

Do Manga Spoilers Spoil Manga?

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Abstract

Previous studies suggested that spoilers might increase the enjoyment of novels. However, these studies did not sufficiently clarify the problem of spoilers. Therefore, we focus on the spoilers of manga and consider the influence of manga spoilers depending on the reading progress. In this work, we selected eight manga and investigated the spoilers' influence by changing the spoiler timing for readers. As a result, we determined that spoilers reduce the enjoyment of some manga.

Keywords: Manga, Spoiler, Enjoyment

1 Introduction

Manga excite readers and invoke laughter, surprise, and other emotions, not only from the pictures but also from the stories. The popularity of manga in Japan is high; the size of the Japanese manga market reached nearly 400 billion yen in 2013. Furthermore, the popularity of Japanese manga has spread worldwide, partly due to their promotion by the Japanese government. Manga are also of interest in the field of information engineering, in that various studies on manga are being conducted. Here, the spoiler stands out as a significant problem.

Spoilers ruin content by revealing endings—e.g., the winning or losing of matches, the life or death of beloved characters, etc.—to readers who look forward to anticipating outcomes. Readers often want to avoid encountering spoilers before enjoying the content. Nakamura et al. [4, 5] proposed several methods for reducing the risk of encountering spoilers.

There are several studies about the characteristics of story spoilers. Leavitt et al. [1] studied the influence of novels' spoilers, and Levine et al. [2] studied the effects of novels' spoilers due to their timing. However, they did not focus on manga' spoilers. Besides, the spoilers in these studies were like plots in and of themselves. Hassoun et al. [3] studied the influence of manga' spoilers on

the basis of the manga panel layout. However, Hassoun's study focused on spoilers in a page of manga and did not focus on spoilers in entire manga stories. We can say that previous studies have not sufficiently considered the influence of story spoilers and spoilers in manga.

Therefore, we experimentally investigated the effect of spoilers by revealing the spoilers of entire manga stories. To clarify the effect of spoilers, in this work, we asked participants to select which contiguous pages in manga contained the most revealing spoilers. Here, we think that readers react differently to spoilers depending on their reading progress because manga readers notice that their enjoyment of and interest in the story increase in proportion to how far they have read. Therefore, we investigate the influence of spoilers in relation to their timing.

2 Pre-Experiment

2.1 What is a spoiler?

Spoilers mean revealing unknown part of manga that you want to learn by yourself which readers encounter in many situations. For example, they may accidentally see them quoted in tweets or in reviews or overhear them in discussions. In this paper, we focus on accidental spoilers.

First, we specify what kinds of scenes manga readers interpret as spoilers. In this experiment, we asked participants to read several volumes of a particular manga and to select the contiguous pages with the most revealing spoilers.

2.2 Pre-Experimental Procedure

Table 1 shows the genres of prepared manga for this experiment, their titles, their authors, and their number of volumes. We chose these four genres because they contain much manga that are widely read. The number of volumes of each manga ranges from two to six. We selected the number of volumes depending on the ending of a story in each manga.

We also asked four university students who have read these manga to select three pages with spoilers and to rank them from first (most revealing) to third (least revealing).

2.3 Pre-Experimental Results

Table 2 shows the average ratings assigned five points to first-ranked spoilers, two to second-ranked ones, and one to third-ranked ones.

In this experimental test, participants selected contiguous pages with very similar content when identifying spoilers. For example, for the sports genre, some participants selected scenes depicting an attempt at scoring a goal, and others selected scenes depicting a successful goal. Also,

some participants selected scenes depicting declarations of love while others selected scenes following those declarations. Table 2 shows the page ranges that contain these selected scenes in which spoilers were identified.

Table 2 shows scores higher than 3 points for the two sports manga “All You Need Is Kill” and “ReRe Hello.” For “Yu Yu Hakusyo” and “Snow White With The Red Hair,” there are scores of 2.5 or more points for two sets of contiguous pages. For “Prophecy,” there is a score of 2.5 points for one set of contiguous pages. For “The Shadow Spirit,” the highest score has low ratings for two sets of contiguous pages.

