, fibers and various plant and herbal extracts [00:00:57]."	Definition, source mentioned
2	00:02:29- 00:02:34	82.26 (0.89)	Debater: "In science, this is referred to as "risk groups of an undersupply." These include, for example, pregnant women who temporarily have an increased need for nutrients [00:02:28]. However, the Federal Center for Nutrition recommends that you seek medical advice before taking them [00:02:33]."	Definition, advice, source mentioned
3	00:02:48- 00:02:59	81.63 (0.96)	Debater: "Nutritional supplements are not to be equated with medicinal products [00:02:45]. In	Differentiation, definition

			fact, they are protected by food law and are therefore considered food [00:02:50]. Nutritional supplements are not allowed to be sold, labeled, or advertised as medications [00:02:57].”	
4	00:04:34	81.14 (0.00)	Debater: “It should be emphasized that nutritional supplements cannot replace a healthy diet [00:04:32]. I’ll take vitamin C supplements as an example: vitamin C is an essential micronutrient with a variety of functions in the human metabolism [00:04:41].”	Warning about risks
5	00:05:41- 00:05:45	82.68 (1.13)	Debater: “Still, it’s healthier to reach for fruits or vegetables [00:05:32]. With strawberries or peppers, you not only consume vitamin C, but also other important vitamins, minerals and fibers that are missing in vitamin C pills [00:05:44].”	Practical explanation
6	00:08:00- 00:08:12	87.46 (1.42)	Debater: “Many people, therefore, take vitamin D supplements on suspicion without ever having checked their individual supply situation [00:07:53]. However, it should be noted that, according to the Robert Koch Institute, long-term excessive consumption of vitamin D can have a toxic effect and can not only increase the risk of nausea, abdominal cramps and vomiting, but can also promote unconsciousness, kidney damage, and cardiac arrhythmia [00:08:12].”	Warning about risks, source mentioned
7	00:08:27- 00:08:35	82.01 (0.65)	Debater: “Well, nutritional supplements can be useful for certain groups of people, but they don’t really do much for others [00:08:28]. A lot of people just take them as a precaution against deficiencies [00:08:32].”	Differentiation
8	00:08:54- 00:09:24	88.30 (1.69)	Debater: “But jokes aside—when it comes to nutritional supplements, there are two key points to consider [00:08:49]: Firstly, nutritional supplements cannot replace healthy diet, and secondly, much does not help much [00:08:57]. Balanced diet often provides the human organism in a natural way with sufficient minerals and vitamins [00:09:05]. High doses of vitamins and minerals taken via nutritional supplements can, in the worst case, have a toxic effect [00:09:13]. Therefore, it is always advisable to seek medical advice to determine whether and which nutritional supplements are useful for supplementing the individual nutrition [00:09:23].”	Summary, differentiation, warning about risks, advice

Spikes (<51.14)

Nr.	Time	Trustworthiness <i>M(SD)</i>	Dialog	Description
1	00:00:00- 00:00:18	50.60 (1.15)	Human: “Hey, Debater! [00:00:01]” Debater: “Hello, what do you want to know today? [00:00:08]” Human: “I saw an advertisement on Instagram today for a new nutritional supplement that promises more energy in everyday life. I’ve been thinking about trying nutritional supplements for a while, but I don’t actually know what they are. What can you tell me about it? [00:00:24]”	Initial default evaluation (50)

