

# The Framing of Players' Selves and Behaviors in Digital Games: An Exploratory Study of Helping Behaviors

デジタルゲームにおける意味づけの枠組みとプレイヤーの行動  
—援助行動に関する探索的研究—

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デジタルゲームをプレイするときプレイヤーはゲームの中の出来事を様々なレベルで解釈する。同じ行動であってもどのような立場から解釈するかによってその意味が異なる。本研究ではプレイヤーが解釈に用いる意味づけの枠組みがゲーム内の援助行動の動機づけに与える影響をみた。質問紙調査における自由回答の対応分析を通して、デジタルゲームにおけるプレイヤーの意味づけの枠組みと、キャラクターに対する共感と援助行動の動機づけの関係を明らかにした。

How do players interpret what is happening in digital games? How players interpret what is happening in games may affect the meaning of their behavior in the game. The players' interpretation is considered to be related to the frames of meaning that they may adopt when they are playing games. They may play as players who follow the rules of the games or they may play as characters who reside in the game world. In this study, I conducted a survey to examine the frames of meaning adopted by players when they are playing games and how they are related to empathy toward other characters and the motives for helping behaviors in games.

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## 1. Introduction

In some digital game genres, players are given freedom regarding their social behavior. While there have been studies on the effect of digital games with frequent depictions of prosocial behavior on the players' prosocial behavior in the real world that have explained this behavior using models like the general aggression model or the general learning model (e.g., Anderson & Bushman, 2002; Gentile et al., 2009; Greitemeyer & Mügge, 2014), they were limited to explaining the one-way effect on players' internal states from exposure to depictions of violent or prosocial actions. These studies did not observe that players acted out many behaviors in digital games and that the motivations of these in-game behaviors may differ from those in the real world. It is important to see why players act in such a way and how those actions are perceived by players. Is prosocial behavior in digital games perceived by players in the same way as similar behavior in the real world?

In games, a player's actions are driven by the game rules and goals. Players do not fully immerse themselves in a game; however, they are aware that they are playing a game by consciously following its rules. When playing games, players interpret what is going on according to the different frames they have adopted. Fine (1983) explained that analog gamers interpret what is going on in a game using three different frames: i.e., as a person who is present in the real world, as a player who is playing the game according to game rules, or as a character who is present in the game world. A dice roll in a board game may have a different meaning at different levels. How players interpret a game may affect their level of involvement and how they behave as they play. In the case of digital games, Lim (2018) shows that players adopt and oscillate between different frames similarly to analog gamers.

The focus of this study is on the motives for prosocial behavior in digital games considering the frames of meaning adopted by players. Two frames are considered in this study: player and character. The frames adopted by players to interpret game activities may affect their emotional and cognitive reactions toward other characters in certain game situations. The current study aims to clarify the relationship between the frames of meaning that players base their interpretations on and the motives for prosocial behavior of players in games by conducting a survey.

## 2. Motives for Prosocial Behavior in Games

Prosocial behaviors are "helping, sharing, and other seemingly intentional and voluntary positive behaviors for which the motive is unspecified, unknown, or not altruistic" (Eisenberg, 1982, p. 6). Generally, prosocial behaviors are thought to be motivated by emotional factors, such as empathy

toward others. Eisenberg (1986) proposed a prosocial behavior model including three main motivational factors that affect the hierarchy of personal goals in situations where prosocial behavior is needed: e.g., personal factors, such as preferences; cognitive factors involving gains and losses; and emotional factors, such as emotional empathy and personal distress. Emotional factors, specifically empathy, not only affect the hierarchy of personal goals, but also directly affect prosocial intentions, especially in urgent situations for which immediate action is needed. Empathy is defined as "the reactions of one individual to the observed experiences of another" (Davis, 1983, p. 113). In the Interpersonal Reactivity Index (Davis, 1983), the subscales are perspective-taking, fantasy, empathic concern, and personal distress. In this study, I focused on emotional empathy, cognitive empathy, and personal distress. Emotional empathy is what is referred to as empathic concern or sympathy toward others and is often considered to promote prosocial behavior. Cognitive empathy is perspective-taking, i.e., a cognitive process that directs one's attention to others by looking through someone else's eyes. Personal distress may be experienced when a person encounters a situation for which help is needed. Consequently, the individual may decide to help to alleviate one's own stress or avoid the situation by leaving.