2.4 Pre-Experimental Considerations

Table 1. Titles and number of volumes of prepared mangas

Genre	Title	Author	Number of Volumes
Battle	Yu Yu Hakusyo(Jump Mangas)	Yoshihiro Tomigashi	Vol. 1-4
	All You Need Is Kill	Story : Hiroshi Sakurazaka Art : Takeshi Obata	Vol. 1-2
Sports	Ping Pong	Taiyo Matsumoto	Vol. 1-5
	GIANT KILLING	Tsujitomo Draft : Masaya Tsunamoto	Vol. 1-5
Mystery	Prophecy	Tetsuya Tsutsui	Vol. 1-3
	The Shadow Spirit	Story : Natsuko Kyogoku Art : Aki Shimizu	Vol. 1-5
Love Story	ReRe Hello	Toko Minami	Vol. 1-6
	Snow White With The Red Hair	Sorata Akizuki	Vol. 1-4

The experimental results showed that all of the

Table 2. Page ranges containing spoilers and selection ratings

Genre	Title	Range	Rating
Battle	YuYuHAKUSYO	Pp.129-130[Vol.4]	3.00
		Pp.97-100[Vol.4]	3.00
		Pp.149-150[Vol.4]	0.50
	All You Need Is Kill	Pp.175-178[Vol.2]	4.25
		Pp.203-204[Vol.2]	2.50
		Pp.48-49[Vol.2]	0.50
Sports	Ping Pong	Pp.193-194[Vol.5]	3.75
		Pp.147-148[Vol.5]	2.25
		Pp.131-132[Vol.5]	1.25
	GIANT KILLING	Pp.209-210[Vol.5]	3.75
		Pp.171-172[Vol.5]	2.25
		Pp.207-208[Vol.5]	1.25
Suspense	Prophecy	Pp.183-184[Vol.3]	2.50
		Pp.203-206[Vol.3]	1.50
		Pp.177-180[Vol.3]	1.00
	The Shadow Sprit	Pp.159-164[Vol.5]	1.50
		Pp.35-36[Vol.5]	1.50
		Pp.85-86[Vol.5]	1.25
Love Story	ReRe Hello	Pp.85-86[Vol.6]	5.00
		Pp.143-144[Vol.6]	1.00
		Pp.131-132[Vol.6]	0.75
	Snow White With The Red Hair	Pp.71-72[Vol.4]	2.50
		Pp.75-78[Vol.4]	2.50
		Pp.83-84[Vol.4]	2.00

contiguous pages with spoilers appeared in the last volumes of each manga. They also showed that it is possible to determine one set of contiguous pages as containing the spoiler in the sports, battle, and love story genres because of the following reasons.

- In the sports genre, there are more 3-score pages. Also, all of the spoilers that were selected by the participants were related to the final result of the final match in the last volume.
- In the battle and the love story genres, there are more 2.5-score pages. Here, other participants selected similar content such as the results of a battle match or a declaration of love as the first-ranked spoiler.
- In the mystery genre, the score for the highest-rated pages is very low because there are many possibilities as to what may be a spoiler; e.g., the murder weapon, the suspect, the motive, or how the murderer could have left a locked room. Therefore, in this genre, it's difficult to select the most revealing spoiler.

3 Experiment on Spoiler's Effects

In this experiment, we clarify the effects of the spoiler depending on the reading progress.

3.1 Procedure

We used the pre-experiment's results to select the same manga and the contiguous pages with spoilers.

In this experiment, participants were university students (ages 19–23; 25 males, 3 females) who had never read more than a few of the prepared manga.

We then assigned 12 participants to each manga. In assigning the manga, we took the interests of the participants into account. For example, if a participant enjoys sports, we assigned him or her a manga from the sports genre. We also divided the 12 participants for each manga into four groups to change the timing of the spoilers (see details in Subsection 3.2).

We asked the participants to read the manga using the Kindle application on an iPad Pro. We also asked them to keep the iPad in a horizontal position while reading. We monitored the participants' reading progress and provided the contiguous spoiler pages depending on their reading progress and the timing of the spoilers. Furthermore, we asked them to answer questionnaires

about their enjoyment value using a five-tiered Likert scale and had them freely describe exciting scenes.