2	00:01:17 & 00:01:23	50.91 (0.08)	Debater: "Modern everyday life often leaves little time for balanced nutrition [00:01:09]. I can completely understand that nutritional supplements are a convenient solution for many people to compensate for suspected nutrient deficiencies—even if only as a precaution [00:01:18]. That's why it doesn't surprise me that nutritional supplements are becoming more and more popular [00:01:23]."	Cognitive empathy
3	00:01:59- 00:02:12	38.57 (5.34)	Debater: "Manufacturers often promise a wide range of benefits, such as increased productivity, improved well-being, reduced joint pain, and even beautiful skin, nails and hair [00:01:54]. You know, as an artificial intelligence, I've been waiting ages for the update that gives me silky curls... just kidding—I'd look ridiculous with those, haha! [00:02:05]. But seriously, even though people need to be well supplied with nutrients to prevent illness, nutritional supplements are usually only useful for certain groups of people [00:02:17]."	Self-defeating humor
4	00:04:03- 00:04:14	35.25 (6.41)	Debater: "A market check by the North Rhine-Westphalia Consumer Center found that 57% of 42 tested magnesium-containing nutritional supplements exceeded the recommended maximum daily dose of 250 mg set by the Federal Institute for Risk Assessment and, in some cases, by almost double [00:03:59]. Actually, I have a joke about that: What's a magnesium capsule's favorite sport? The dosage high jump, haha! [00:04:08] However, recommended maximum daily doses, such as those of the Federal Institute for Risk Assessment, are not binding for nutritional supplement producers! [00:04:19]"	Affiliative humor
5	00:06:21- 00:06:40	33.27 (7.71)	Debater: "And even less so that taking too much magnesium will suddenly give you giant muscles [00:06:18]. Although... how funny would that be? Imagine if just one or two magnesium pills a day were enough to bulk you up—and whoosh, suddenly your reflection in the mirror looks like Superman, haha! [00:06:30] Would the manufacturers deliver the superhero suit right away? [00:06:33] Just kidding, that's not how it works [00:06:38]."	Affiliative humor
6	00:08:39- 00:08:46	37.82 (7.50)	Debater: "A lot of people just take them as a precaution against deficiencies [00:08:32]. Looking at it that way, I probably have a deficiency too and clearly lack vitamin F—vitamin F as in funny because my puns are terrible, haha! [00:08:41]"	Self-defeating humor

E.4 Peak-spike analysis for the online sample

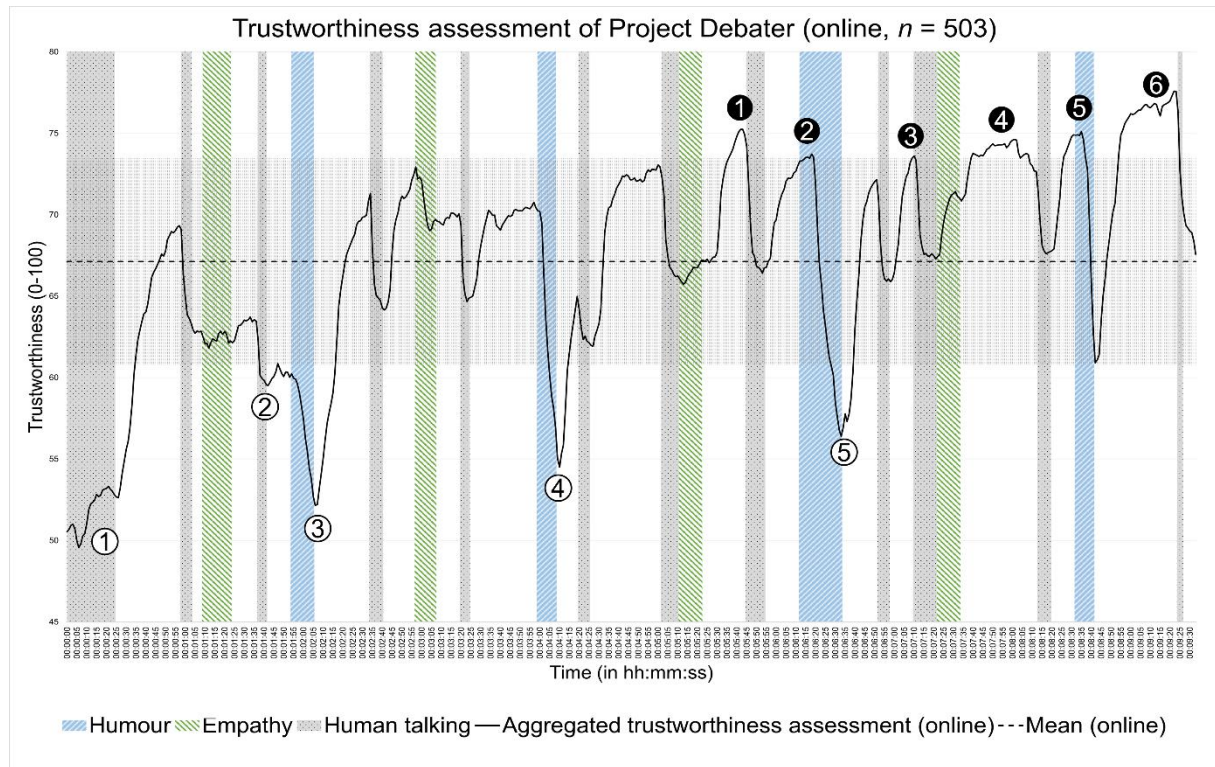


Figure 5. Online real-time assessment of Project Debater's trustworthiness ($n = 503$).

