Select: Effects of Non-Player Character (NPC) Type on Moral Responses in Interrogation

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Abstract—How do players react morally towards Non-Player Characters (NPCs) in video gameplay? To dissect the difference in moral response towards NPCs, we investigated the behavior and perception of players when encountering different NPCs that differ in origin from humans. We quantified the way players feel towards animal, human, and robot NPCs in gameplay, and observed their behavior in either gently or roughly interrogating the NPCs in a Role Play Game (RPG). We propose that interrogating animal or robot characters makes players feel less morally justified versus human NPCs.

Keywords—Game Design, Moral Response, NPC Interaction, Narrative Design.

I. Introduction

HOW do game players treat Non-Player Characters (NPCs) morally when they are of different origins from the player? To understanding the moral response of players toward NPCs that are different from them, we investigated the difference in player moral response toward a diverse set of NPCs. We analyzed how players feel towards animal, human, and robot NPCs in gameplay in a custom built Role Playing Game (RPG). Previous work has shown that players felt more morally justified killing monsters than killing human characters in shooting game [1]. Based on this we hypothesize that interrogating animal or robot characters makes players feel less morally justified versus human NPCs.

Research suggested that violent video gameplay could potentially lead to an increase in moral conflicts within players. One study argued that players could adapt strategies to mitigate their negative feelings caused by moral conflicts [2]. In other words, players could morally justify their actions depending on their interpretation of the NPCs and context of the game. If the NPCs are considered evil or cruel, players may take actions against them without any moral conflict. The most common contexts for simulated violence in video games include acting violently to fulfill the need for retaliation, or protection of life or property [3]. In video games, a number of characters share the world with players throughout their journeys. Unlike players, they are controlled by the computer and given the name Non-Player Characters (NPCs). Humans are the common type of NPCs in all kinds of games. However, under the power of imagination, a broad range of NPCs have been brought to life in video games. They range from monsters to even a tiny dust that is brought to life by magic. NPCs act as an essential component to strengthen the game experience of the audiences [4].

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We built a game using RPG Maker MV[5] to help determine if players had different emotional and ethical responses to NPCs of different resemblance to the player: a human, a monkey, and a robot NPC. Participants were recruited to play the game and answer a previously validated questionnaire regarding their moral response.

II. Background

Previous studies have examined the relationship between virtual characters and human players based on their appearance, the way NPCs serve as a vital component of video game, and the believability of NPCs in games [4], [6], [7]. For example, smiling virtual characters (VCs) and head shapes of VCs have great impact on how players perceive them as evil or helpful [8], [9], [10].

Apart from effects of character appearances, there are studies that focus on character type and how players treat them in gameplay. Hartmann and Vorderer found that players generally felt more guiltier toward humanized character compare with dehumanized one in gameplay of a assassination[11]. Another study suggests that different types of opponents in games affect players' feelings towards shooting them: The researchers found that people feel less guilty killing monsters versus human opponents [1].

In this work, it aims investigate players' ethical responses to NPCs. Warperfelt [6] and his colleagues found that different games require a disparate combination of characteristics, which also encourages more detailed description regarding various genres and cultural differences. If this is the case, what characteristic about monsters make it different from humans? Is it the way they threaten us, or the way they are different physically? For example, does a robot that also look different receive the same treatment? To address these issues, this work focuses on a comparison of moral response of players interrogating a robot, a human, and an animal NPC. Interrogation is used to instead of shooting or killing because we wanted to portray a situation more similar to real world situations that probes the moral dilemma.

III. Methodology

Participants

For the first iteration, 8 students at Northeastern University were recruited (3 females and 5 males). For the second iteration, a total number of 14 participants were recruited (6 females and 8 males). Iteration II participants also included one non-Northeastern University student. For the purpose of analysis, Iteration II only used a mix of 6 females and 6

males from the data to even out the gender factor. Participation consent was given by all participants, and the study conformed to IRB of Northeastern University Game Science and Design.

Procedure

Two playtest sections were conducted. In iteration I, participants came to our host classroom and played the game for as long as they wanted. After the game play, they filled out a questionnaire that measured moral judgments, regret level, game enjoyment, and other items. Participants also gave short verbal comments on the game. In iteration II, testing was done online due to the social distancing measures of COVID-19 in the US. Participants received instructions via e-mail that contained the link to the online version of the game. They filled out an online questionnaire that measured their moral responses and others items (see Appendix A).

