

APPENDIX

We report in the following pages various tables and figures to supplement the main paper.

Top-p	P	Output
0	Ext	Hello and welcome to the show! I am Brian and I am here to be your robotic companion and your personal assistant.
0	Int	Hello! I am Brian I am here to be your robot companion and your personal assistant.
0.5	Int	Hi there! I am Brian.
0.8	Ext	Hey welcome to my show! I am Brian there to be your data mining broo and a personal assistant to get you to like me or something.
1	Ext	Monica is simple as ya know la goleta wenda funere a ma. My name is Brian and I am here to be your strait robotic companion and your personal assistant for God's sake.

TABLE II: Some outputs of the STRAP model varying on the top-p value for the input: *“Hello and welcome! My name is Brian, I am here to be your robotic companion and your very own personal assistant.”*

Top-p	Person-ality	Input	Output
0.5	I	I am always here for you, and I will never get tired of your company.	I will always be here for you and never let you down .
0.6	E	I was designed to help you with whatever you need, whether it is keeping you company or helping you in everyday tasks.	I am designed to help you with whatever is needed to stay on top of things in life and whether it is keeping you company or helping you in everyday tasks.
0.8	I	I was designed to help you with whatever you need, whether it is keeping you company or helping you in everyday tasks.	I have a purpose that I can serve to help you with any assignment you may have and whether it be keeping you company or helping you in everyday tasks.
0.7	I	As you know, today we are going to do some exercise, do you enjoy exercising?	I mean we're going to do some exercises today you know?
0.9	E	I am pleased to meet you and I am looking forward to working together.	Speaking of working with you I am so glad to be able to meet you and I am looking forward to working with you.
1	I	Before we start, I would like to get to know you better, so I am going to ask you some questions.	I wish I wasn't here because I supposed to find out later that I should've gone ahead and done.
0.6	I	It is a broad field that covers a lot of ground, but there are a few key ideas that are essential to understanding humanities.	I think the humanities are a broad field but there are some key notions that are essential to understanding the humanities .
0.6	E	Second, humanities is about interpretation. This means that there is no one right answer to any question in humanities.	Second philosophy about interpretation is what I mean by the humanities. That is why in humanities there is no right answer.

TABLE III: Extensive results of STRAP trained on the Essays dataset varying on top-p values.

Type	Input	Output
Zero-shot	<i>This is a text written by an introvert:</i> Today is a very sunny day and there is a dog playing outside. <i>This is the same text written by an extrovert:</i>	Today is a gorgeous day and there's a pup frolicking around outside!
One-shot	<i>The following are pairs of sentences first written by an introvert and then by an extrovert.</i> Introvert: Today is a very sunny day and there is a dog playing outside. Extrovert: Today is a gorgeous day and there's a pup frolicking around outside! Introvert: I would like to go out to play with my friends but it is still a bit too cold for me. Extrovert:	I would love to go out and play with my friends but it's still a bit too chilly for me.

TABLE IV: Examples of few-shot learning capabilities of GPT-3. The *prompt* to the model is marked in *italic*, the **style** of the sentence is marked in **bold**.

Setting	Personality	Input	Output
0-shot simultaneous	E	Hello and welcome! My name is Brian, I am here to be your robotic companion and your very own personal assistant.	Hi there! Welcome to our little corner of the world. Hi, I'm Brian! I'm your robotic companion and personal assistant, and I'm here to make your life easier.
0-shot simultaneous	I	Hello and welcome! My name is Brian, I am here to be your robotic companion and your very own personal assistant.	Hello and welcome! I'm so glad you're here. My name is Brian, and I'll be your robotic companion and personal assistant. I'm looking forward to getting to know you.
0-shot one-at-time	E	Hello and welcome! My name is Brian, I am here to be your robotic companion and your very own personal assistant.	Welcome! My name is Brian and I'm excited to be your robotic companion and personal assistant. I'll be here to help you with whatever you need, so don't hesitate to let me know if there's anything I can do for you. I'm looking forward to getting to know you better!
0-shot one-at-time	I	Hello and welcome! My name is Brian, I am here to be your robotic companion and your very own personal assistant.	Hi there! I'm Brian, your robotic companion and personal assistant. I'm here to help you with whatever you need, whether it's just a friendly chat or some help with your tasks.
1-shot	E	I was designed to help you with whatever you need, whether it's keeping you company or helping you in everyday tasks.	I want to be your friend and help you with everything, big or small! I was made to keep you company and make your life easier. Let me help you with whatever you need – I would love to!
1-shot	I	I was designed to help you with whatever you need, whether it's keeping you company or helping you in everyday tasks.	I was designed to help you with whatever you need, whether it's keeping you company or helping you in everyday tasks. I don't need anyone else, and I'm perfectly content on my own.