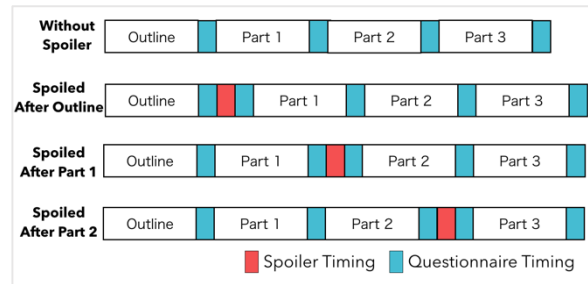


Figure 1. Questionnaire and spoiler viewing timeline

3.2 Questionnaire and Spoiler-Viewing Timing

To measure the effects of the spoilers depending on reading progress, instead of dividing each manga by its original number of volumes, we divided the manga into three equal parts if the number of volumes was divisible by three. If the number of volumes was not divisible by three, we divided five volumes using the proportion 2:2:1, four volumes using the proportion 2:1:1, and two volumes using the proportion 1:0.5:0.5. We choose nonequal proportion because spoiler tends to be at the bottom part of manga then the top part of them. Therefore, we use less proportion at the bottom. We also wanted to measure spoilers' effects when the participants didn't read the manga. So, we asked the participants to read the storylines before reading the mangas and we showed spoilers before they read the storylines.

We then divided the participants into four groups depending on the timing of the spoilers. Figure 1 shows the timing of the spoilers and the timing of the questionnaires for each group. We then asked participants to read their respective manga, view the contiguous pages containing spoilers, and answer the questionnaires depending on their reading progress. We asked the participants to not stop reading, so the participants spent 2 to 8 hours reading the manga. Participants in Group 4 were not assigned parts containing spoilers.

We showed pages of spoilers on the iPads; we selected one spoiler page that ranked 1st in the pre-experiment. Then, when there were two spoiler pages ranked 1st, we didn't select both pages but just one page which includes whole story spoiler.

3.3 Experimental Results

Figure 2 shows a transition graph evaluating enjoyment in relation to reading progress and spoiler timing. This figure shows that enjoyment tends to increase from the start to the end. Also, in the groups that encountered spoilers, enjoyment decreased after viewing the spoiler.

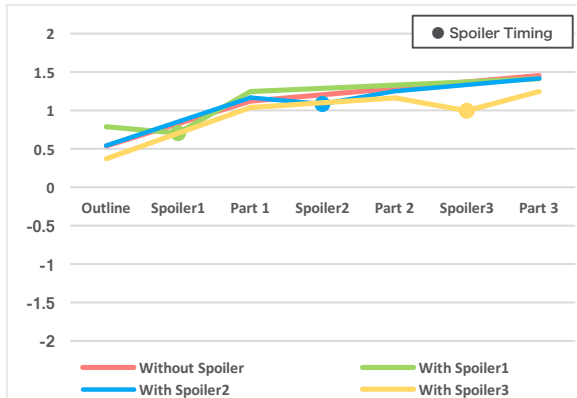


Figure 2. Transition of enjoyment value in relation to reading progress and spoiler timing

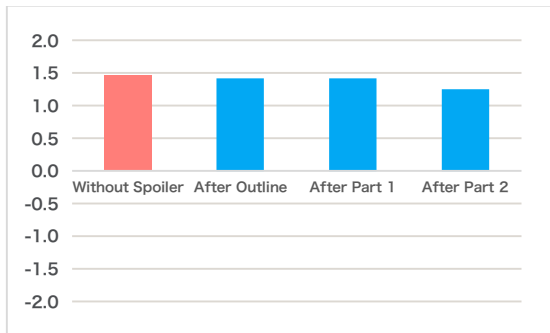


Figure 3. Average value of enjoyment at end of manga

Figure 3 shows the average of enjoyment value at the end of manga for each group. Figure 3 shows that the enjoyment value after Part 2 was lowest. However, there is no significant difference.

In Figure 4, blue bars show the results of enjoyment at the end for each group, and orange lines indicate the number of scenes freely described by participants as exciting each time they answered the questionnaire. Here, “N” group’s participants did not view the spoiler while reading their respective manga, “0” group’s participants viewed the spoiler after reading the manga’s outline, and “1” and “2” group’s members viewed the spoiler after reading Part 1 and after reading Part 2.

The manga listed in the top row of Figure 4 (Yu Yu Hakusyo, All You Need Is Kill, GIANT KILLING, and The Shadow Spirit) were highly evaluated by participants when they read the manga without spoilers. In addition, there was only one exciting scene for three of the manga without spoilers. On the other hand, the manga listed in the bottom row of Figure 4 (Ping Pong, Prophecy, ReRe Hello, and Snow White With The Red Hair) were poorly evaluated by participants when they read the manga without spoilers. In addition, there were two or three exciting scenes in these four manga without spoilers.