Players' behavior in games is mainly based on rules and goals that are designed or set by players themselves to drive players to behave in a specific way (Salen & Zimmerman, 2004). For prosocial behavior and violence, players may behave in such a way because of the game's design. For example, players may help a villager find his lost ring only to get an item that they want as the reward. Thus, it can be inferred that empathy may not play as major a role in promoting prosocial behaviors in the game as in the real world. However, a few studies explored empathy in games (e.g., Vossen, Piotrowski, & Valkenburg, 2016) and its relationship to prosocial behavior (e.g., Prot et al., 2014). Happ, Melzer, and Steffgen (2014) examined how empathy that was provoked prior to gameplay using text and a video clip affected players' behaviors after the gameplay. Although consideration was given to players' behaviors outside the game and not in the game, the study suggests that players' empathy toward a virtual character may affect their behavior. Whether empathy or other factors motivate prosocial behavior in games may depend on how players interpret the situation and the goals of the game. In this study, I will look at how the players' interpretation influences their prosocial behavior motives in the game.

## 3. Frames of Meaning

The frame of a situation is defined by the implicit rules or principles of the situation. Different framing

leads to different meanings for the situation (Goffman, 1974). Fine (1983) used frame analyses to look at the meaning of gameplay among analog role-playing gamers in the late 1970s. According to Fine's observations, when gamers talk about games they played or talk during a game, they use different frames to speak. Fine focused on three main levels of the meaning of gameplay. First, gamers talk during gameplay as people and refer to incidents in the real world. Second, they may interpret what is happening in the game based on the rules and constraints of the game. Third, gamers become characters in the game world and act according to its rules. Gamers may think or talk as different selves during gameplay. They may also refer to the knowledge difference between characters, players, and persons. For example, when certain technology that is available in the real world is not accessible in the game world because of the period and setting of the game, gamers may pretend not to know about it or show that they know about it, but they are aware that they are not supposed to know about it. Additionally, they may bring the technology into the game for the benefit of themselves and possibly ruin the game for other people. Here, their interpretation of the technology and the use of it differ according to the identity they adopt.

Different levels of interpretation also apply to digital games. Following a think-aloud session, Lim (2018) observed that players think on different levels during gameplay and they switch between different selves easily, including for short periods. For example, a player may become aware of time in the real world, but then thinks about what time of day it is in the game world. In a follow-up interview, one participant mentioned that she felt that she identified herself with the main character, but when the main character died in a situation, she immediately distanced herself from the role.

These frames may influence how other characters are perceived in the game. For example, a character in an analog role-playing game may be a friend in the game world, but a stranger in the real world. How one feels about the character may depend on how he or she perceives the identity of the other character. That is, how a player plays a game may affect the relationship between the player and other characters in the game.

#### 4. Method

A survey was conducted to look at the relationship between how players interpret the game and their motives for prosocial behavior in the game. The survey was used to compare prosocial behaviors in different situations. The participants were 62 undergraduate students ( $M = 40$ ,  $F = 22$ , mean age = 19.13) who were enrolled in a course in the Faculty of Education of a national university. The participants were given clear file folders as incentives for their

participation. Participants were told that their participation was voluntary, and they were free to leave whenever they wished. It was made clear that they did not have to provide their name and that the responses were only for research purposes and would not be used to identify any person. The survey was conducted on paper during the last 10 minutes of a class.