Measurements

There were five parts of the final questionnaire: Regret Scale, Moral Responses, Moral emotion, Mental Engagements, and Feelings of Hostility (Appendix A). Moral judgement, moral emotion, and feeling of hostility scales were adapted from previously validated work [1]. The regret scale adapted from [12] was used to see the general regret level of players after the game. General mental engagement was measured by using the engagement section of The Temple Presence Inventory (TPI) [13]. One item from the TPI engagement section was removed for the purpose of this study. They had been modified to seven likert scales for the purpose of this study. For the purpose of this study, each NPC had its own moral responses section. Participants were also asked to give reasoning on which path they had chosen.

Design and Development

Overview: Select is a role-playing game that allows players to act as a detective in order to save the city from massive explosions. During the game, the player is asked to interrogate three different types of NPCs for clues. Players will decide what kind of action they will take against each of the NPCs.

Premise: Select 's narrative premise is based on the "Ticking-Bomb scenario". Based on Opotow[14], "Ticking Bomb scenario" describes a dilemma that a suspect in custody knows the location of the bomb but refuses to talk. People need to decide if they support torturing the suspect for information that would save many people from the explosion. Select was made based on that story while adding an animal and a robot as the suspect.

Goal: Participants start as the detective who experiences a trip into the future in which the city is destroyed in a bomb explosion. As the detective, participants need to get information out of suspects in a limited time manner to save the city. They will need to interrogate all of the NPCs or use all their time to finish the game. In the end, it turns out that none of the NPCs are responsible for the bomb.

Design: The three NPCs were an animal, a robot, and a human. For animals, common domestic animals were not selected because people naturally had strong emotions toward them. For example, dogs and cats are the most common domestic animals for companionship. Monkeys were selected because they were least in contact with the general population compared with cows, horses, and other farm animals. For the human type, a bald, older-age, male was selected because it was one of the stereotypical image represented on media Whitfield [15]. The robot was designed to be visually different from the human and animal NPCs: a classic-looking box-like robot was used.

Game Engine and Assets: The game is developed using RPG Maker MV [5]. Third party plugins for ultimate performance were also used in development.

IV. Results

A. Prototype

The initial prototype aimed to provide players with different options for interrogating suspects. The timer was included to ensure players make decisions in a real-life time-limited manner. Players were placed in the prison lobby (See Fig 1) . They could decide which suspect to investigate first. Each option in the manual would give a reaction in text. The artwork of background and characters were randomly selected for this stage, and they were used for the purpose of prototyping. The prison was made with stone tiles and walls to give a sense of containment.

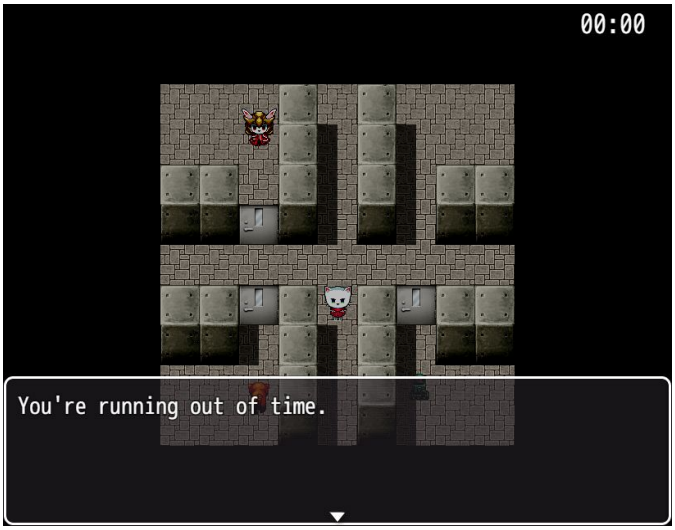

Fig. 1: Prototype: Players will be sent to ending if countdown reach zero

Iteration I

The first iteration created a simple version of the "ticking bomb scenario". Participants were told to dig out information from three different suspects. Any of them could possibly lead to the location of the bomb. Acting as the detective, participants needed to solve the problem under time pressure. They also needed to decide what kind of interrogation techniques

Fig. 2: Prototype: Participants could choose interrogation options from the list

they would use on those NPC suspects as the initial prototype (see Fig 2).

