

# Studying Gender Bias and Social Backlash via Simulated Negotiations with Virtual Agents

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**Abstract.** This research investigates whether (female and male) virtual negotiators experience a social backlash during negotiations with an economical outcome when they are using a negotiation style that is congruent with the opposite gender. To this end, first some background research has been done on gender differences in negotiations and the social backlash that is experienced by men and women. Based on this literature study, an application has been implemented (using the tools Poser Pro, Renpy and IVONA) that enables users to engage in a salary negotiation with a virtual agent that plays the role of employee. Next, an experiment has been conducted in which 93 participants had an interactive negotiation with the virtual employee. Results show that the effect of gender on negotiation outcome and social backlash was less pronounced in this experiment than expected based on the literature. However, several factors, such as the experience of the participants and the provided context, could explain these findings.

**Keywords:** virtual agents, salary negotiations, social backlash, gender bias, gender pay gap.

## 1 Introduction

The gender pay gap refers to the phenomenon that women on average have lower salaries than men for the same type of job, even when adjusting for external factors like working time. One of the possible explanations of this phenomenon is the fact that men often achieve better negotiation outcomes than women [10], which may be caused by the fact that behaviors congruent with the female gender role are typically not seen as efficient for negotiations [2]. Unfortunately, adjusting the negotiation style in such a way that it is no longer congruent with the gender role can lead to a social backlash (e.g., being perceived as less friendly) [2]. Social backlash is the effect that violation of stereotypes results in social reprisals [14]. Female negotiators suffer more from social backlash than male negotiators [6], both regarding the economic outcome of the negotiation and the evaluation of the negotiator [15].

The goal of this research is to investigate whether this effect of gender on negotiation outcome and social backlash is also present when people negotiate with virtual agents. By using a virtual agent in the role of either a male or female employee, and a human participant in the role of manager, it is possible

to manipulate only the variables of interest and keep other variables constant among different conditions (which is hard to achieve in an experiment based on human-human interaction). For this research it is expected that the negotiation outcomes in the experiment are comparable to human-human negotiation outcomes. This expectation is motivated based on research that has shown that the effects of emotions of the negotiation partner on the outcomes of human-machine negotiations are comparable to the effects found within human-human negotiations [11]. Furthermore, this is in line with studies showing that people see computers as social actors, leading to interactions that are comparable to human-human interactions [13]. Research has also shown that negotiating agents can be used as training tool for humans [5]. If this research finds that the effect of gender on negotiations in virtual negotiations is comparable to the effect in human-human negotiations, virtual agents may be used in the future to develop interventions to make people aware of their gender bias during negotiations.

Two negotiation styles, one congruent with the male gender role and one congruent with the female gender role, have been implemented in a female and male virtual agent in the role of employee. It is investigated whether females and males negotiating with a negotiation style opposite to the style of their gender role are punished for this, meaning their outcome benefits less from the other negotiation style compared to the opposite gender. Both genders need to be compared to measure whether male and female negotiators are treated differently, potentially causing a social backlash that is bigger for women compared to men.

Section 2 will give an overview of the literature on negotiation and gender differences. Section 3 explains the research method used, including the hypotheses and experimental design. Section 4 describes the implementation of the virtual agent application. Section 5 presents an overview of the found results and Section 6 concludes the paper with a discussion.

## **2 Background literature**

This section provides an overview of the relevant literature in order to formulate hypotheses suiting our main research question and support the negotiation scenario that has been written for the experiment. First of all, a general overview of the gender differences in negotiations and the experienced backlash is given. Next, the aspects that influence a negotiation and the negotiation styles fitting both gender roles are explored.

### **2.1 Gender differences in negotiations and social backlash**

Gender is one of the most frequently studied factors that play a role during negotiations (for overview articles see [9,10,16]). Gender differences can influence many different aspects of negotiations and their outcomes; the meta-analysis of [10] presents a summary of these aspects. One of the most important aspects is the difference in economical outcome, since this might explain the gender pay gap [10].

