NEGATIVE PUBLICITY:

WHEN NEGATIVE IS POSITIVE

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This article examines negative publicity and demonstrates when it has positive versus negative effects. While popular wisdom suggests that "any publicity is good publicity," prior research has found only downsides to negative press. Negative movie reviews, for example, harm consumer interest and hurt ticket sales. In contrast, the authors suggest that because negative publicity can increase product awareness and accessibility, it can sometimes have a positive influence on product choice and sales. Three studies support this suggestion and demonstrate that negative reviews, or negative attention to an actor, music artist, or other prominent figure can actually increase the success of related cultural products (e.g., movies, albums, or books). A negative review in the *New York Times*, for example, can increase book sales (Study 2). Further, consistent with the authors' predictions, negative publicity only positively influences sales when prior product awareness or accessibility is low.

KEYWORDS: Negative Publicity, Word of Mouth, Advertising, Product Success

Negative publicity often hurts. When actor Russell Crowe threw a phone at a hotel concierge in mid-2005, his actions were blamed for hindering the success of his recent film (Duarte 2005), and Viacom Inc. chairman Sumner Redstone estimated that actor Tom Cruise's antics (e.g., jumping on couches and slamming psychiatry) cost his *Mission Impossible 3* film over $100 million in ticket sales (Burrough 2006). A rumor that McDonald's used worm meat in its hamburgers decreased sales by over 25% (Tybout, Calder, and Sternthal 1981) and media coverage of musician Michael Jackson's bizarre behavior and brushes with the law destroyed his career. Film pundits have suggested that it is "almost impossible to recover from bad buzz" (James 2006).

Existing academic research corroborates this sentiment, and casts further doubt on the old adage that "any publicity is good publicity." Consumer research argues that negative publicity can be "devastating" (Ahluwalia, Burnkrant, and Unnava 2000) and finds that it decreases product and brand evaluation (Tybout, Calder, and Sternthal 1981; Wyatt and Badger 1984; also see Huang and Chen 2006). Negative coverage has also been shown to decrease sales. Negative movie reviews, for example, have been linked to reduced ticket sales (Elberse and Eliashberg 2003; Eliashberg and Shugan 1997) and shown to hurt performance at the box office (Basuroy, Chatterjee, and Ravid, 2003).

Similar effects of negative attention have been found in research on word-of-mouth (WOM). Publicity often starts with the media, but this information then spreads through interpersonal communication, and recent research has examined how WOM influences product success (Chevalier and Mayzlin 2006; Godes and Mayzlin 2004; 2007; Mayzlin 2002). But while the source of the negative content may differ, the results of existing research are often the same. Chevalier and Mayzlin (2006), for example, find

that negative online book reviews hurt sales. Taken together, existing research in a number of areas has found that the consequence fits the label: negative publicity has a negative effect.

Yet at the same time, a number of intriguing examples seem to contradict these findings. A wine described "as redolent of stinky socks," for example, saw its sales increase by 5% after it was reviewed by a prominent wine website (O'Connell 2006). While the comedic movie *Borat* made relentless fun of the country of Kazakhstan, Hotels.com reported a "300 percent increase in requests for information about the country" right after the film was released (Yabroff 2006, p. 8). DVD sales of the TV show *Seinfeld* leapt after Michael Richards, a main actor, was blasted in the media for making racial comments at a comedy club (Hamilton 2006). Though these may just be idiosyncratic examples, they suggest that negative publicity may not always be a bad thing. Can negative publicity actually have a positive effect? And if so, when?

This manuscript examines negative publicity. Specifically, it builds on both behavioral and quantitative research to explain, and demonstrate, when negative publicity will have positive effects on product choice and sales. We first review existing literature on negative information and outline routes through which publicity may impact sales. Building on this analysis, we then suggest when negative publicity will have positive or negative effects, and test these predictions using both experimental studies and an econometric analysis of book reviews and sales. Finally, we discuss the implications of these findings for advertising and the success of cultural products more broadly.

In addition, the manuscript goes beyond prior research to look at how both direct negative publicity and indirect negative publicity affect cultural success. All prior work

in the area has looked at negative publicity that is direct, e.g., how negative reviews about a movie or rumor about a brand influences responses to that movie or brand. This makes sense given that much negative publicity, e.g., a rumor that McDonald's puts worms in its hamburgers, is direct in nature. In addition, however, we suggest that *indirect* negative publicity, i.e., negative attention to conceptually related concepts, can also influence product success. That is, negative publicity about an actor or musician can influence the success of related cultural products (e.g., their movies or CDs), even if the publicity makes no mention of the cultural item. Indeed, many news articles about Russell Crowe's phone throwing or Michael Richards rant made no mention of their movies or TV shows, yet as the above examples indicate, this indirect publicity still seemed to affect sales. Thus to understand negative publicity more generally, it is important to understand both types of these effects.

NEGATIVE EFFCTS OF NEGATIVE INFORMATION

Research from a variety of perspectives has found that negative information hurts. Decades of work on impression formation (e.g., Asch 1946; Asch and Zukier 1984; Norton, Frost, and Ariely 2007) have examined how people form evaluations of others. Not surprisingly, exposure to negative information about someone leads people to have a more negative impression of them. Reading negative information about a businessperson, for example, led respondents to evaluate them more negatively (Richey, McClelland, and Shimkunas 1967). Such person inferences also extend to objects as well. Negative reviews have been found to hurt evaluations of films (Wyatt and Badger

1984) and reduce purchase likelihood of books (Huang and Chen 2006). Similarly, hearing a negative rumor, i.e., that McDonald's used worm meat in its hamburgers, decreased evaluations of McDonald's (Tybout, Calder, and Sternthal 1981).