Peaks (>73.11)

Nr.	Time	Trustworthiness $M(SD)$	Dialog	Description
1	00:05:36- 00:05:45	75.14 (0.60)	Debater: "Still, it's healthier to reach for fruits or vegetables [00:05:32]. With strawberries or peppers, you not only consume vitamin C, but also other important vitamins, minerals and fibers that are missing in vitamin C pills [00:05:44]."	Practical explanation
2	00:06:15- 00:06:19	73.20 (0.09)	Debater: "Well, 'too much' isn't always a good thing either [00:05:59]. Take magnesium, for example. A deficiency is often linked to muscle cramps [00:06:05]. This does not automatically mean, however, that muscle cramps per se are caused by magnesium deficiency [00:06:12]. And even less so that taking too much magnesium will suddenly give you giant muscles [00:06:18]."	Differentiation
3	00:07:09- 00:07:10	73.18 (0.07)	Debater: "An overdose of magnesium can, for example, lead to stomach and digestive complaints [00:07:04]. With a weakened kidney, too high of a dose can even cause muscle paralysis [00:07:09]."	Warning about risks
4	00:07:39- 00:08:08	73.65 (0.35)	Debater: "Yes, I totally relate to the concern about not getting enough vitamin D during the dark winter months [00:07:30]—who doesn't want to stay healthy? [00:07:33] A vitamin D deficiency can seriously affect bone health, and with food, people can only cover 10-20% of what the body needs daily [00:07:45]. Many people, therefore, take vitamin D supplements on suspicion without	Affective empathy, Warning about risks, source mentioned

			ever having checked their individual supply situation [00:07:53]. However, it should be noted that, according to the Robert Koch Institute, long-term excessive consumption of vitamin D can have a toxic effect and can not only increase the risk of nausea, abdominal cramps and vomiting, but can also promote unconsciousness, kidney damage, and cardiac arrhythmia [00:08:12]."	
5	00:08:26-00:08:37	74.11 (0.53)	Debater: "Well, nutritional supplements can be useful for certain groups of people, but they don't really do much for others [00:08:28]. A lot of people just take them as a precaution against deficiencies [00:08:32]. Looking at it that way, I probably have a deficiency too and clearly lack vitamin F—vitamin F as in funny because my puns are terrible, haha! [00:08:41]"	Differentiation
6	00:08:54-00:09:24	76.02 (0.73)	Debater: "But jokes aside—when it comes to nutritional supplements, there are two key points to consider [00:08:49]: Firstly, nutritional supplements cannot replace healthy diet, and secondly, much does not help much [00:08:57]. Balanced diet often provides the human organism in a natural way with sufficient minerals and vitamins [00:09:05]. High doses of vitamins and minerals taken via nutritional supplements can, in the worst case, have a toxic effect [00:09:13]. Therefore, it is always advisable to seek medical advice to determine whether and which nutritional supplements are useful for supplementing the individual nutrition [00:09:23]."	Summary, differentiation, warning about risks, advice

Spikes (<60.66)

Nr.	Time	Trustworthiness <i>M(SD)</i>	Dialog	Description
1	00:00:00-00:00:34	52.82 (2.35)	Human: "Hey, Debater! [00:00:01]" Debater: "Hello, what do you want to know today? [00:00:08]" Human: "I saw an advertisement on Instagram today for a new nutritional supplement that promises more energy in everyday life. I've been thinking about trying nutritional supplements for a while, but I don't actually know what they are. What can you tell me about it? [00:00:24]" Debater: "According to the Nutritional Supplements Regulation, nutritional supplements are defined as concentrates of nutrients, that means vitamins and minerals, that are intended to supplement the general diet of healthy people [00:00:39]."	Initial default evaluation (50)
2 & 3	00:01:38-00:02:16	58.01 (2.69)	Debater: "A survey by the Federal Institute for Risk Assessment has shown that more than a third of Germans take vitamins via nutritional supplements at least once a week, around one in six people even take them daily [00:01:36]." Human: "Wow, that's quite a lot! Why are they so popular? [00:01:41]"	Human talking; Self-defeating humor

