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Psychological Science published online 12 August 2011
DOI: 10.1177/0956797611417007

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Psychological Science
 XX(X) 1–3
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 DOI: 10.1177/0956797611417007
<http://pss.sagepub.com>



Received 4/4/11; Revision accepted 5/26/11

Stories are a universal element of human culture, the backbone of the billion-dollar entertainment industry, and the medium through which religion and societal values are transmitted. The enjoyment of fiction through books, television, and movies may depend, in part, on the psychological experience of suspense. Spoilers give away endings before stories begin, and may thereby diminish suspense and impair enjoyment; indeed, as the term suggests, readers go to considerable lengths to avoid prematurely discovering endings. *Transportation*, a distinct form of story engagement associated with vivid imagery and enhanced enjoyment (Green, Brock, & Kaufman, 2004), is highly associated with suspense via close attention to the unfolding plot and interest in how it will be resolved (Tal-Or & Cohen, 2010). However, people's ability to reread stories with undiminished pleasure, and to read stories in which the genre strongly implies the ending, suggests that suspense regarding the outcome may not be critical to enjoyment and may even impair pleasure by distracting attention from a story's relevant details and aesthetic qualities. In complex stories, developments hazy in their implications on first read are readily understood when the narrative is revisited, and nervous stirrings of uncertainty may become warm anticipation of coming events once the story is laid bare.

Reading a story with foreknowledge of its outcome may be analogous to *perceptual fluency*, in which perceived objects are processed with ease, an experience that is associated with aesthetic pleasure (Reber, Schwarz, & Winkielman, 2004), positive affect (Winkielman & Cacioppo, 2001), and story engagement (Vaughn, Childs, Maschinski, Niño, & Ellsworth, 2010). *Schema discrepancy theory* suggests that increased predictability can result in increased positivity of affective response, although this effect is dependent on initial level of uncertainty (MacDowell & Mandler, 1989). Thus, despite intuitive beliefs about the effects of spoilers, there are plausible theoretical reasons to think they may not ruin the pleasure of reading a story. Their actual effect remains unknown. We conducted three experiments, each with stories from a different, distinct genre, to test the effects of spoilers on enjoyment.

Method

Participants (176 male, 643 female) were recruited from the psychology subject pool at the University of California, San

Diego. They took part in three experiments in which they read three different sorts of short stories—ironic-twist stories, mysteries, and more evocative literary stories. For each story, we created a spoiler paragraph that briefly discussed the story and revealed the outcome in a way that seemed inadvertent. These paragraphs were designed so that they could work as either independent text or the openings of the stories (as though the stories were intrinsically spoiled).

Each experiment included four stories selected from anthologies. Each subject read three of these stories, one spoiled (with the spoiler paragraph presented before the story), one unspoiled (with the story presented without alteration), and one in which the spoiler paragraph was incorporated as the opening paragraph. Story, order, and condition were counter-balanced such that each story was presented with equal frequency across positions and conditions. Each version of each story was read and rated for enjoyment (on a 10-point scale ranging from 1, *lowest rating*, to 10, *best rating*) by at least 30 subjects. The stories were by such authors as John Updike, Roald Dahl, Anton Chekhov, Agatha Christie, and Raymond Carver, and ranged from 1,381 to 4,220 words. Subjects indicated whether they had read any story previously, and if they had, their data for that story (< 3% of ratings) were excluded from analyses. Subjects were also provided the opportunity to respond freely about each story.

Results

For all three experiments, analyses of variance revealed a significant effect of condition. (In order to control for variability between stories, we analyzed the data by comparing different versions of the same story.) Subjects significantly preferred spoiled over unspoiled stories in the case of both the ironic-twist stories (6.20 vs. 5.79), $p = .013$, Cohen's $d = 0.18$, and the mysteries (7.29 vs. 6.60), $p = .001$, $d = 0.34$. The evocative stories were appreciated less overall, likely because of their more expressly literary aims, but subjects again significantly preferred spoiled over unspoiled versions (5.50 vs. 5.03),