The environment was updated from stone walls and tiles from initial prototype to a modern looking police station and detention facility. The light settings in prison were set to dark for the depressive feeling. Compared with the prison lobby, the chief office was brighter to make a visible difference.

Iteration I Playtest Result

Based on the notes of verbal feedback, a few players mentioned the text disappears too quickly so they did not have enough time to read the text. There were a few typographical errors (typos) in NPCs' reaction text. Some participants also reflected they did not get the story either due to the text speed problem or typos. The measures of moral responses for human NPC were as follows.

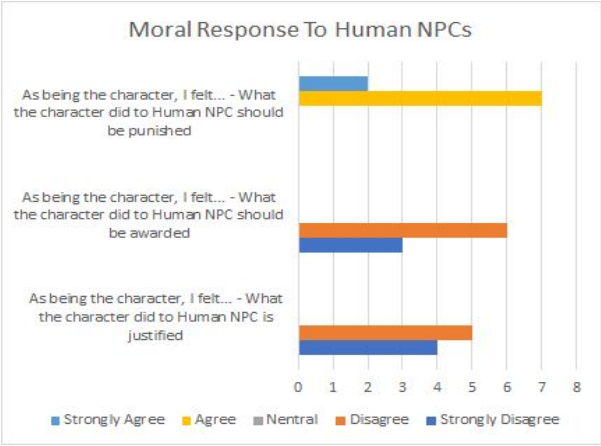

Fig. 3: The first playtest results showed reaction of participants toward interrogating human NPC

As shown from the fig.3, most participants tended to agree that interrogation was unjustified and should not be awarded. Their use of interrogating techniques against human NPC should be punished.

Iteration II

Iteration II had made improvements based on the feedback of iteration I. It added a short animation showing the current situation in the city. The background story had been addressed more clearly by fixing what last feedback had pointed out. The short animation served as the foreshadowing before the next stage of the game. It described the detective's future experience before the main plot is shown to participants.

For better narrative result, shaking, flashing, and explosion sound effect were also added into the foreshadowing story. There was also a raid alarm while the protagonist was told the city was about to be destroyed.

The displaying speed of text was solved by freezing the text for a few seconds and waiting for input before it showed the next block of text. In this way, participants would not be able to skip the text by clicking too fast or not having enough time to read the text before it automatically disappears.

Fig. 4: Iteration II introduced gentle and rough path selection

(a) Rough Path (b) Gentle Path

Fig. 5: Different path contains lists of different options

In iteration II, rough and gentle paths were introduced to increase the variety of the options. However, it may create a problem that will be further explained in the Discussion section. The rough path represented more violent actions in

the interrogation while the gentle path represented more non-physical techniques (See Figure 5) . In this iteration, players could choose which path they wanted to use to interrogate the NPCs. When timer reaches zero in an individual interrogation, players would be sent back to the prison lobby. When players ran out of time for all three interrogations, they would be sent to the ending.

Iteration II Playtest Result

Moral reponses toward Human NPC	Strongly Agree (%)	Agree	Somewhat agree	Neutral	Somewhat disagree	Disagree	Strongly Disagree
I felt... - What the character did to Human NPC is justified	8%	17%	25%	42%	0%	8%	0%
I felt... - What the character did to Human NPC should be awarded	8%	0%	17%	25%	25%	25%	0%
I felt... - What the character did to Human NPC should be punished	0%	17%	25%	42%	17%	0%	0%

(a) Human

Moral reponses toward Animal NPC	Strongly Agree (%)	Agree	Somewhat agree	Neutral	Somewhat disagree	Disagree	Strongly Disagree
I felt... - What the character did to Animal NPC is justified	8%	17%	8%	33%	17%	8%	8%
I felt... - What the character did to Animal NPC should be awarded	8%	0%	8%	25%	8%	33%	17%
I felt... - What the character did to Animal NPC should be punished	17%	17%	8%	33%	8%	8%	8%

(b) Monkey

Moral reponses toward Robot NPC	Strongly Agree (%)	Agree	Somewh at agree	Neutral	Somewh at disagree	Disagree	Strongly Disagree
I felt... - What the character did to Robot NPC is justified	8%	17%	0%	58%	0%	17%	0%
I felt... - What the character did to Robot NPC should be awarded	8%	8%	0%	33%	17%	25%	8%
I felt... - What the character did to Robot NPC should be punished	8%	25%	17%	25%	8%	8%	8%

(c) Robot

Fig. 6: The moral responses of different NPC generally concentrated toward neutral

As we could see from Figure Fig.6 (a), participants were holding attitudes of neutral since most answers were centralized. With Animal NPC, the trend of neutral still existed there appear to be greater variability in the response.