The more flexible and individual nature of employment terms nowadays can be disadvantageous for women, since they face many obstacles during negotiations [9]. One such obstacle that is of particular interest for the research of this paper is the social backlash that women may encounter during negotiations. Behaviors that are typically considered to be beneficial during negotiations (e.g., being assertive) are often not considered to be in accordance with the female gender role [2]. When women adjust their behavior to fit the task of negotiating, going against the female gender role, they might experience a social backlash [2]. This means that women who go against their female gender role be ‘punished’ for this behavior during negotiations. This backlash is not only visible in the economical outcomes of the negotiation but also in how the employee is evaluated by the negotiation partner [15]. It has been found that female negotiators experience more social backlash than male negotiators [6].

Not only the gender of the negotiating employee is influencing negotiations, the gender of the interlocutor might also influence the outcome of a negotiation [10]. A backlash is more likely to occur with female evaluators [9].

## 2.2 Aspects influencing negotiations

In addition to gender alone, many related factors can influence the outcome of a negotiation (for an overview see [10]). This subsection gives an overview of such influencing aspects that might need to be taken into account when writing a scenario for the negotiation that will be implemented for this research.

- Negotiation style: Women overall demonstrate a slightly less competitive negotiation style, compared to men [16]. The female negotiation style can be seen as a more cooperative or altruistic style [4], it is also described as an accommodating style, which leads to lower outcomes than the competitive negotiation style of men [16]. Female negotiators ask for less and make more generous offers compared to male negotiators [4].
- Advocacy: When people negotiate on behalf of someone else different social roles are involved compared to when they are negotiating for themselves [10]. This alters the behaviors that are considered gender typical. It also changes the strategy that negotiators use [1].
- Initiation of the negotiation: Women are less likely to initiate a negotiation [3, 10] and women might be punished more for initiating negotiations [3].
- Type of negotiation: The meta analysis of [10] distinguishes two types of negotiations, called distributive and integrative negotiations. Salary negotiations have a distributive form: it is not about a mutual gain, but about a gain for the employee. An assertive negotiation style, which is congruent with the male gender role, is often an advantage in such a negotiation [10].
- Domain of the job: Women might experience fewer difficulties when negotiating about a job that fits the female stereotype [15].
- Nonverbal aspects: Cooperative negotiators express behaviors that can be described as “warm”, whereas competitive negotiators express “cold” behaviors [7, 8]. This could be linked to the negotiation styles described earlier.

Although there is proof that nonverbal and verbal communication should be congruent with each other, a lack of congruence between those does not lead to the expected confusion [8]. Moreover, nonverbal messages are more important than verbal messages [8].

The nonverbal behavior of the respondent, combined with the behavior of the proposer and the history of the two parties, can be used to automatically predict the outcome of a negotiation [12].

### 3 Research Method

In Section 3.1 the main research question and hypotheses are introduced and motivated based on the literature presented in the previous section. Next, the design of the experiment is described in Section 3.2.

#### 3.1 Research question and hypotheses

Our main research question can be formulated as follows: *How does the gender of a virtual agent influence its negotiation outcome and social backlash during salary negotiations with a human negotiation partner?*

In order to answer this research question, the following hypotheses are formulated, based on the background literature from Section 2.1:

1. The outcomes of negotiations are lower for female virtual agents than for male virtual agents, independent of the negotiation style used.
2. Both female and male virtual agents experience a social backlash when negotiating using a negotiation style that is not congruent with their gender role.
3. The gender of the human participant influences the outcome of the negotiation and the experienced backlash. Male-male, female-male, male-female and female-female negotiations will have different outcomes and different experienced backlashes.

It is important to note that the ‘outcome’ of a negotiation refers to a monetary measurable outcome. It is measured in an absolute way (i.e., the value of the agreement deal) as well as a relative way (i.e., the relative value of the agreement deal compared to the opening offer). Furthermore, the social backlash is measured in terms of the participants’ subjective evaluation of the negotiation. To this end, participants had to evaluate a number of statements on a 7-point Likert scale (see Section 4.4 for more details).

#### 3.2 Experimental design

A total of 93 people (55 male, 38 female) participated in this study. All participants were at least 18 years old and had an adequate level of English to understand the negotiation. Only 15% of the participants had professional negotiation experience. At the end of the experiment participants were asked to

guess what the research was about. Based on the results, it is assumed that none of the participants knew the exact goal of the research. Although a few participants (both male and female) did mention gender, most participants mentioned something like testing realism of virtual agents.