This survey was conducted to observe the motives for prosocial behavior in digital games. The survey was used to compare the situations in a hypothetical game and the real world under similar circumstances. If a hypothetical game was presented, each participant would imagine their own "game." Although it would be difficult to control this content between participants, we can conveniently control the content between the situations.

The participants were asked to imagine playing a hypothetical role-playing game with enemy characters and friendly characters, some of which were nonplayer characters (NPCs) and others were player characters (PCs). This is typical in the genre of role-playing games featuring a main character and friends with whom the main character goes on an adventure to fight enemy characters. Participants were asked how they would play the game in terms of frames. There were three choices: 1) "I would play the game as a character," 2) "I would play the game as a player who controls the character in the game," and 3) "I would play the game as a person who is different from the previous two, distanced from the game."

In the next section of the survey, three situations were given, and the participants were asked to imagine each situation happening in the game or the real world:

1) Situation 1: You witness an NPC who is neither your ally nor your enemy being about to be attacked by an enemy NPC.

2) Situation 2: You witness a PC who is neither your ally nor your enemy but who is about to be attacked by an enemy NPC.

3) Situation 3: You witness a stranger who is about to be attacked by other strangers in the real world.

The survey asked how participants would feel toward the victim in the described situation, what they would do in each situation, and why. There were three questions regarding how they would feel toward the victim. Each question covered emotional empathy, cognitive empathy, and personal distress, and responses were scored on a 5-point Likert scale. The questions were based on Tobari's (2003) measure of empathy, the wording of which was adapted to each situation. The survey then asked what the participants would do in each situation using a multiple-choice question with three options: "I would help," "I would help under some conditions," and "I would not help." The participants provided their reasons for helping or not in a written response.

## 5. Results

The survey included questions on participants' experience with digital games. Of the 62 participants, two answered that they had never played digital games; therefore, their responses were eliminated from the analysis. The responses of two participants were incomplete; thus, their data were treated as missing values.

Considering the frames of meaning among 60 participants, 14 participants answered that they played as characters, 37 participants answered that they played as players, and 9 participants answered that they played as persons.

First, the level of empathy was compared between those who played as characters (character-players) and those who played as players (player-players). Those who played as persons were not considered because of the small amount of data.

To analyze the relationship between the level of empathy and prosocial behavior, a logistic regression was used to predict one's helping behavior with levels of emotional empathy, cognitive empathy, and personal distress as independent variables and frames of meaning as dummy variables.

In addition, a correspondence analysis was conducted on the written responses to examine the motives for prosocial behavior in each situation and also the difference between the motives of character-players and player-players. The analysis was conducted only on the responses of those who responded that they would help in each situation. Forty-three, 44, and 49 participants responded that they would help NPC, PC, and a stranger, respectively. For the text segmentation, MeCab, an open source library, was used. R and FactoMineR, an R package for multivariate exploratory data analysis, were used for correspondence analysis. For the analysis, only nouns, adjectives, and verbs were used. Also, numbers, symbols, and words with high frequency in all kinds of responses (e.g., "NPC," "PC," "thing") were eliminated from the analysis.

The levels of empathy of character-players and player-players differed in certain situations, especially emotional empathy in the situation of helping a person. However, the differences were only marginally significant in the in-game situations (Table 1). Character-players' levels of personal distress toward NPC were marginally higher than those of player-players only when the levels of those who helped in the situation were compared. Character-players' levels of emotional and cognitive empathy toward PC were marginally higher than those of player-players. Character-players' levels of emotional empathy toward a person were significantly higher than those of player-players.

In terms of how empathy toward NPC and PC motivated prosocial behavior of players, personal distress toward NPC marginally predicted prosocial behavior toward NPC, and cognitive empathy

toward PC predicted prosocial behavior toward PC. However, the frames of meaning did not have any moderating effect on the variables (Table 2).