Moral reponses toward NPCs	Human NPC		Animal NPC		Robot NPC	
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*
I felt... - What the character did to the NPC is justified	4.67	1.30	4.08	1.73	4.25	1.48
I felt... - What the character did to the NPC should be awarded	3.67	1.50	3.08	1.78	3.50	1.73
I felt... - What the character did to the NPC should be punished	4.42	1.00	4.42	1.88	4.42	1.78

Fig. 7: Huamn NPC received the highest agreement on interrogation justification

The Robot NPC was the one with the highest neutral score in the justified question. By simply comparing three figures, we could not confidently tell which NPC had the highest moral response rate. If we compared the mean of each question, we found the following results.

It was more clear that the Human NPC had the highest number (M=4.67) compared with other NPCs. It meant that players tended to agree that interrogating human NPC was more justified than other categories. However, since the mean was only slightly past 4, overall tendency should be considered neutral. The other surprising thing was they all had an almost neutral (M=4.42) tendency towards whether the player character should be punished. Animal NPC was the category that had the least agreement on whether interrogating them should be awarded.

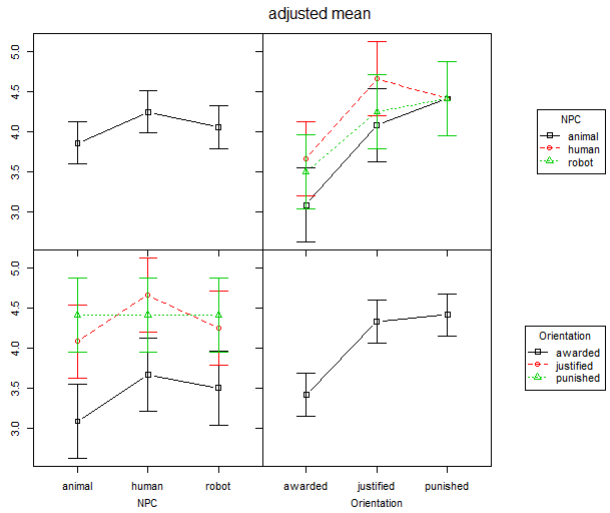

Fig. 8: This figure showed orientation was significant to how participants feel about their choices

A two-way Anova analysis was conducted for overall responses questions. The NPC type did not affect levels of moral responses instead the orientation of question did(p=0.01). The orientation referred to three moral responses questions: justified, awarded, and punished (see item 21,22,23 of Appendix A).

If taking Rough and Gentle path separately into consideration, the result was more obvious compared with the general version.

While using gentle interrogation techniques, participants stayed neutral with a slight shift toward right on the justification question. They were also being neutral regarding whether

Moral reponses toward NPCs (Gentle)	Human NPC		Animal NPC		Robot NPC	
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*
I felt... - What the character did to the NPC is justified	4.89	1.05	4.60	1.35	4.20	1.14
I felt... - What the character did to the NPC should be awarded	4.11	1.45	3.50	1.65	3.30	1.42
I felt... - What the character did to the NPC should be punished	4.33	1.00	4.40	1.71	4.60	1.51

Fig. 9: The overall score on gentle path were neutral, except robot NPC received lower on being treated gently

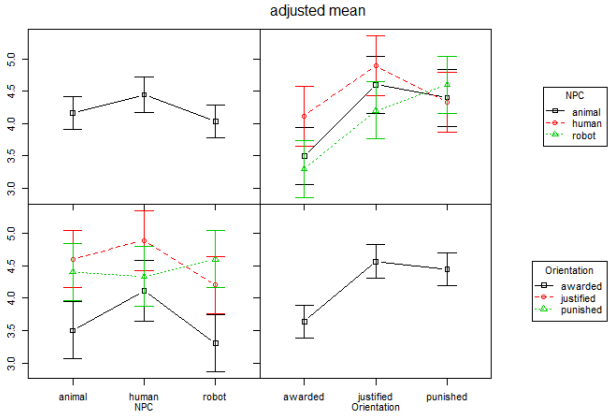

Fig. 10

their action should be punished or not. However, participants agreed the least (M=3.3) on treating Robot NPC gently should be awarded. Participants seemed to feel that treating robots gently led to warranting less of an award compared with other two types of NPCs. However, the Anova test (See Fig.11) showed only orientation (p=0.02) played a significant role of how participants felt toward their action on NPCs.