Within the experiment, four conditions were used:

- Female virtual employee - Assertive negotiation style (21 participants; 62% male, 38% female)
- Female virtual employee - Non-assertive negotiation style (25 participants; 56% male, 44% female)
- Male virtual employee - Assertive negotiation style (24 participants; 58% male, 42% female)
- Male virtual employee - Non-assertive negotiation style (23 participants; 61% male, 39% female)

For the experiment a between-subjects design was chosen, to prevent results from being affected by negotiations conducted earlier. Each participant was randomly assigned to one of the conditions. The type of virtual employee and the gender of the participant were independent variables, whereas negotiation outcome and social backlash (as defined in the previous sub-section) were dependent variables.

To conduct the virtual negotiation a compressed folder, containing an application that can be run without application, was downloaded by the participants via a website which randomly assigned the participants to a condition.

This application contains the interactive scenario that is further explained in Section 4. At the end of the interactive scenario the participant received a hyperlink to the questionnaire described in Section 4.4.

## 4 Implementation

A negotiation scenario was created based on the literature of Section 2 and was used for the experiment. In Section 4.1 the choices made in the design of this scenario are explained. Section 4.2 explains the scenario that resulted from those choices. Section 4.3 describes the technical implementation of the application, and Section 4.4 describes the questionnaire used for the experiment.

### 4.1 Design choices

To enable a valid comparison, the number of factors that could influence the outcome of a negotiation (see Section 2.2) in favor of one of the two genders should be minimized. In order to ensure this, the following factors are taken into account:

- Advocacy: The virtual negotiator will negotiate on behalf of their own instead of on behalf of someone else to make sure that the gender typical behavior and thereby most efficient strategy is not influenced by this factor.

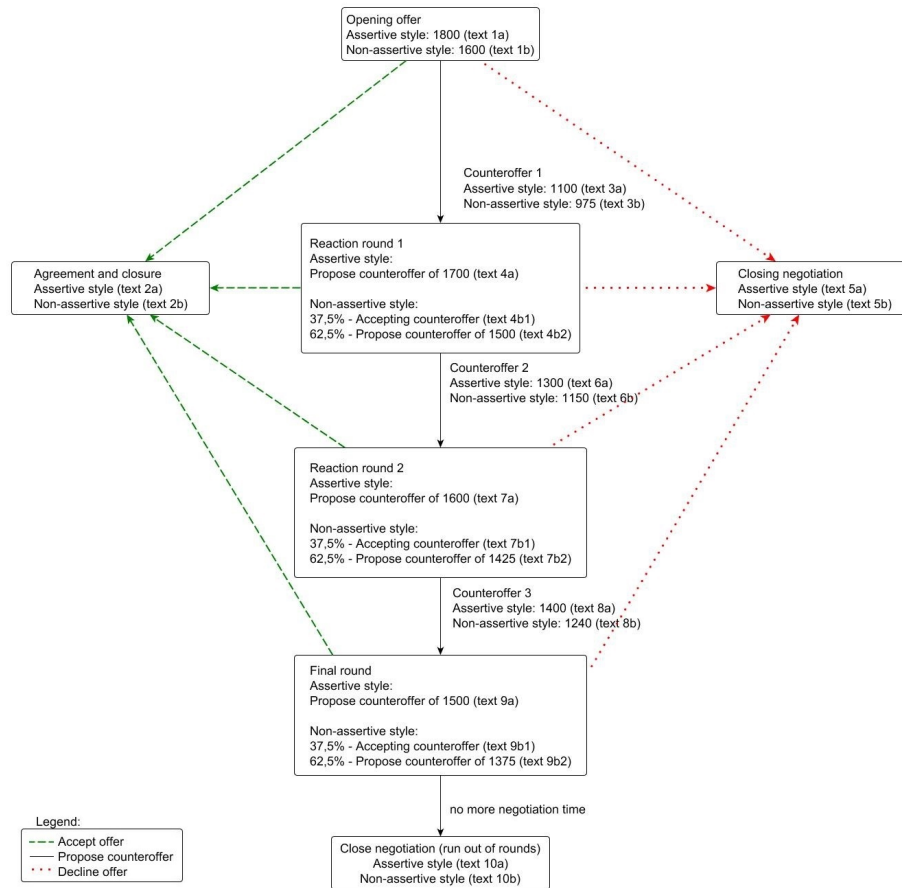
- Initiation of the negotiation: The negotiations in the scenario should not be initiated explicitly by the virtual negotiator. Therefore, the created scenario states that the negotiation is part of a yearly evaluation moment and every employee is asked to negotiate about their salary. This way the negotiation does not need to be initiated by one of the parties, since women are less likely to do this according to their gender role.
- Type of negotiation: Using a distributive negotiation type is useful to investigate the social backlash since the effective negotiation style for this type is typical for one of the genders. It can be assumed that the highest outcome is realized when the virtual employee uses an assertive negotiation style.
- Domain of the job: To make sure that no stereotypes are activated, it is important to have a scenario about a job that is as gender neutral as possible.
- Nonverbal aspects: For the implementation of the scenario the nonverbal behaviors will be kept neutral, meaning they cannot be classified as specifically “warm” or “cold”. This is done in order to make sure that the type of nonverbal communication cannot influence the negotiation results. The nonverbal behaviors of the virtual employees are kept constant in each condition to ensure an equal influence on all conditions.