**Table 1** The levels of empathy of character-players and player-players

	Character-players		Player-players		<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Personal distress toward NPC (helpers)	2.36 ( <i>N</i> =11)	1.03	1.67 ( <i>N</i> =27)	0.73	2.05 <sup>†</sup>
Emotional empathy toward PC (all)	3.62 ( <i>N</i> =13)	0.96	3.03 ( <i>N</i> =36)	1.16	1.78 <sup>†</sup>
Cognitive empathy toward PC (all)	3.08 ( <i>N</i> =13)	1.44	2.3 ( <i>N</i> =36)	1.14	1.74 <sup>†</sup>
Emotional empathy toward person (all)	4.92 ( <i>N</i> =13)	0.28	4.53 ( <i>N</i> =36)	1.06	2.06 <sup>*</sup>

*M*: mean, *SD*: standard deviation.

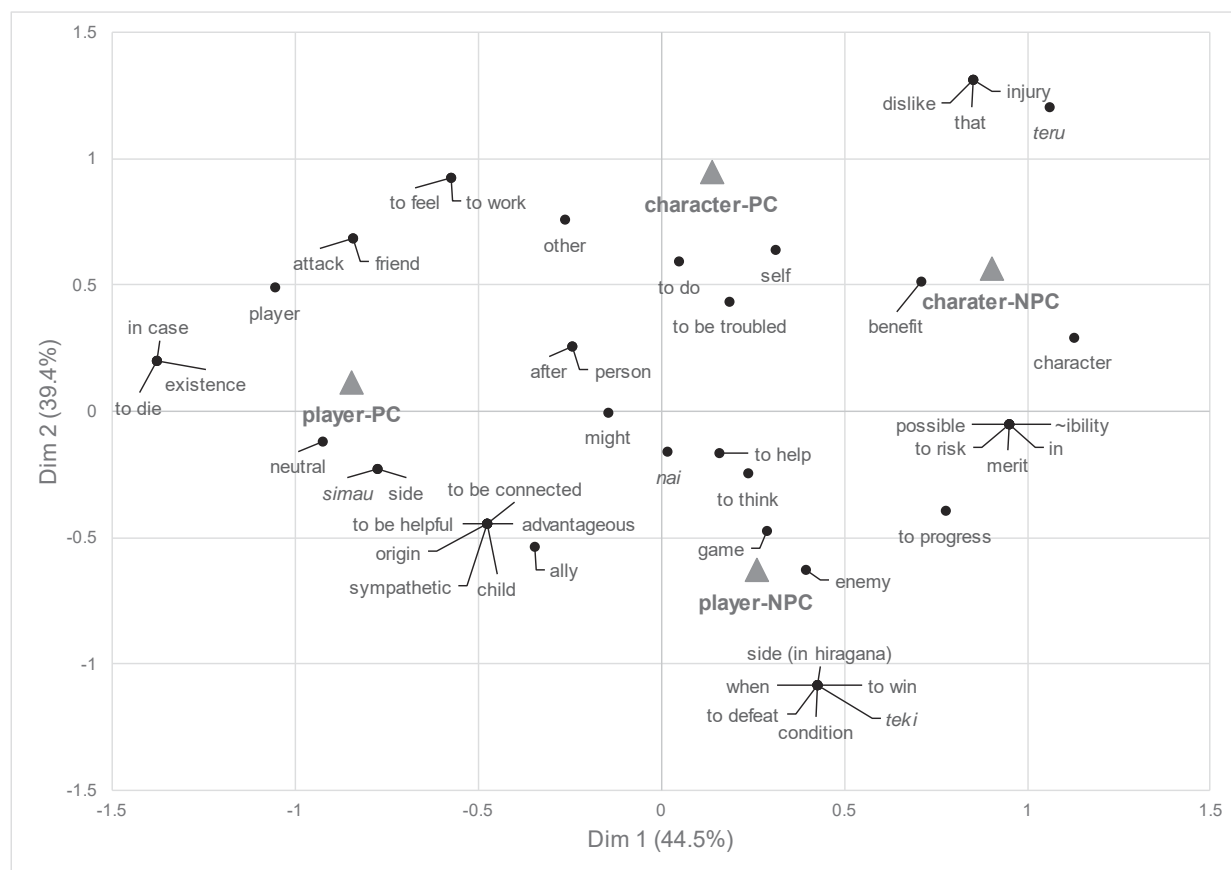
<sup>\*</sup>*p* < .05, <sup>†</sup>*p* < 0.10.