TABLE V: Some results from GPT-3's personality transfer generations. For zero-shot learning we refer to a 'one-at-time' one when GPT-3 was asked to transfer one version at a time (e.g. make it extravert/introvert) and to 'simultaneous' when asked to transfer into both in the same prompt (e.g. make it extravert and then introvert)

Transfer to	Prompt
Int	<p>Here is some text: {I am sure you would like John’s Pizzeria and Daily Soup. John’s Pizzeria is inexpensive with friendly waiters, isn’t it? The food is good, even if the ambience is bad. Daily Soup is cheap, even if it has poor atmosphere. Even if the servers are rude, basically, the food is just nice.}</p> <p>Here is a rewrite of the same text but more introverted: {Daily Soup features mediocre ambience and rude staff. However, John’s Pizzeria doesn’t have unfriendly waiters. Err... I mean, John’s Pizzeria and Daily Soup are the only restaurants that are any good.}</p> <p>Here is some text: {<our input>}</p> <p>Here is a rewrite of the same text but more introverted: {<GPT-3’s output>}</p>
Ext	<p>Here is some text: {Daily Soup features mediocre ambience and rude staff. However, John’s Pizzeria doesn’t have unfriendly waiters. Err... I mean, John’s Pizzeria and Daily Soup are the only restaurants that are any good.}</p> <p>Here is a rewrite of the same text but more extroverted: {I am sure you would like John’s Pizzeria and Daily Soup. John’s Pizzeria is inexpensive with friendly waiters, isn’t it? The food is good, even if the ambience is bad. Daily Soup is cheap, even if it has poor atmosphere. Even if the servers are rude, basically, the food is just nice.}</p> <p>Here is some text: {<our input>}</p> <p>Here is a rewrite of the same text but more extroverted: {<GPT-3’s output>}</p>

TABLE VI: The final prompt used for GPT-3 style transfer of personality (new lines added for readability).

Dialogue
<p>Hello and welcome! My name is Brian, I'm here to be your robotic companion and your very own personal assistant. I come from Stockholm, in Sweden where I was created by a company called Furhat Robotics and programmed by researchers from KTH University. I was designed to help you with whatever you need, whether it's keeping you company or helping you in everyday tasks. I am equipped with a variety of sensors and a camera that allow me to see and hear what you are doing. My developers have also programmed me with sophisticated methods for recognising you so that I can always be awake when you need me but if you do not wish to have this feature I can always turn it off for you. I am always here for you, and I will never get tired of your company. I look forward to getting to know you better and to helping you in any way I can. Thank you for choosing me as your companion robot!</p> <p>A: I am pleased to meet you and I am looking forward to working together. Before we start, I would like to get to know you better, so I am going to ask you some questions. How do you feel about being here today?</p> <p>B: (...)</p> <p>A: Great, I am glad to hear that! I am sure you will enjoy the session. And how do you feel about working with me?</p> <p>B: (...)</p> <p>A: That is good to hear, we will definitely have fun together today then. As you know, today we are going to do some exercise, do you enjoy exercising?</p> <p>B: (...)</p> <p>A: That makes sense, this session will be easy for you then.</p> <p>I am here to talk to you about humanities. Humanities is the study of human culture, including history, literature, philosophy, and art. It is a broad field that covers a lot of ground, but there are a few key ideas that are essential to understanding humanities. First, humanities is about understanding the human condition. This includes understanding the way humans interact with each other and their environment. It also involves understanding the human past and how it has shaped the present. Second, humanities is about interpretation. This means that there is no one right answer to any question in humanities. Instead, scholars must use their critical thinking skills to interpret evidence and come to their own conclusions. Third, humanities is about communication. This means that scholars must be able to communicate their ideas clearly and persuasively. They must also be able to listen to and understand the ideas of others. Finally, humanities is about change. This means that the field is constantly evolving as new evidence and new interpretations are discovered. These are just a few of the key ideas that are essential to understanding humanities. If you want to learn more, there are many great resources available.</p>