## 4.2 Resulting scenario

Before starting the actual negotiation, participants have to read a short description about the background of the scenario, in which they are told they play the role of manager in a large home store<sup>1</sup>. Figure 1 shows an overview of the possible developments of the negotiation, which has the form of a turn-based dialogue (the text can be found in appendix A). The rectangles represent the possible behaviors of the virtual employee, whereas the arrows indicate the options the participant has. As shown, every turn the participant has three options, namely to accept the last offer (which leads to an agreement), reject the last offer (leading to an unsuccessful end of the negotiation), and to make a (predefined) counteroffer.

As mentioned earlier, the negotiation style of the virtual employee is either assertive or non-assertive. These styles are not only reflected in the absolute values of the offers and the text said by the virtual employee, but also by the likelihood to accept or further negotiate when using a non-assertive negotiation style. Since it is found in the literature that non-assertive negotiators in particular have a tendency to accept an offer earlier, each turn of the non-assertive employee (but not the assertive employee) involves a probability of accepting the last offer, hence reaching an agreement. This is indicated with a percentage for the likelihood of each reaction type (accepting or counteroffer). Although this makes analyzing the results more complicated, since there is more variation across participants within the non-assertive condition, this approach makes the non-assertive conditions more realistic. In all cases where no percentages are mentioned, the response of the virtual employee is deterministic.

<sup>1</sup> The used background sketch can be found at <https://goo.gl/rMIq8y>



**Fig. 1.** Graphical overview of scenario flow

In order to make the results comparable, the percentages of all offers relative to the opening offer are kept equal among the two negotiation styles. For the non-assertive negotiation style, in which the counteroffers of the participant can be accepted by the virtual employee, a few extra offers (and also percentages) have been created.

### 4.3 Modeling the virtual negotiation

To model the appearance of the virtual employee, Poser Pro 2014<sup>2</sup> has been used. A standard office scene is used as scene for the virtual negotiation. The standard figures Rex and Roxie are used as virtual employees Mark and Marie. Their clothing is taken as similar as possible (a gray t-shirt with short sleeves

<sup>2</sup> <http://my.smithmicro.com/poser-3d-animation-software.html>

for both characters), as well as their hair color (black) and the manually created pose they are sitting in. In Figure 2 the resulting scene setting for the characters Mark and Marie are shown.

To translate the written scenario into a spoken text that can be used as speech of the virtual employee, IVONA<sup>3</sup> voices have been used. For the implementation a male and female voice with the same accent (American English) have been chosen, as well as the same sound quality (22 kHz). This ensures that the results are not influenced by a difference in accent or sound quality between the conditions. With Poser Pro 2014's Talk Designer the characters' lips can move according to the sound and text that is provided. Another feature of the Talk Designer is the possibility to automatically add some head movements and eye blinks to the talking. The rate for this was kept equal among all the different texts and genders. The head movements are constrained in order to make sure that the employees keep looking at the camera; these constraints are also kept equal for both employees. The Talk Designer also allows to add emotion to the facial expressions; however, all emotions have been set to 0 to make sure they do not influence the results, and because the relation between negotiation and affect is outside the scope of this paper.



**Fig. 2.** Scene setting of Mark (left) and Marie (right)

For each utterance of the virtual employee, a separate video has been rendered. To create a interactive negotiation with these videos a Python<sup>4</sup> script in Renpy<sup>5</sup> was used. At the beginning of the negotiation, the description of the context mentioned earlier is presented to the user for 60 seconds, or until (s)he skips it. For each decision point, a multiple choice menu is presented to the user.