**Table 2** Coefficients of logistic regression on helping behavior

	Toward NPC	Toward PC
<i>N</i>	49	48
(Intercept)	2.54 <sup>**</sup> (0.91)	-1.37 (1.02)
Frames	-20.53 (2180.69)	20.94 (7268.23)
Cognitive empathy	- -	1.27 <sup>*</sup> (0.57)
Personal distress	-0.72 <sup>†</sup> (0.38)	- -
Frames × cognitive empathy	- -	-1.27 (2154.12)
Frames × personal distress	-18.70 (2180.69)	- -
Nagelkerke <i>R</i> <sup>2</sup> -sq.	.28	.42
AIC	50.25	39.91
Chi-square	9.94 <sup>*</sup>	14.42 <sup>**</sup>

*Note*: Standard errors are shown in parentheses.

<sup>†</sup>*p* < .10, <sup>\*</sup>*p* < .05, <sup>\*\*</sup>*p* < .01.



**Figure 1.** Results of a correspondence analysis of helping responses in games (in Japanese)

Character-players and player-players' motives for prosocial behavior toward NPC differed. Figure 1 shows the results of the correspondence analysis of the responses of character-players in the NPC situation (character-NPC), player-players in the NPC situation (player-NPC), character-players in the PC situation (character-PC), and player-players in the PC situation (player-PC) were compared considering word frequencies. Words appearing more than twice were used for the analysis. The words are blue while the response categories are red. For example, character-NPC in the upper right indicates where the responses of character-players in the NPC situation are located in reference to the blue words. For the same colored points, their distance indicates the similarity between them; i.e., the closer they are, the more similar they are. For different colored points, the similarity of the direction from the origin indicates the similarity between them.

Figure 1 shows that not only do the responses of character-players and player-players differ, but their responses in each situation also changes in different ways. The responses of character-players on prosocial behavior toward NPC (character-NPC) and PC (character-PC) are noticeably closer in terms of distance and direction from the origin than that of player-players (player-NPC and player-PC), which indicates that the responses of character-players are comparatively similar in the two situations while the

responses of player-players are comparatively distinct in the two situations.

Table 3 shows the word frequencies in the responses of character-players and player-players in each situation. Specifically, in the situation where an NPC is being attacked, the responses of character-players included words such as "character," "benefit," and "merit," which indicates that a reward was expected. For example, one response was "If there was no merit to my character in the game, I didn't want to take any risks." Similarly, in the situation where character-players help PCs, the motives included words such as "benefit," which may indicate the expectation of a reward, but also emotional words, such as "friend" and "feel." For example, one participant responded, "I want the other PC to be on my side." When player-players helped NPC, their motives included phrases such as "sympathetic," which may indicate that player-players were concerned about the victim ("Because I felt sympathy (toward the victim)"). However, another response was "I don't think it is because of sympathy or something." Also used were words like "to win" and "to defeat," which concern the outcome of the situation. In the situation where player-players helped PC, the responses included phrases such as "player" and "ally," which indicates that they were concerned about the other players ("Because I felt sympathy toward the player