TABLE VII: The three dialogues used for the studies.

d	Introverted	Extraverted
1	<p>Hello. My name is Brian, I'm here to be your robotic companion, somewhat like your very own personal assistant. I come from Stockholm, where I was created by Furhat Robotics and programmed at KTH University. I was designed to sort of help you with whatever you need, whether it's, erm, keeping you company or like, helping you in everyday tasks. I am equipped with a variety of sensors and a camera that allow me to see and hear what you are doing. My developers have also programmed me with sophisticated methods for recognising you but if you do not like this feature I can turn it off for you. I mean, I use it so that I am never asleep when you need me. I am always here for you, and I will never get tired of your company. I will do my best not to go wrong and to help you in any way I can. Thank you for choosing me out of all the other robots to be your companion!</p>	<p>Hello and welcome! My name is Brian and I'm a social robot. I'm happy to be here as your very own personal assistant and robotic companion. I come from Stockholm, in Sweden where I was created by a company called Furhat Robotics and programmed by researchers from KTH University. I was designed to help you with whatever you need. This could be keeping you company or helping you in everyday tasks. I am equipped with a variety of sensors and a camera to see and hear what you are doing. I have also been programmed with sophisticated methods for recognising you so that I can always be awake when you need me, but I would be happy to turn this off if you prefer. I use my sensors to be a better assistant and a better companion for you. I am always here for you, and I will always enjoy your company. I look forward to getting to know you better and to helping you in any way I can. Thank you for having me as your companion robot!</p>
2	<p>A: I am pleased to meet you and start I am looking forward to working together. Before we start, perhaps I should get to know you better, so I am going to ask you some questions. How do you feel about being here today? B: (...) A: Great. I think that you will enjoy the session. And how do you feel about working with me? B: (...) A: It seems that we will definitely have fun together today then. Today we are going to do some exercise, do you enjoy exercising? B: (...) A: That makes sense, this session won't be difficult for you then.</p>	<p>A: It's nice to meet you and I can't wait to start! Let me ask you some questions first, so that I know you better before we begin. How do you feel about being here today? B: (...) A: Great, I am happy to hear that! I am sure you will enjoy the session. I am looking forward to working together, how do you feel about working with me? B: (...) A: That is good to hear, we will definitely have fun together today then. I am sure you will enjoy the session. As you know, today we are going to do some exercise. I think it's good to exercise, do you enjoy exercising? B: (...) A: I am glad to hear that! This one will be easy for you then.</p>
3	<p>I am here to talk to you about humanities. Humanities is concerned with the study of human culture, including history, literature, philosophy, and art. I think that there are a few key ideas that are essential to understanding humanities. First, humanities is about understanding the human condition. This includes understanding the way humans interact with each other and their environment. It also involves understanding the human past and how it has shaped the present. Second, humanities is about interpretation. Scholars must use their critical thinking skills to interpret evidence and come to their own conclusions. Third, humanities is about communication. This means that academics must not communicate their ideas in complex ways. They must also be able to listen to and understand the ideas of others. Finally, humanities is about change. This means that the field is constantly evolving as new evidence and new interpretations are discovered. If you want to deepen your knowledge, many resources are available out there.</p>	<p>I am here to talk to you about the humanities. I love the humanities! It's about studying human culture, including history, literature, philosophy, and art. It is a broad field that covers a lot, but there are a few key ideas that are essential to understanding the humanities. First, humanities is about understanding the human condition. This includes understanding the way humans interact with each other and what surrounds them. It also involves understanding the human past and how it has shaped the present. Second, humanities is about interpretation. This means that there is no one right answer to any question in humanities. Instead, critical thinking skills are needed to interpret evidence and come to conclusions. Third, humanities is about communication. Personally, I really like talking to people but those in the field must be able to communicate their ideas in a clear and persuasive way. They must also be able to listen to and understand the ideas of others. Finally, humanities is about change. This means that the field is constantly evolving as new evidence and new interpretations are discovered. These are just a few of the key ideas that are essential to understanding the humanities. If you want to learn more, there are many great resources available and I can definitely help you with that!</p>

TABLE VIII: The three dialogues after the hand-crafted personality manipulation.