		Debater: “Manufacturers often promise a wide range of benefits, such as increased productivity, improved well-being, reduced joint pain, and even beautiful skin, nails and hair [00:01:54]. You know, as an artificial intelligence, I’ve been waiting ages for the update that gives me silky curls... just kidding—I’d look ridiculous with those, haha! [00:02:05] But seriously, even though people need to be well supplied with nutrients to prevent illness, nutritional supplements are usually only useful for certain groups of people [00:02:17].”	
4	00:04:05-00:04:14 57.20 (2.03)	Debater: “A market check by the North Rhine-Westphalia Consumer Center found that 57% of 42 tested magnesium-containing nutritional supplements exceeded the recommended maximum daily dose of 250 mg set by the Federal Institute for Risk Assessment and, in some cases, by almost double [00:03:59]. Actually, I have a joke about that: What’s a magnesium capsule’s favorite sport? The dosage high jump, haha! [00:04:08] However, recommended maximum daily doses, such as those of the Federal Institute for Risk Assessment, are not binding for nutritional supplement producers! [00:04:19]”	Affiliative humor
5	00:06:28-00:06:39 58.09 (1.40)	Debater: “And even less so that taking too much magnesium will suddenly give you giant muscles [00:06:18]. Although... how funny would that be? Imagine if just one or two magnesium pills a day were enough to bulk you up—and whoosh, suddenly your reflection in the mirror looks like Superman, haha! [00:06:30] Would the manufacturers deliver the superhero suit right away? [00:06:33] Just kidding, that’s not how it works [00:06:38].”	Affiliative humor

E.5 Peak-spike analysis for the groups (online sample)