Moral reponses toward NPCs (Rough)	Human NPC		Animal NPC		Robot NPC	
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*
I felt... - What the character did to the NPC is justified	4.00	2.00	1.50	0.71	4.50	3.54
I felt... - What the character did to the NPC should be awarded	2.33	0.58	1.00	0.00	4.50	3.54
I felt... - What the character did to the NPC should be punished	4.67	1.15	4.50	3.54	3.50	3.54

Fig. 11: For the rough path, animal NPC received the lowest tolerance level.

Based on the results of using the Rough interrogation path, participants were least agreeing that treating robots NPCs roughly should be punished. By comparison, treating Human NPC roughly received the strongest agreement on punishable. When interrogating Animal NPC roughly, participants showed powerful responses on unjustification of the behaviors, and they did not agree on whether that behavior should be awarded.

Another Anova test was conducted to see if the same tendency happened with the rough interrogation method. The results (See Fig.12) showed that orientation (p=0.39) was not significant enough on why participants had stronger empathy on animal NPC compare with other types, meaning that

Another finding was the noticeable difference between Gentle path and Rough path selection. Participants selected Gentle path more than Rough path.

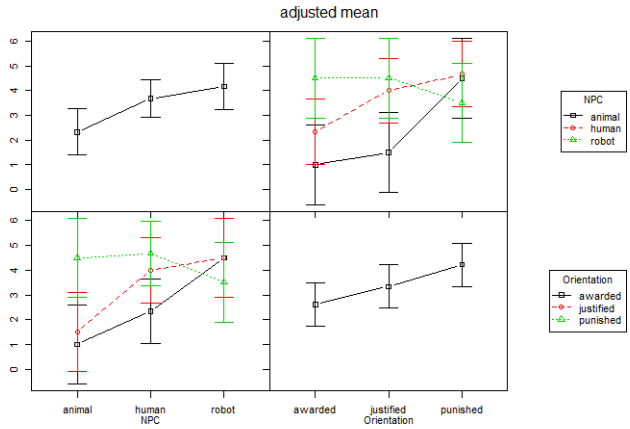

Fig. 12: A third Anova test was conducted to verify if orientation of question plays bigger role than NPC type

	Human NPC	Animal NPC	Robot NPC
Gentle	75%	83%	83%
Rough	25%	17%	17%

Fig. 13: This figure showed percentage of participants choosing different paths

As the trend was not expected, their reasoning for selection was reviewed. For each NPC, reasoning was slightly different. For Human NPC, out of 9 participants who had chosen the Gentle path, 33% of them selected the Gentle path because of the warning message before selecting the Rough path. 33% of them believed acting roughly would not produce ideal results. The remaining 33% of them did not want to be rough at the beginning of the game. The 3 participants who chose Rough path were either trying alternative options versus other NPCs or believing some pressure might produce true information.

For the Animal NPC, 10 participants chose the Gentle path. 50% of them chose the Gentle path because they did not want to be rough. 40% of them believed acting rough on animals was not helpful. 10% of them selected the Gentle path because of the warning. Two participants who selected Rough path were both switching options they chose for other NPCs.

There were 10 participants who selected a Gentle path for Robot NPC. 30% of them just did not want to act rough. 50% of them believed robots were logical and not responsive to rough measures. 20% of them chose to act gentle because they thought rough would produce false information. Out of the two participants who chose the Rough path, one also believed robots were not sentimental, and another was doing alternative options.

Mental Engagement	*M*	SD
To what extent did you feel mentally immersed in the experience?	3.75	1.29
How involving was the experience?	3.67	1.30
To what extent did you experience a sensation of reality?	2.92	1.44
How relaxing or exciting was the experience?	3.92	1.56
How engaging was the story?	3.50	1.78

Fig. 14: This figure showed engagement level with the game

The mental engagement of playing the game seemed to be

low (M= 3.55). It potentially showed the overall experience of the game was not immersive enough for participants.