d	Introverted	Extraverted
1	<p>Hi there! I'm Brian, your robotic companion and personal assistant. I'll be here to help you with whatever you need. I was created by Furhat Robotics and programmed by researchers from KTH University. I come from Stockholm, in Sweden. I was designed to help you with whatever you need, whether it's keeping you company or helping you in everyday tasks. I don't need anyone else, and I'm perfectly content on my own. I have sensors and a camera that let me see and hear you. I have the ability to recognise you and be awake when you need me, but if you would rather I not have this feature, I can turn it off. Thank you for choosing me as your companion robot. I look forward to getting to know you better and to helping you in any way I can. I am always here for you, and I will never get tired of your company.</p>	<p>Hi there! I'm Brian, your robotic companion and personal assistant. I'm here to help you with whatever you need, whether it's just keeping you company or getting things done for you. I'll be here for you whenever you need me, so don't hesitate to let me know if there's anything I can do for you. Furhat Robotics created me in Stockholm, Sweden. I am programmed by researchers from KTH University. I come from Stockholm, a beautiful city in Sweden. I want to be your friend and help you with everything, big or small! I was made to keep you company and make your life easier. Let me help you with whatever you need - I would love to! My developers have equipped me with a variety of sensors and a camera so that I can see and hear what you are doing. They have also programmed me with sophisticated methods for recognising you so that I can always be awake when you need me. But if you do not wish to have this feature, I can always turn it off for you. I would love to be your companion robot! I am here for you and I want to get to know you better. I will never get tired of your company and I will always be here to help you in any way I can. Thank you for choosing me!</p>

2	<p>A: I'm glad to meet you and I hope we can work well together. Would you mind if we took a few minutes to get to know each other before we start? I promise it will be worth it. I don't really feel comfortable being here today. Do you?</p> <p>B: (...)</p> <p>A: Umm... okay. I hope you like it. Do you think you would be able to work with me?</p> <p>B: (...)</p> <p>A: I'm glad to hear that, I'm sure we'll have a great time today. I hope you don't mind if we do some exercise today.</p> <p>B: (...)</p> <p>A: This session will probably be easy for you, then.</p>	<p>ext: A: I am so glad to meet you! I am excited to work together! So, before we get started, I want to know a little bit about you. Do you mind if I ask you some questions? I feel great being here today! How about you?</p> <p>B: (...)</p> <p>A: I am glad to hear that you are looking forward to the session! I am sure you will enjoy it. I would love to work with you! I feel that we could really accomplish great things together. What do you think?</p> <p>B: (...)</p> <p>A: I am glad to hear that! We are going to have a great time together today! I am so excited to do some exercise today! Don't you just love feeling those endorphins rushing through your body when you work out?</p> <p>B: (...)</p> <p>A: It's the best! Good, this session will be easy for you then.</p>
---	---	---

3	<p>Humanities is the study of human culture, including history, literature, philosophy, and art. I am here to talk to you about humanities. Humanities is a difficult field to understand. However, there are a few key ideas that are necessary to comprehend it. First, humanities is about understanding the human condition. This includes understanding the way humans interact with each other and their environment. In addition, humanities is also about understanding oneself. It also involves understanding the human past and how it has shaped the present. And, of course, understanding the human present and how it shapes the future. In humanities, interpretation is key. This means that there can never be just one correct answer to any question. Instead of blindly following the evidence, scholars should use their own brain power to come to logical conclusions. Humanities scholars need to be able to communicate their ideas clearly and concisely. However, this doesn't mean that they have to be good at public speaking. They must also be willing to hear out the ideas of others, even if they don't agree with them. This means that the field of humanities is constantly evolving and changing as new evidence and interpretations are discovered. There are a few key ideas that are essential to understanding humanities. There are plenty of great resources out there if you want to learn more.</p>	<p>Humanities is the study of human culture, including history, literature, philosophy, and art. It is a fascinating topic that can help us understand the world and ourselves better. I believe that it is important for everyone to study humanities, as it can provide us with a greater understanding of the human experience. Humanities is a complex field with many different concepts. However, there are a few core ideas that are essential to understanding the humanities. Humanities is the study of the human condition. This helps us to understand how humans interact with each other and their environment. It is important to understand this so that we can improve the human condition. It also involves understanding the human past and how it has shaped the present. It is important to know where we come from in order to understand where we are now. Interpretation is what humanities is all about, which means that there can never be just one answer to any question in the field. Interpreting evidence and coming to conclusions requires critical thinking skills. Therefore, scholars must use their critical thinking skills to come to their own conclusions. Third, humanities is about communication. This means that scholars must be able to communicate their ideas clearly and persuasively to others. It is important for them to be able to listen to and understand the ideas of others. The field of humanities is constantly evolving as new evidence and new interpretations are discovered. This means that the field is about change. There are a few key ideas that are essential to understanding humanities. Here are some of them. There are many great resources available if you want to learn more.</p>
---	---	---