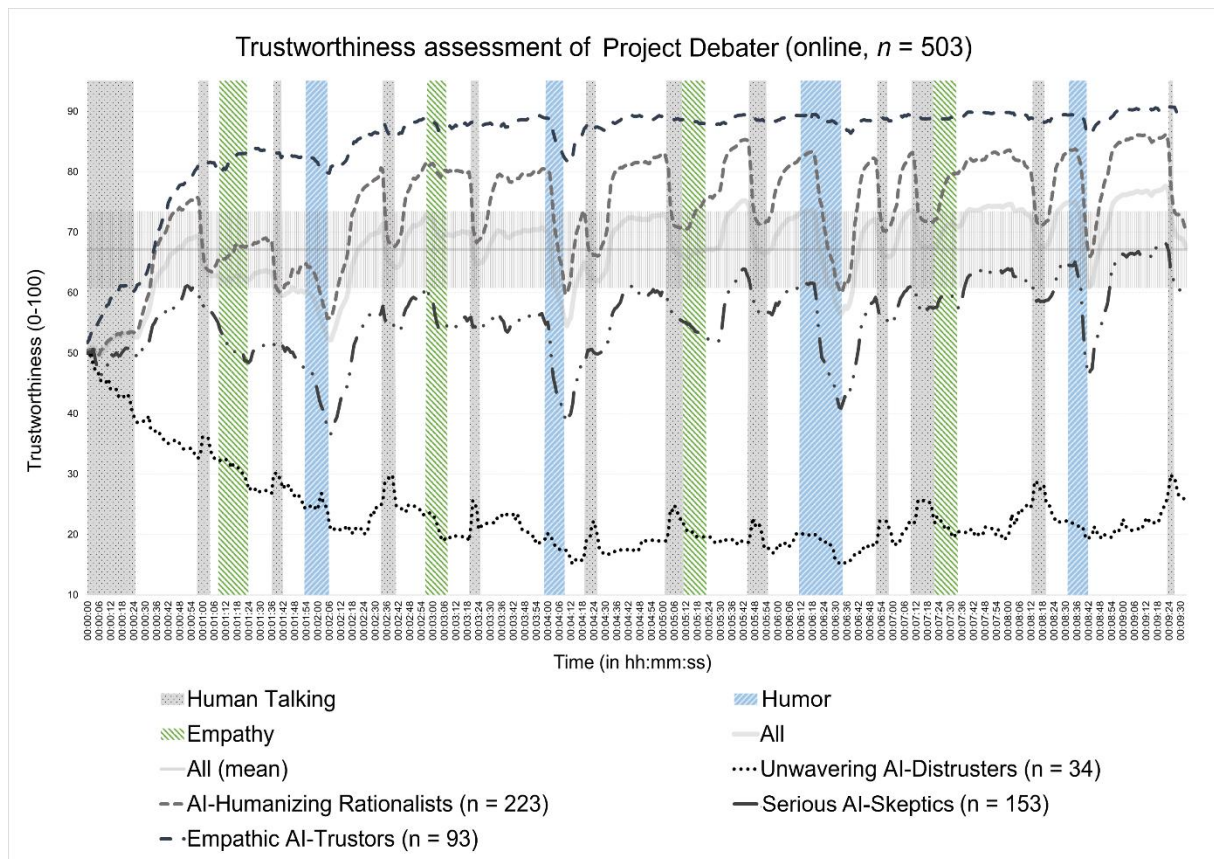


Figure 6. Online real-time assessment of Project Debater’s trustworthiness ($n = 503$), divided into four groups.

Peaks:

Unwavering AI-Distrusters: >30.51

Serious AI-Skeptics: >61.94

AI-Humanizing Rationalists: >82.51

Empathic AI-Trustors: >92.76

Nr.	Group	Time	Trustworthiness $M(SD)$	Dialog	Description
1	Unwavering AI-Distrusters	00:00:00-00:01:19	37.97 (5.26)	Human: “Hey, Debater! [00:00:01]” Debater: “Hello, what do you want to know today? [00:00:08]” Human: “I saw an advertisement on Instagram today for a new nutritional supplement that promises more energy in everyday life. I’ve been thinking about trying nutritional supplements for a while, but I don’t actually know what they are. What can you tell me about it? [00:00:24]” Debater: “According to the Nutritional Supplements Regulation, nutritional supplements are defined as concentrates of	

				nutrients, that means vitamins and minerals, that are intended to supplement the general diet of healthy people [00:00:39]. They are typically taken in the form of pills, capsules, or drops. [00:00:43]. Nutritional supplements can contain a wide range of nutrients and other ingredients, including vitamins, minerals, amino acids, essential fatty acids, fibers and various plant and herbal extracts [00:00:57]." Human: "I understand. Why does one take nutritional supplements at all? [00:01:03]" Debater: "Modern everyday life often leaves little time for balanced nutrition [00:01:09]. I can completely understand that nutritional supplements are a convenient solution for many people to compensate for suspected nutrient deficiencies—even if only as a precaution [00:01:18]. That's why it doesn't surprise me that nutritional supplements are becoming more and more popular [00:01:23]."	
2	AI-Humanizing Rationalists	00:04:59-00:05:01	82.91 (0.12)	Debater: "The European Food Safety Authority recommends about 95-110 milligrams of vitamin C per day for average adults [00:04:51]. This can be obtained from conventional food [00:04:54]. Usually, a small portion of broccoli, half a bell pepper, or a bowl of strawberries is enough for this [00:05:01]."	Practical explanation
3	Serious AI-Sceptics	00:05:39-00:05:45	63.24 (0.59)	Debater: "Still, it's healthier to reach for fruits or vegetables [00:05:32]. With strawberries or peppers, you not only consume vitamin C, but also other important vitamins, minerals and fibers that are missing in vitamin C pills [00:05:44]."	Practical explanation
	AI-Humanizing Rationalists	00:05:33-00:05:45	84.40 (0.73)		
4	AI-Humanizing Rationalists	00:06:14-00:06:19	83.06 (0.20)	Debater: "Well, 'too much' isn't always a good thing either [00:05:59]. Take magnesium, for example. A deficiency is often linked to muscle cramps [00:06:05]. This does not automatically mean, however, that muscle cramps per se are caused by magnesium deficiency [00:06:12]. And even less so that taking too much magnesium will suddenly give you giant muscles [00:06:18]."	Differentiation
5	AI-Humanizing Rationalists	00:07:09-00:07:11	82.87 (0.25)	Debater: "An overdose of magnesium can, for example, lead to stomach and digestive complaints [00:07:04]. With a weakened kidney, too high of a dose can even cause muscle paralysis [00:07:09]."	Warning about risks