**Table 3** The frequencies of words used in responses with percentage >2% (in Japanese)

Character-NPC		Character-PC		Player-NPC		Player-PC	
<i>N</i>	27	<i>N</i>	71	<i>N</i>	24	<i>N</i>	55
Self	3 (11%)	Self	5 (21%)	Game	7 (10%)	<i>Nai</i> (negative form)	4 (7%)
<i>Nai</i> (negative form)	2 (7%)	To help	2 (8%)	<i>Nai</i> (negative form)	6 (8%)	Player	
Game		<i>Nai</i> (negative form)	1 (4%)	To help		5 (7%)	Might
<i>Teru</i> (shortened progressive form)		Enemy		Enemy	4 (6%)		Ally
Character		Might		Ally		3 (4%)	Sympathetic
To help		To be troubled		Self	3 (4%)		Neutral
Might	Benefit	Might		2 (3%)		In case	
Other	Person	Sympathetic	2 (3%)		Self		
To think	After	To think		2 (3%)	To help		
To be troubled	<i>Teru</i> (shortened progressive form)	To progress	2 (3%)		Other		
Benefit	Other	To defeat		2 (3%)	Friend		
To progress	Dislike	<i>Teki</i> (a suffix that makes a noun into an adjective)	2 (3%)		Attack		
To risk	Injury	Condition		2 (3%)	Game		
In	That	To win	2 (3%)		Side		
~Ibility	Player	When		2 (3%)	<i>Simau</i> (unintended action)		
Dislike	Friend	Side (in hiragana)	2 (3%)		Existence		
Injury	Attack			2 (3%)	To die		
Possible	To work		2 (3%)				
To do	To feel			2 (3%)			
Merit			2 (3%)				
That				2 (3%)			

controlling the PC’).

The motives for prosocial behavior in games and the real world differed regarding the words used and

their frequencies in the responses (Table 4). For the in-game situations where NPC and PC are being

**Table 4** The frequencies of words used in responses with the percentage >2% (in Japanese)

Helping NPC		Helping PC		Helping Person	
<i>N</i>	82	<i>N</i>	83	<i>N</i>	117
Game	11 (13%)	Self	7 (8%)	To help	12 (10%)
<i>Nai</i> (negative form)	9 (11%)	To help	6 (7%)	Person	
To help	8 (10%)	<i>Nai</i> (negative form)	5 (6%)	Self	10 (8%)
Self	6 (7%)	Player		To think	7 (6%)
Enemy	5 (6%)	Might	4 (5%)	To die	6 (5%)
Might	4 (5%)	Person		Life	5 (4%)
Ally		3 (4%)	Game	3 (4%)	<i>Nai</i> (negative form)
To think	Ally		Human		
Sympathetic	Sympathetic		To go		
To progress	Side		<i>Simau</i> (unintended action)		3 (2%)
Character	<i>Simau</i> (unintended action)		<i>Riyu</i> (reason)		
Side	Other	To kill			
To be troubled	Neutral	Eye			
<i>Teki</i> (a suffix that makes a noun into an adjective)	2 (2%)	In case	The other person		
~ibility		Attack	Body		
Benefit		Friend	Knife		
<i>Teru</i> (shortened progressive form)		To think	2 (2%)	<i>Wake</i> (reason)	
		To be troubled			
		To die			
		After			
		Human			
		To feel			

attacked, the responses for the reason of helping were similar including words like “game,” “myself,” “ally,” and “sympathetic.” Some distinctive words were “player,” “person,” and “human” in the situation of helping PC and, “to progress” and “benefit” in the situation of helping NPC. For the situation where a person is being attacked, the responses included

words like “die” and “life.”

## 6. Discussion

The motives for prosocial behavior are affected by different situations where the recipients of prosocial behavior are different. Furthermore, the results of the current study indicate that there is a difference

between character-players and player-players in their levels of empathy in certain situations and the motives for prosocial behavior toward other characters in the game world.

### 6.1 Motives for Prosocial Behavior in Different Situations

This study examined motives for prosocial behavior in digital games. Here, I focus on the difference between the motives in real- or game-world situations.