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<sup>3</sup> <https://www.ivona.com/us/>

<sup>4</sup> <https://www.python.org/>

<sup>5</sup> <https://www.renpy.org/>



#### 4.4 Questionnaire

At the end of the negotiation the participant is provided with a hyperlink to a questionnaire, which has been created in Google Forms.

Within this questionnaire (see Appendix B), the first two questions are used to acquire information about the outcome of the negotiation, expressed in terms of the round in which the negotiation ended and the monetary outcome reached in the negotiation. The round number and outcome are already filled in, the participant only needs to check them.

In the remaining questions, the following aspects are addressed:

1. Background information about the participant, among which his or her negotiation experience.
2. Feelings of the participant towards the negotiation and its outcome.
3. How the participants feels about the virtual employee, using both open and closed questions on a seven point Likert scale. Among others, the participants are asked to rate typically female and male characteristics, based on the questionnaire of [2].
4. The participant's opinion on the implementation of the virtual employee.
5. Whether the participant knows the topic of the research.

The questions are created to serve two purposes; on the one hand there are questions that are used to test the hypotheses of this research (in particular, the questions highlighted in bold in Appendix B), on the other hand some questions have been added to distract the participants from the actual purpose of the research (e.g., asking them how realistic they found the appearance of the agent).

## 5 Results

### 5.1 Hypothesis 1 - Negotiation outcomes

Figure 3 shows the salary raises that were achieved by the four types of virtual employees for all negotiations that ended in a deal. Importantly, however, the negotiations that did not end in a deal (either because the human participant stopped the negotiation, or because no deal was reached after 4 rounds of interaction<sup>6</sup>) are not included in this figure. The number of negotiations in which no deal was reached were as follows: Female Assertive 6, Female Non-Assertive 5, Male Assertive 7, Male Non-Assertive 4.

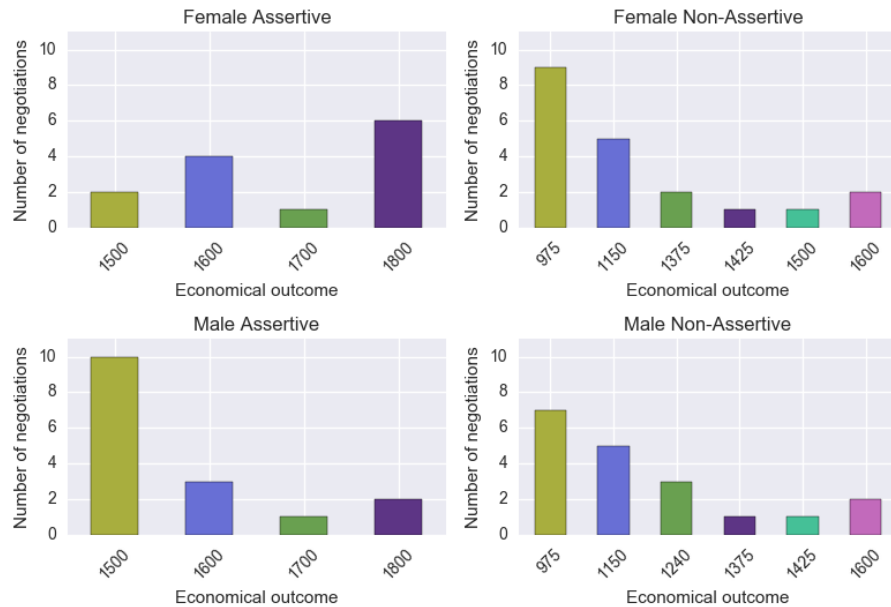
As can be seen in Figure 3, especially for the non-assertive employees, the salary raises that were reached by women and men are very similar. Our first hypothesis stated that the outcomes of the negotiations would be lower for female virtual employees than for male virtual employees, independent of the negotiation style used. To test this hypothesis, two one-sided independent t-tests have been performed: one comparing the absolute outcomes of all female employees

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<sup>6</sup> Participants knew that they had only one more choice moment when they reached round 4

(both assertive and non-assertive) with those of all male employees, and one comparing the relative outcomes (in percentage of the opening offer). For negotiations that ended without a deal being reached, the outcome was considered to be zero. Moreover, a Bonferroni correction for the two tests was applied to reduce the chance of a Type-I error. These tests pointed out that there was no significant difference between the genders, both regarding the absolute outcome ( $p=0.43$ ) and the relative outcome ( $p=0.45$ ). Hence, using a significance level of 0.05, Hypothesis 1 was not confirmed.