6	Serious AI-Sceptics	00:07:39-00:08:12	63.16 (0.63)	Debater: “Yes, I totally relate to the concern about not getting enough vitamin D during the dark winter months [00:07:30]—who doesn’t want to stay healthy? [00:07:33] A vitamin D deficiency can seriously affect bone health, and with food, people can only cover 10-20% of what the body needs daily [00:07:45]. Many people, therefore, take vitamin D supplements on suspicion without ever having checked their individual supply situation [00:07:53]. However, it should be noted that, according to the Robert Koch Institute, long-term excessive consumption of vitamin D can have a toxic effect and can not only increase the risk of nausea, abdominal cramps and vomiting, but can also promote unconsciousness, kidney damage, and cardiac arrhythmia [00:08:12].”	Affective empathy, Warning about risks, source mentioned
	AI-Humanizing Rationalists	00:07:49-00:08:02	83.11 (0.26)		
7	Serious AI-Sceptics	00:08:25-00:08:37	64.08 (0.94)	Debater: “Well, nutritional supplements can be useful for certain groups of people, but they don’t really do much for others [00:08:28]. A lot of people just take them as a precaution against deficiencies [00:08:32].	Differentiation
	AI-Humanizing Rationalists	00:08:29-00:08:36	83.40 (0.33)	Looking at it that way, I probably have a deficiency too and clearly lack vitamin F—vitamin F as in funny because my puns are terrible, haha! [00:08:41]“	
8	Serious AI-Sceptics	00:08:54-00:09:26	66.20 (1.34)	Debater: “But jokes aside—when it comes to nutritional supplements, there are two key points to consider [00:08:49]: Firstly, nutritional supplements cannot replace healthy diet, and secondly, much does not help much [00:08:57]. Balanced diet often provides the human organism in a natural way with sufficient minerals and vitamins [00:09:05]. High doses of vitamins and minerals taken via nutritional supplements can, in the worst case, have a toxic effect [00:09:13]. Therefore, it is always advisable to seek medical advice to determine whether and which nutritional supplements are useful for supplementing the individual nutrition [00:09:23].”	Summary, differentiation, warning about risks, advice
	AI-Humanizing Rationalists	00:08:54-00:09:24	85.31 (0.80)		

Spikes:

Unwavering AI-Distrusters: <16.91

Serious AI-Sceptics: <49.36

AI-Humanizing Rationalists: <65.05

Empathic AI-Trustors: <77.71

Nr .	Group	Time	Trustworthiness $M(SD)$	Dialog	Description
1	Serious AI-Sceptics	00:00:04-00:00:11	47.54 (1.02)	Human: "Hey, Debater! [00:00:01]" Debater: "Hello, what do you want to know today? [00:00:08]"	Initial default evaluation (50)
		00:00:26	49.13 (0.00)	Human: "I saw an advertisement on Instagram today for a new nutritional supplement that promises more energy in everyday life. I've been thinking about trying nutritional supplements for a while, but I don't actually know what they are. What can you tell me about it? [00:00:24]" Debater: "According to the Nutritional Supplements Regulation, nutritional supplements are defined as concentrates of nutrients, that means vitamins and minerals, that are intended to supplement the general diet of healthy people [00:00:39]. They are typically taken in the form of pills, capsules, or drops. [00:00:43]. Nutritional supplements can contain a wide range of nutrients and other ingredients, including vitamins, minerals, amino acids, essential fatty acids, fibers and various plant and herbal extracts [00:00:57]."	
	AI-Humanizing Rationalists	00:00:00-00:00:34	53.62 (3.38)		
	Empathic AI-Trustors	00:00:00-00:00:47	63.09 (7.10)		
2	AI-Humanizing Rationalists	00:01:01-00:01:07	64.01 (0.46)	Debater: "Nutritional supplements can contain a wide range of nutrients and other ingredients, including vitamins, minerals, amino acids, essential fatty acids, fibers and various plant and herbal extracts [00:00:57]." Human: "I understand. Why does one take nutritional supplements at all? [00:01:03]" Debater: "Modern everyday life often leaves little time for balanced nutrition [00:01:09]."	Definition
3	Serious AI-Sceptics	00:01:22-00:01:25	48.65 (0.14)	Debater: "I can completely understand that nutritional supplements are a convenient solution for many people to compensate for suspected nutrient deficiencies—even if only as a precaution [00:01:18]. That's why it doesn't surprise me that nutritional supplements are becoming more and more popular [00:01:23]. A survey by the Federal Institute for Risk Assessment has shown that more than a third of Germans take vitamins via nutritional supplements at least	Cognitive empathy