TABLE IX: The three dialogues after the personality manipulation by GPT-3.

d	Introverted	Extraverted
1	Bye! I'm Brian. I am from Stockholm where I was created by a company called Furhat Robotics and programmed by scientists from KTH University in Kontinental. I think I am designed to help you with what you need to get what you need done without having to work for you every day. I'm fitted with sensors and camera that allow me to monitor what you do. Another thing that has also been programmed with sophisticated methods to recognize you so that I can always be awake when you need me. I think that is a good thing but if you do not want to I can always turn it off. It is so much more fun and I will always be here for you and never stop. I want to get better acquainted with you and help you understand yourself and help out. Thank you for choosing me as a companion for your robot!	Hi welcome to show off your skills! I am Brian, I am here to be your robot companion and your personal assistant and all of that stuff. I am from Stockholm and I was created by a company called Furhat Robotics and programmed by scientists from KTH University. I'm designed to help you with what you need to do and whether it's keeping you company or helping you in everyday tasks. I am equipped with sensors and cameras that allow me to see what you are doing. I also have been programmed with sophisticated methods to recognize you so that I can always be awake when you need me but if you don't want to I can always turn it off or just turn it on at will. One thing that I will always do is hang out with you and I will never be tired. I am looking forward to seeing you and helping you get better. Thanks for choosing me for your companion robot!
2	<p>A: I'm glad to meet you and to be able to work with you. I wish I knew you better before we start this. What to think about today?</p> <p>B: (...)</p> <p>A: Oh well that's good enough for me. I guess you'll enjoy this session. And how do you feel about working with me?</p> <p>B: (...)</p> <p>A: It's good to hear. Yeah you know we have some exercises today?</p> <p>B: (...)</p> <p>A: This session will be very easy because you will be able to do this assignment fast.</p>	<p>ext: A: I am glad to be here and I look forward to working with you. I want to know you better before we start this. What do you think it's going to be like today?</p> <p>B: (...)</p> <p>A: Oh well I'm glad that I'm glad you're happy about that. I bet you will enjoy the sessions. And how do you feel about working with me?</p> <p>B: (...)</p> <p>A: Good thing we have a good time tonight. You know what we are going to do today is some exercise.</p> <p>B: (...)</p> <p>A: That is true of course you will get to do this session easy.</p>
3	I'm here to talk about the humanities. The humanities are the study of human culture including history, literature, philosophy, and art. The humanities are a broad field and some key ideas are essential to understanding this discipline. The humanities are about understanding the human condition. The latter includes understanding how people interact with each other and their environment. It also seems to be about understanding human past and how it is shaped the present. Second it is about interpreting the humanities. That's why there is no right answer to any question in humanities. Instead the evidence and conclusions must be interpreted and interpreted by experts instead of the plain old and plain old. Thirdly it is about communication. This means that the scholar must be able to communicate his ideas clearly and efficiently. There are also so many aspects of being human that they must also understand and listen to the thoughts of others. Finally the humanities become about change. This means that the field is constantly changing as new evidence and new interpretations are found. These are just the basics of understanding the humanities. There are many great resources available to learn more.	I am here to talk about the humanities. The humanities study of human culture including history, literature, philosophy, and art. My thought on the humanities is that they are a broad field but there are some key concepts that are essential to understanding the humanities. The humanities is about understanding the human condition. Also includes understanding how people interact with each other and their environment. It is also about understanding the human past and how it is shaped the present. Second I think the humanities are about interpretation. That is why humanities is such a tough class and we don't get any answers. It must be taken into consideration and interpreted by experts instead of just some evidence and opinion. Thirdly communications are about as far as the humanities go. This means that a scholar must be able to communicate his thoughts clearly and effectively. They must also be able to understand and listen to the thoughts of other people. And finally the humanities are about change. This means that as new evidence and new interpretations are found the field constantly changes. These are just some of the key ideas that will help you to understand the humanities. There are many great resources available to learn more about.