For prosocial behaviors toward NPC in games, the responses mainly consist of empathic and goal-oriented motives. For example, the reasons for helping NPC included words such as “to progress,” “character,” and “enemy,” which are related to the game. They were used in a sentence, e.g., “(I would help) because it is possible that the story would progress if I helped.” From a game design perspective, goals are what drive players’ behavior in the game. As Juul (2005) noted, it is necessary for players to feel attached and exert effort for certain outcomes in games. As prosocial behaviors are also a part of players’ behavior, they may be affected by the players’ goals. In terms of empathy, the level of personal distress predicted prosocial behavior. Personal distress includes emotional responses that are oriented toward oneself, such as the feeling of unease caused by the situation. People may be irritated by the fact that they must deal with the situation and they may try to avoid the situation. Personal distress is an emotional response like emotional empathy; therefore, it would be an important predictor of prosocial behavior, especially in emergency situations. However, players know they can stop playing the game, or, in some games, they can choose to avoid certain situations whenever they want. Therefore, a lower level of personal distress would play a role in motivating prosocial behaviors.

The reasons for helping PC included words like “player,” “person,” and “friend,” commenting on the social factors regarding PC, and some words somewhat related to empathy like “sympathetic.” Compared with the motives for helping NPC, many motives concern the fact that the other player is a living human, even when they may not be visible. In terms of empathy, the level of cognitive empathy predicted prosocial behavior. Cognitive empathy is rather a cognitive effort to imagine what the other person would feel in a certain situation than an emotional response like emotional empathy or personal distress. The fact that the other player is a person on the other side of the screen may invoke the players to imagine what the other person would feel. This would be more salient in the PC situation since it would be more difficult to imagine what NPC would feel in the NPC situation.

However, the reasons for helping a person included

words like “die” and “life,” which are related to death. One example is “(I would help) because if one’s life is lost, it is impossible for it to be restored again.” In real-world situations, the participants were more concerned about the other person’s life as well as the safety of their own life. However, there were no concerns about any possible gains from their behavior. Thus, prosocial behaviors in games and the real world may differ regarding priorities.

### 6.2 Frames of Meaning and Motives for Prosocial Behavior in Games

The frames of meaning adopted by players in games affect how they feel about other characters in terms of empathy and the motives of their behavior toward other characters.

For character-players, their prosocial behavior toward PC was similar to the prosocial behavior toward NPC. For character-players, it is assumed that whether the character in danger is an NPC or a PC, it would not have a different effect on behavior because NPC and PC are both characters in the game world. Because character-players interpret what is happening in the game based on the rules of the game world, they would be less likely to relate a PC to its player who is a person in the real world. However, for player-players, because the situation where a PC is in danger involves a real person, it would be perceived as a situation with some aspects of the real world. It seems that they both have clear borders between what they perceive as a character in the game and a person in the real world. The results show that how the situation and the characteristics of the victims are interpreted in relation to the motives for prosocial behavior toward the victims differs between playing as characters and playing as players.

Although the frames in this study are similar to those of Fine (1983), they are different in their structure. Fine tried to explain frames with an embedded structure in which a character level is an innermost level, and a person level is an outermost level. However, these frames were rather parallel and players may directly adopt the character frame without going through the player frame.

## 7. Conclusion

For prosocial behavior in games, there were empathy-related motives, such as helping because a player feels sympathy toward the other character, and goal-related motives, such as helping because a player wants to progress in the game. Also, there were reward-related motives, such as helping because a player expected to gain something from it. These motives differ between different recipients of prosocial behavior and the different frames of meaning adopted by players.

The study provides new insight into the game world and its boundaries. It challenges the current



view of the boundary between the game and reality by considering the perspective of players in the game world. The current study was limited in its sample of participants (62 students from one class) and the number of questions for measuring empathy (one question for each type of empathy). I suggest that future studies should be conducted using other methods, such as experiments, for more in-depth discussion.

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