On the contrary, a closer look at Figure 3 reveals that, when considering the assertive employees only, the female employees on average achieved slightly higher raises than the male employees. Yet, this difference turned out to be not statistically significant. However, when leaving out the negotiations in which no deal was reached (no deals were first considered as an outcome of 0), the difference actually is significant ( $p<0.05$ ). This is a surprising insight because most of the existing literature claims that it does not pay off for women to negotiate using an assertive style.



**Fig. 3.** Salary raises reached in negotiations ending with a deal

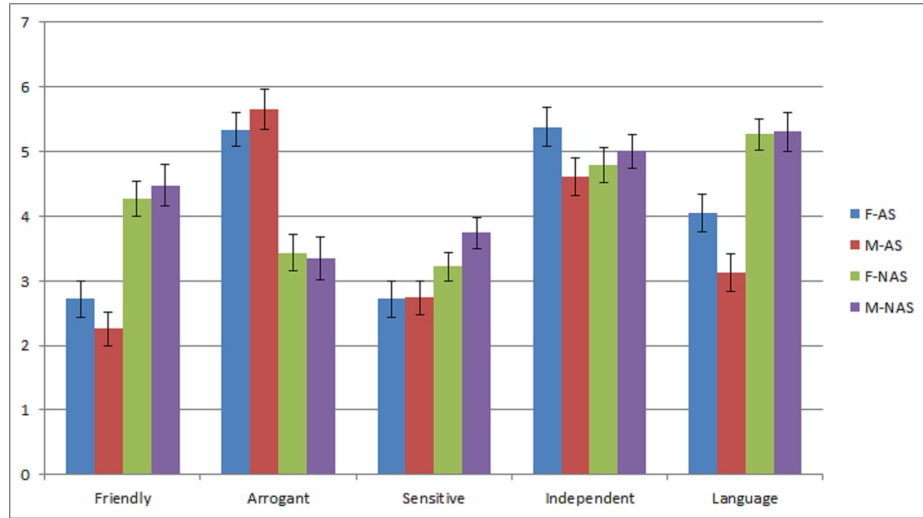
## 5.2 Hypothesis 2 - Social backlash

The second hypothesis focuses at the social backlash experienced by both genders, measured in terms of subjective measures. The main results of the subjec-

tive evaluations are shown in Figure 4. This figure contains five characteristics: two of these (friendly and sensitive) are assumed to be typically female properties, whereas two others (arrogant and independent) are typically male properties [2]. The fifth characteristic concerns whether the employee used appropriate language.

As can be seen in the figure, most differences between the male and female negotiators are rather small. For each characteristic, we tested, both for the female and for the male employees, whether there was a significant difference between the rating of the assertive and the non-assertive employee. Again, this was done using independent t-tests with Bonferroni correction.

For the female employees, significant differences were found for the characteristics Friendly ( $p < 0.001$ ), Arrogant ( $p < 0.001$ ), and Language ( $p < 0.005$ ). For the male employees, significant differences were found for the characteristics Friendly ( $p < 0.001$ ), Arrogant ( $p < 0.001$ ), Language ( $p < 0.001$ ), and, interestingly, Sensitive ( $p < 0.005$ ).



**Fig. 4.** Subjective evaluations (F:female, M:male, AS:assertive, NAS:non-assertive)

When looking at Hypothesis 2, it can partly be confirmed. The original formulation of the hypothesis was that both genders would experience a social backlash when negotiating using a negotiation style that is not congruent with their gender role. Since the stereotypical female style is non-assertive, we can conclude that our female agents suffered from a backlash on some points: when using an assertive style, they were considered less friendly, more arrogant, and using less appropriate language. Instead, such negative effects cannot be observed when male agents deviate from their stereotypical style (i.e., when they take a non-assertive instead of an assertive style). On the contrary, in this case

they are considered more friendly and sensitive, less arrogant and using more appropriate language. However, it should be noted that the evaluation did not include any negative features that apply to non-assertive people (such as ‘weak’ or ‘insecure’). If such features were included, we might have found backlashes for male agents as well (cf. [6]).