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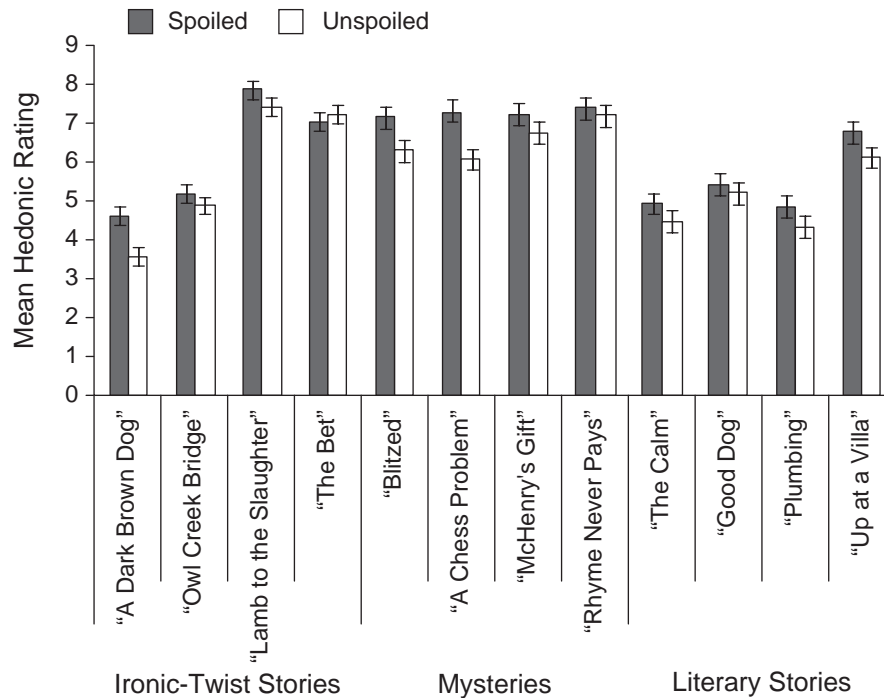


Fig. 1. Hedonic ratings of the individual spoiled and unspoiled stories. Error bars represent standard errors.

$p = .019$, $d = 0.22$. In all three story types, incorporating spoiler texts into stories had no effect on how much they were liked, $ps > .4$. Subjects also did not indicate in their free responses that they found these altered beginnings out of place or jarring. Figure 1 shows the ratings for the spoiled and unspoiled versions of each story.

Conclusions

Writers use their artistry to make stories interesting, to engage readers, and to surprise them, but we found that giving away these surprises makes readers like stories better. This was true whether the spoiler revealed a twist at the end (e.g., that the condemned man's daring escape is just a fantasy as the rope snaps taut around his neck) or solved the crime (e.g., Poirot discovers that the apparent target of attempted murder was in fact the perpetrator). It was also true when the spoiler was more poetic, as when frisky adolescents watching a couple struggle with a baby are revealed to be previewing their own futures, and the couple glimpsing their own pasts. In all these types of stories, spoilers may allow readers to organize developments, anticipate the implications of events, and resolve ambiguities that occur in the course of reading.

It is possible that spoilers enhance enjoyment by actually increasing tension. Knowing the ending of *Oedipus Rex* may heighten the pleasurable tension caused by the disparity in knowledge between the omniscient reader and the character marching to his doom. This notion is consistent with the assertion that stories can be reread with no diminution of suspense

(Carroll, 1996). Although our results suggest that people are wasting their time avoiding spoilers, our data do not suggest that authors err by keeping things hidden. Stories that open by revealing outcomes may lead readers to anticipate additional revelations at the end; in other words, readers do not expect a story to provide complete premature knowledge of its ending the way an external source might. Indeed, it was only spoilers external to the stories that enhanced readers' delight; there was no benefit to our editing the stories themselves.

Erroneous intuitions about the nature of spoilers may persist because individual readers are unable to compare spoiled and unspoiled experiences of a novel story. Other intuitions about suspense may be similarly wrong: Perhaps birthday presents are better when wrapped in cellophane, and engagement rings when not concealed in chocolate mousse.

Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

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