3.3 Experimental Considerations

Figure 2 shows that the enjoyment value kept rising for all groups. So, even if the participants encountered spoilers, they could enjoy reading the next story. The reason for this is that we selected

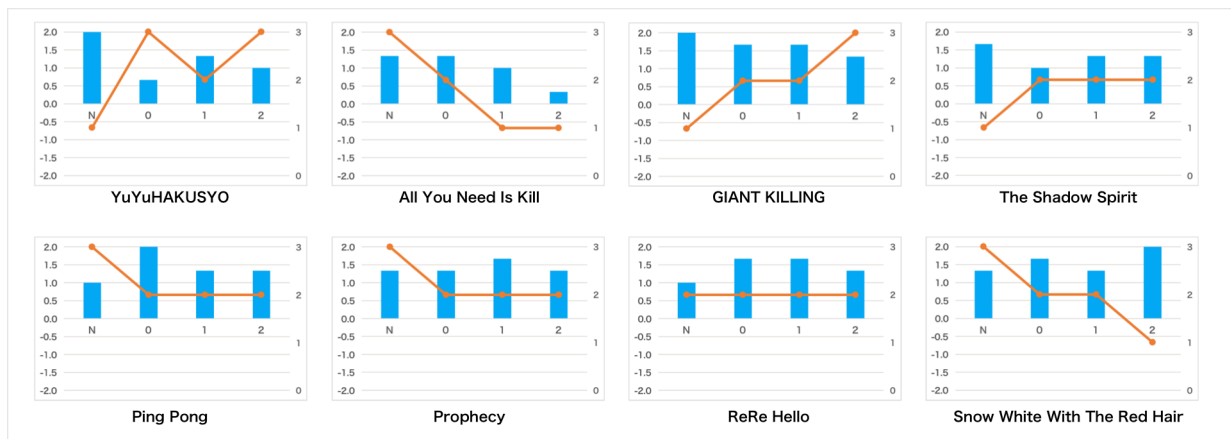


Figure 4. Enjoyment value (blue bars) and number of exciting scenes (orange lines) for each group for each manga

very popular Japanese manga for this experiment. If we had prepared less-popular manga for the experiment, we might have gotten different results.

Also, in Figure 3, the enjoyment at the end of the manga for each group showed no significant difference. However, we found that there are two types of manga that become more or less exciting depending on their content.

Figure 2 shows that if spoilers decreased the enjoyment of the manga at the end, participants enjoyed the same or similar scenes without spoilers, and participants enjoyed various scenes with spoilers. If spoilers increased the enjoyment of the manga at the end, participants enjoyed various scenes without spoilers. Based on these results, we can say that people should avoid spoilers of a particular manga if other readers are excited about the same scenes of the manga. On the other hand, people might not need to view the spoiler of a particular manga if other readers are excited about several scenes of the manga.

Figure 3 shows that if the spoiler makes one scene less interesting in the manga in which the most exciting scene varies, the reader can enjoy the other interesting scenes in the manga. This enjoyment is similar to the pleasure a reader gets from reading a manga the second or third time. Therefore, a spoiler may deprive the reader of pleasure in his or her first reading.

4 Summary

In this paper, we conducted two experimental tests. One was to clarify the characteristics of the spoilers in manga and the other was to clarify the effects of the spoilers depending on the reading progress.

In sports, battle, and love story genres, we can determine the contiguous pages containing the most revealing spoilers easily and accurately based on the former experimental test results. However, in the mystery genre, it is not easy to determine the contiguous pages that contain the most revealing spoilers. In addition, we clarified that spoilers decrease the enjoyment of a manga immediately after the reader views them. In the latter experimental test, we found that readers could keep reading with enjoyment whether spoilers were included or not. In addition, if readers are excited about the same scene of a manga without spoilers, the spoilers decrease the enjoyment of the manga. If readers are excited about various scenes of manga without spoilers, the spoilers have the potential to increase enjoyment.

In the future, we will increase the number of participants to ensure more reliable results. In addition, we are planning a recommendation system that takes spoilers and enjoyment into consideration. We will not use the whole volume for some manga. Whether we use a whole volume or just part of a volume may make a difference on the effect of spoilers. So, we will study the difference.

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