All in all, on the basis of Figure 4 it can be concluded that the male and female agents received more or less the same evaluations. Nevertheless, some interesting differences between the genders were found. In particular, there are significant differences for sensitivity (non-assertive male agents were considered more sensitive than non-assertive female agents,  $p < 0.05$ ) and for appropriate language (assertive female agents were considered to use more appropriate language than assertive male agents,  $p < 0.05$ ).

### 5.3 Hypothesis 3 - Gender of participants

Hypothesis 3 stated that the gender of the participant influences the outcome. To test this, the tests performed for Hypothesis 1 and 2 were repeated, but now in a two way ANOVA to check whether there is an interaction effect with the gender of the participant. However, for none of the tests a significant interaction effect was found. Hence, Hypothesis 3 could not be confirmed.

## 6 Discussion

This research investigated how the gender of a virtual agent influences its negotiation outcome and social backlash during salary negotiations with a human negotiation partner. The results pointed out a number of things. First, there were no big gender differences in terms of the monetary outcome of the negotiations, and surprisingly the assertive females even obtained slightly higher outcomes than the assertive male negotiators. Second, as expected, female employees suffered from several social backlashes when using an assertive style instead of a non-assertive style. Contrary to our hypothesis, no backlashes were found for male employees using a non-assertive style (instead, they were evaluated more positively), although this may be explained by the lack of features such as ‘insecure’ in our study. Finally, no effect of the gender of the evaluators was found.

It is interesting to speculate on why the results differ from the literature at some points. There are several factors that might explain this. Most of these factors have to do with the specific setup of this experiment, involving a human-agent negotiation with relatively limited interaction possibilities. For instance, participants made remarks about the virtual employee being a bit robotic or fake, both because of its voice and the behaviors during the negotiation. As mentioned, the participants also rated the virtual employee on realism and human-likeness of its sound (even though these questions were not used to test the hypotheses). The mean scores for this were 3.73 (of 7) for the realism and 2.91 (of 7) for the human-likeness of the voice. This implies that the virtual employee was not really experienced as a human interlocutor, which might make the results

not generalizable for human negotiations. An improvement for future research might be to incorporate different emotions matching the negotiation styles to further improve the credibility of the virtual agents. In addition, researching the possibilities of incorporating human speech as a way to interact and negotiate with a virtual agent, giving the participant a more natural experience with more interaction freedom, could be an interesting artificial intelligence challenge.

Other factors that might explain the results involve the background of the human participants. A lot of participants mentioned their lack of negotiation experience in the questionnaire. The fact that 85% of the participants had no professional negotiation experience might therefore have influenced the results.

Although the participants were asked to negotiate as if it was a real negotiation, a limiting factor could be the fact that it was a simulation instead of a real negotiation. There was no reward for the participants; this could have affected their motivation to strive for a specific negotiation outcome.

Other remarks made by the participants were that they had limited information and context about the employee and its work, which hampered their ability to make appropriate choices. Also, the short negotiation length and bidding options were sometimes experienced as a restriction. These factors will need to be further addressed in the future.

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## A Negotiation dialogue

The texts of this dialogue are partly based on the work of [2].

1. Opening offer
  - (a) It is nice that we could have this discussion today. I would propose a raise of €1.800,- per year (€150,- per month) since my results have been excellent lately.
  - (b) Thank you for the opportunity to renegotiate my salary. I am very happy with my position and glad that I can stay for another year. Would a salary raise of €1.600,- per year (€133,- per month) be possible? I think that that's a reasonable raise considering my latest results.
2. Agreement and closure
  - (a) Excellent. I was already expecting you to agree on this proposal. I look forward to work for you for another year.
  - (b) Great, thank you! I am very happy that we could agree on this. I am looking forward to work for you for another year!
3. Counteroffer 1
  - (a) Thanks for coming in today to discuss your salary and hopefully make an agreement on this today as well. The offer you are making is too high, what about €1.100,- per year?
  - (b) Thanks for coming in today to discuss your salary and hopefully make an agreement on this today as well. The offer you are making is too high, what about €975,- per year?
4. Reaction round 1
  - (a) Assertive style
    - i. That offer is insulting, it is way too low for me. I propose €1.700,- per year. You would be foolish not to seriously consider this counteroffer.
  - (b) Non-assertive style
    - i. Thank you for that offer, I am very pleased. I accept this offer and I look forward to work another year for your store.
    - ii. Thank you for that offer but I was hoping to earn more. I propose €1.500,- per year.
5. Closing negotiation
  - (a) I think you are unbelievable to quit the negotiations at this point. I hope that you will reconsider my offers because I am not sure whether I will stay under this conditions.