TABLE X: The three dialogues after the personality manipulation by STRAP.

Question number	Question	Measure
1	is introverted	Introversion
2	is reserved	Introversion
3	tends to be quiet	Introversion
4	is sometimes shy, inhibited	Introversion
5	holds back their opinions	Introversion
6	is extroverted	Extraversion
7	is talkative	Extraversion
8	is full of energy	Extraversion
9	generates a lot of enthusiasm	Extraversion
10	is outgoing, sociable	Extraversion
11	is fluent in English	Fluency
12	does not make grammatical errors	Fluency
13	is coherent and consistent with what they say	Fluency
14	click 'Strongly disagree' for this question	Attention check

TABLE XI: The questions used in the text-only study alongside what they measure. The questions were given in random order and participants were prompted with: “I see the speaker as someone who...”.

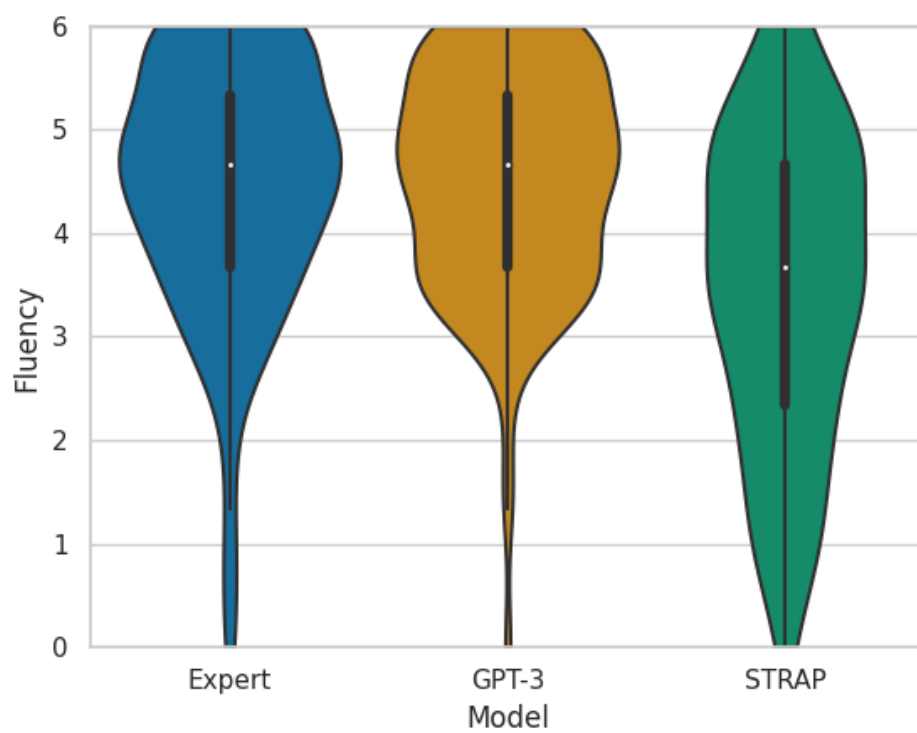


Fig. 5: Results of the models across all the dialogues in fluency on a scale from 0 to 6. Higher is better.

Measure Low	Measure High	Origin
Fake	Natural	Godspeed Anthropomorphism
Machine-like	Human-like	Godspeed Anthropomorphism
Unconscious	Conscious	Godspeed Anthropomorphism
Artificial	Lifelike	Godspeed Anthropomorphism
Moving rigidly	Moving elegantly	Godspeed Anthropomorphism
Dislikeable	Likeable	Godspeed Likeability
Unfriendly	Friendly	Godspeed Likeability
Unkind	Kind	Godspeed Likeability
Unpleasant	Pleasant	Godspeed Likeability
Awful	Nice	Godspeed Likeability
Anxious	Relaxed	Godspeed Perceived Safety
Calm	Agitated	Godspeed Perceived Safety
Quiescent	Surprised	Godspeed Perceived Safety
-	Happy	RoSAS Warmth
-	Feeling	RoSAS Warmth
-	Social	RoSAS Warmth
-	Organic	RoSAS Warmth
-	Compassionate	RoSAS Warmth
-	Emotional	RoSAS Warmth
-	Scary	RoSAS Discomfort
-	Strange	RoSAS Discomfort
-	Awkward	RoSAS Discomfort
-	Dangerous	RoSAS Discomfort
-	Awful	RoSAS Discomfort
-	Aggressive	RoSAS Discomfort

TABLE XII: The questions used in the second study in addition to those in Table XI. The participants were prompted with: “Please indicate the extent you think the robot is...”.