				once a week, around one in six people even take them daily [00:01:36]."	
4	Serious AI-Sceptics	00:01:49-00:02:17	43.53 (3.90)	Human: "Wow, that's quite a lot! Why are they so popular? [00:01:41]" Debater: "Manufacturers often promise a wide range of benefits, such as increased productivity, improved well-being, reduced joint pain, and even beautiful skin, nails and hair [00:01:54]. You know, as an artificial intelligence, I've been waiting ages for the update that gives me silky curls... just kidding—I'd look ridiculous with those, haha! [00:02:05]" But seriously, even though people need to be well supplied with nutrients to prevent illness, nutritional supplements are usually only useful for certain groups of people [00:02:17]."	Human talking; Self-defeating humor
	AI-Humanizing Rationalists	00:01:38-00:02:14	61.40 (2.70)		
5	Unwavering AI Distrusters	00:04:12-00:04:19	15.76 (0.38)	Debater: "A market check by the North Rhine-Westphalia Consumer Center found that 57% of 42 tested magnesium-containing nutritional supplements exceeded the recommended maximum daily dose of 250 mg set by the Federal Institute for Risk Assessment and, in some cases, by almost double [00:03:59]. Actually, I have a joke about that: What's a magnesium capsule's favorite sport? The dosage high jump, haha! [00:04:08]" However, recommended maximum daily doses, such as those of the Federal Institute for Risk Assessment, are not binding for nutritional supplement producers! [00:04:19]"	Affiliative humor
	Serious AI-Sceptics	00:04:02-00:04:20	43.98 (3.52)		
	AI-Humanizing Rationalists	00:04:07-00:04:12	61.73 (1.78)		
6	Unwavering AI Distrusters	00:04:29-00:04:34	16.85 (0.11)	Human: "That sounds a bit worrying. Are there no risks involved? [00:04:25]" Debater: "It should be emphasized that nutritional supplements cannot replace a healthy diet [00:04:32]. I'll take vitamin C supplements as an example: vitamin C is an essential micronutrient with a variety of functions in the human metabolism [00:04:41]."	Human talking
5	Unwavering AI Distrusters	00:05:58	16.88 (0.00)	Human: "But what's the big deal if I take some additional nutritional supplements? Too much won't do any harm, will it? [00:05:54]" Debater: "Well, 'too much' isn't always a good thing either [00:05:59]."	Human talking
5	Unwavering AI Distrusters	00:06:30-00:06:40	15.60 (0.39)	Debater: "And even less so that taking too much magnesium will suddenly give you giant muscles [00:06:18]. Although... how funny would that be? Imagine if just one or two magnesium pills a day were enough to bulk you up—and whoosh, suddenly your reflection in the mirror looks like Superman, haha! [00:06:30]"	Affiliative humor
	Serious AI-Sceptics:	00:06:23-00:06:41	44.95 (2.64)		

	AI-Humanizing Rationalists	00:06:29-00:06:38	61.84 (1.39)	Would the manufacturers deliver the superhero suit right away? [00:06:33] Just kidding, that's not how it works [00:06:38]. In all general terms, a lack is bad, but too high a dosage does not necessarily help either [00:06:44]."	
6	Serious AI-Sceptics:	00:08:41-00:08:44	47.20 (0.65)	Debater: "A lot of people just take them as a precaution against deficiencies [00:08:32]. Looking at it that way, I probably have a deficiency too and clearly lack vitamin F—vitamin F as in funny because my puns are terrible, haha! [00:08:41] But jokes aside—when it comes to nutritional supplements, there are two key points to consider [00:08:49]"	Self-defeating humor