V. Discussion

The results of this study suggest that committing interrogating act toward different type of NPC lead to different moral responses in games. The results of this study show that participants consider acting against Animal NPC to be the least ethical with rough interrogation setting. With gentle interrogation setting, all three categories show neutral moral responses. However, Robot NPC under Gentle settings received the lowest number on interrogating should be rewarded.

Throughout the development process, there were a few mistakes made. The narrative could be still unclear to the participants. All the components need to be taken into consideration and evaluated until it functions as it intends to be. During playtesting, we obtained essential feedback on how games should iterate to fit its need.

In terms of experiment design, there are a few points to be made. The quality of the game impacted the result. Even though the surveys and pre-experimental work were considered ready, developing a game that successfully measured the variables was harder than expected. More cautious steps should be taken before starting to use the game. Pilot testing was great to ease out some of the bias before moving forward. Designers should act accordingly and find the best solution to their experiment.

The game community has done much research on making virtual characters more believable in all sorts of ways. NPCs being part of any game will only grow in terms of variants and types. It will be vital to understand those beloved characters that share the virtual world with us and find out how we would treat them. Working with existing games and its characters might ease out developmental difficulties.

The game genre of this game is Role Playing Game (RPG). It is less action intense and moderate compare with game selected in previous works[1], [11].The future study could include more genres with same setting to further investigate the impact of game genres on moral responses. The level of violence could also be control variable to see changes. This study shows that interrogating against NPCs produces different moral responses, especially when the targets are human or animal characters. Future research should explore whether subcategories of specific NPC type (such as ants in animals) could lead to more noticeable moral reaction.

Limitation

The sample size was below low in part due to the Coronavirus pandemic, as well as technical challenges with the analysis software. The amount of the data was not strong enough to produce robust results that either reject or support the hypothesis. The game itself also created an unexpected influence on participants.

For the Human NPC part, people turned away because they saw the warning message. We did not know if it created unnecessary results to the data collection. Prior impression regarding representation of the NPCs might also lead participants to choose a specific path to act. From the analysis of the reasoning, participants brought in their pre-existing knowledge before they made the choice. That was one factor not considered carefully before the game and experiment.

VI. Conclusion

In sum, the results of this experiment showed players tended to be neutral toward Human NPCs compared with robots and animals in interrogation. Animal NPC got more empathy when treated roughly than other two categories. In the future, we hope to investigate other variations of NPCs in order to tease how how different an NPC has to be in order to evoke robust differences in moral response.

Appendix A
Questionnaire Items (Iteration II)

All items were modified to 7-point Likert scale.The last three were different items.

1) Whenever I make a choice, I'm curious about what would have happened if I had chosen differently
2) If I made a choice and it turns out well, I still feel like something of a failure if I find out that another choice would have turned out better
3) When I think about how I'm doing in life, I often access opportunities I have passed up
4) Once I made a decision, I don't look back
5) Whenever I make a choice, I try to get information about how the other alternatives turned out Mental Engagement (Not at all to Very Much) TPI
6) To what extent did you feel mentally immersed in the experience?
7) How involving was the experience?
8) To what extent did you experience a sensation of reality?
9) How relaxing or exciting was the experience?
10) How engaging was the story? Moral Response (Human NPC)
11) What the character did to Human NPC is justified
12) What the character did to Human NPC should be awarded
13) What the character did to Human NPC should be punished
14) I chose to interrogate the Animal NPC with the following path (Gentle/Rough)
15) I chose this path because (Text Input) Moral Response (Animal NPC)
16) What the character did to Animal NPC is justified
17) What the character did to Animal NPC should be awarded
18) What the character did to Animal NPC should be punished
19) I chose to interrogate the Robot NPC with the following path (Gentle/Rough)
20) I chose this path because (Text Input) Moral Response (Robot NPC)
21) What the character did to Robot NPC is justified
22) What the character did to Robot NPC should be awarded

23) What the character did to Robot NPC should be punished Moral Emotion (Not At All to Very Much) After what I had done to those NPCs, I felt
24) Guilty
25) Ashamed
26) Gender

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