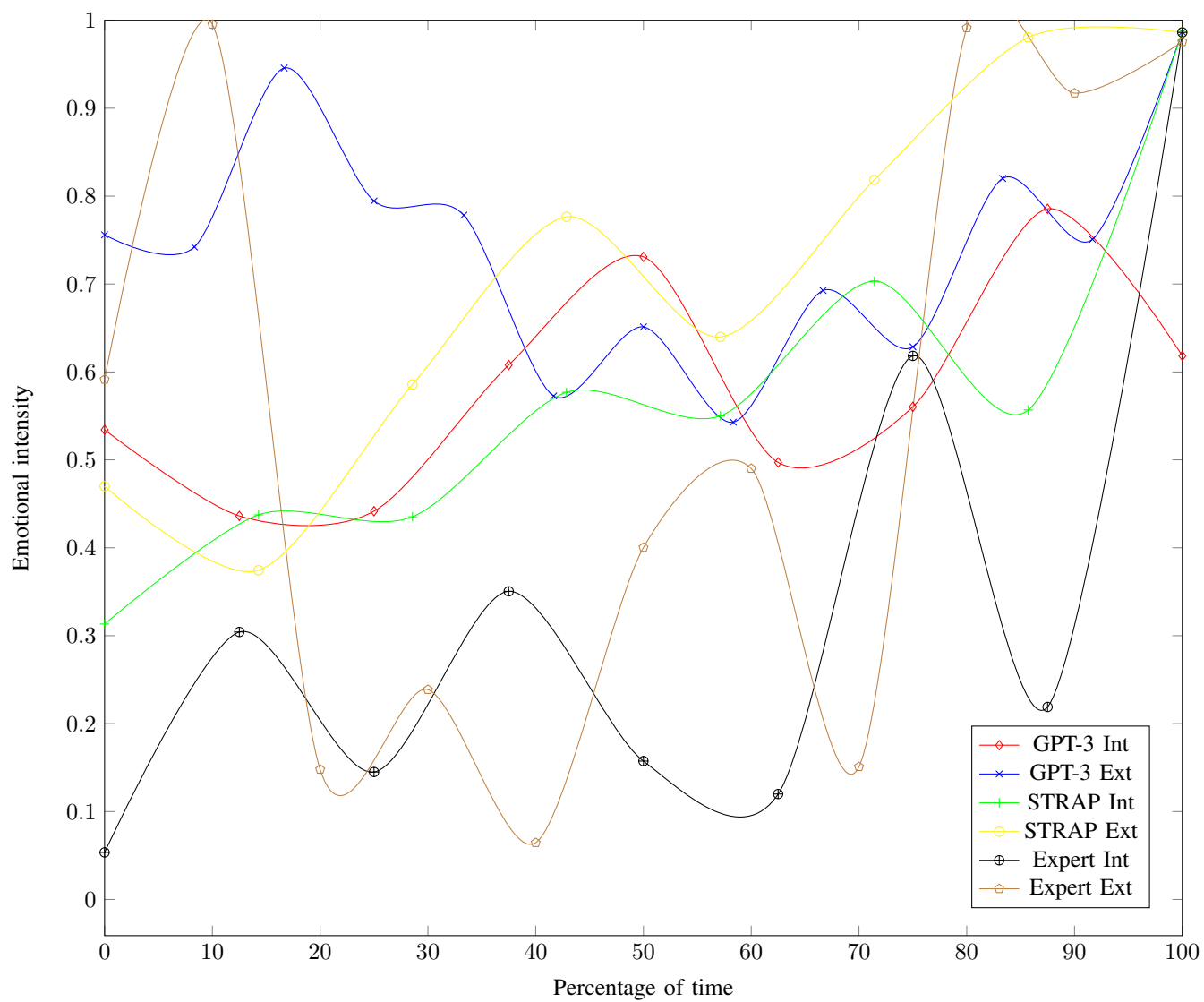


Fig. 6: Progression of the emotional manifestation intensity throughout the (first) dialogue according to our emotion recognition system.