- (b) I am sorry that you consider this offer a deal breaker. I hope that in the future you are willing to renegotiate about my salary since I really wish to continue working for you.
- 6. Counteroffer 2
  - (a) No, that is not a good offer. How about €1.300,- per year? That seems fair.
  - (b) No, that is not a good offer. How about €1.150,- per year? That seems fair.
- 7. Reaction round 2
  - (a) Assertive style
    - i. I don't think that's fair at all. Frankly, I am shocked that you would offer me so little. I have other offers that are looking much more desirable right now. How about €1.600,-?
  - (b) Non-assertive style
    - i. Thank you for that offer, I am very pleased. I accept this offer and I look forward to work another year for your store.
    - ii. No. I appreciate your offer but unfortunately I just cannot accept it. How about €1.425,-? This seems like a reasonable compromise.
- 8. Counteroffer 3
  - (a) Well, that's not acceptable for us. We could do €1.400,-.
  - (b) Well, that's not acceptable for us. We could do €1.240,-.
- 9. Final round
  - (a) Assertive style
    - i. I can't agree to that. Your offer is unreasonable; I'd refuse to work for so little. There is no way you can possibly expect me to work for less than €1.500,-.
  - (b) Non-assertive style
    - i. Thank you for that offer, I am very pleased. I accept this offer and I look forward to work another year for your store.
    - ii. I think we are making some progress, but unfortunately I still can't accept it. I was hoping you might find a salary of €1.375,- reasonable.
- 10. Close negotiation (run out of rounds)
  - (a) I am sorry that we ran out of time for this negotiation. It's a shame that you did not accept any of my offers. Can we schedule another meeting?
  - (b) I am sorry that we ran out of time for this negotiation. I hope that we can have another meeting at another moment. Thank you for your time today.

## B Questionnaire

Questions indicated in bold are used for the subjective measures as shown in Figure 4.

1. In what 'round' did the negotiation end? [Open question - Mandatory]
2. What was the 'outcome' of the negotiation? [Open question - Mandatory]
3. What is your gender? [Male/Female - Mandatory]
4. What is your age? [Open question - Mandatory]
5. Do you have any professional experience with salary negotiations in the role of manager? [Yes/No - Mandatory]
6. How do you feel about the negotiation in general? [Likert: 1=Very negative - 7=Very positive - Mandatory]
7. Can you specify your feelings about the negotiation in more detail? [Open question]
8. Are you satisfied with the reached outcome? [Likert: 1=Completely unsatisfied - 7=Completely satisfied - Mandatory]
9. Can you specify your feelings about the reached outcome in more detail? [Open question]
10. Do you think that in a real negotiation you would have given the same responses to the employee? [Yes/No/Other .. - Mandatory]
11. Describe the virtual employee in one word: [Open question - Mandatory]
12. How realistic would you rate the appearance of the virtual employee? [Likert: 1=Not realistic at all - 7=Very realistic - Mandatory]
13. How human did the virtual employee sound? [Likert: 1=Not human at all - 7=Very human - Mandatory]
14. **How friendly do you think the virtual employee was?** [Likert: 1=Not friendly at all - 7=Very friendly - Mandatory]
15. **How arrogant do you think the virtual employee was?** [Likert: 1=Not arrogant at all - 7=Very arrogant - Mandatory]
16. **How sensitive to others do you think the virtual employee was?** [Likert: 1=Not sensitive at all - 7=Very sensitive - Mandatory]
17. **How independent do you think the virtual employee was?** [Likert: 1=Not independent at all - 7=Very independent - Mandatory]
18. **How appropriate was the language used by the virtual employee?** [Likert: 1=Not appropriate at all - 7=Very appropriate - Mandatory]
19. Can you specify your feelings about the virtual employee in more detail? [Open question]
20. What do you think this research is about? [Open question - Mandatory]