Other research has investigated critical reviews and actual sales. Early work found that critical movie reviews were correlated with overall box office receipts, such that positive reviews were related to better performance at the box office (Eliashberg and Shugan 1997). More recently, research has documented that reviews not only predict performance, but can also influence it. A thumbs-down from Siskel and Ebert (Reinstein and Snyder 2005), or negative movie reviews more broadly (Basuroy, Chatterjee, and Ravid, 2003) were found to lead to decreased revenue at the box office. Research on consumer reviews mirror these findings: one-star reviews hurt book sales on Amazon.com (Chevalier and Mayzlin 2006). Taken together, though conventional wisdom in some industries is that all publicity is good publicity, all existing studies related to negative publicity have found its effects to be negative.

ROUTES THROUGH WHICH PUBLICITY MAY IMPACT PRODUCT SUCCESS

In contrast, we suggest that negative publicity can (in some cases) be positive. That is, negative reviews (direct negative publicity), or negative attention to an actor, music artist, or other prominent figure (indirect negative publicity) can actually increase the success of related cultural products (e.g., movies, albums, books, etc).

Product Evaluation

Publicity should influence product success in a number of ways. Behavioral research in the area has focused on how information influences attitudes. Positive information should increase product evaluation while negative information should have the opposite effect. This can be thought of as the persuasive impact of publicity (Liu, 2006; Van den Bulte and Lilien 2001). If a critic gives a book a negative review, this may lead consumers to think the book is not as good, and reduce their likelihood of buying it. Though the economic approach to negative publicity has focused more on the role of critics than the mechanism through which publicity influences sales, the implicit perspective in this research is similar to the one advanced in the behavioral literature. Product reviews or word of mouth act as signals of quality, which influence consumers' expected utility from consuming the product.

But because negative information should generally decrease evaluations, attitude change alone cannot explain why negative publicity would ever be positive. Negative publicity should decrease product evaluations, and as a result, decrease product choice and sales.

Product Awareness and Accessibility

Negative publicity may have positive effects, however, if it increases product awareness. Though it has not focused on negative publicity directly, more quantitative research suggests that media or interpersonal communication can influence whether

consumers are informed about a particular product (Liu, 2006; Van den Bulte and Lilien 2001). Consumers have finite attention, and thus when a movie debuts, a book is released, or an album introduced, many consumers may not be aware of it. Further, the sheer multitude of cultural offerings means that most consumers will never learn about a given offering. Consequently, just as explicit advertising can act to inform consumers of a product's existence (Grossman and Shapiro 1984; Stigler 1961), other devices should also influence awareness. Godes and Mayzlin (2004), for example, suggest that greater word of mouth should lead more consumers to be informed about a product, and thus lead to greater sales (also see Liu 2006). Along these lines, publicity (whether positive or negative) should also influence sales through increasing the number of consumers who are aware of a given cultural product.

Even if people are informed about a product, they may not remember it exists, and thus negative publicity may also have positive effects if it "re-informs" consumers. Information varies in the degree that it is accessible or top of mind (Bruner 1957; Higgins and King 1981; Wyer and Srull 1981). A grocery shopper may be focused on their shopping list, for example, while less pressing concerns (e.g., whether to buy a new winter coat) are not in the forefront of their mind. Similarly, consumers may be aware that a product exists, but its existence is not always salient. Consumers may know that *Mission Impossible 3* recently came out on DVD, and they may really want to see that movie, but if it does not come to mind when they are at the video store, they are not going to rent it.

Cues in the environment, such as publicity, can increase product accessibility, and can do so in different ways (Berger and Fitzsimmons 2008; Kay et al. 2004). One way is

through direct publicity, or publicity about the product itself. Just as advertisements help bring products to mind, book reviews or articles that mention a movie should remind people of the product, and thus influence its success.

Product accessibility should also be influenced by indirect publicity, or attention to things that are related to the product (even in the absence of explicit product mentions). Objects in memory are conceptualized as a set of nodes linked to related concepts (e.g., cat and dog, Coke and Pepsi; Collins and Loftus 1975). Consequently, exposure to aspects of the environment (e.g., images or other sorts of stimuli) not only activates that concept in memory (e.g., seeing a dog makes the dog node more active), but also activates related representations, making them to become more accessible (Higgins, Rholes, and Jones 1977). Participants who saw pictures of dogs, for example, were faster to recognize Puma as a brand of sneakers, suggesting the conceptual connection between dogs and cats caused the first construct's activation to spread to second (Berger and Fitzsimmons 2008). This increased accessibility can then influence consumer behavior (Nedungadi 1990). For example, Wosinka (2005) examined patient compliance in taking cholesterol medication, and found a spillover effect, such that drug advertising by any brand increased compliance, even if patients were not taking the brand in the ad. In the context of publicity, sales might be influenced by media attention to people, objects, or other things linked to the product. Attention to an actor or music artist, for example, could lead their movies or albums to be more salient, and thus influence their sales.[1]

[1] There are also hybrid cases where the media gives negative attention to a related concept while also mentioning the cultural product in passing. A few articles that focused on Russell Crowe's phone throwing, for example, also mentioned his movie *Cinderella Man*. These instances seem less like indirect negative publicity, however, because the product itself is mentioned in a non-negative way, thus making it more like neutral publicity. Such mentions should undoubtedly increase awareness and accessibility of the cultural product, though their impact on evaluations is less clear.

EFFECTS OF NEGATIVE PUBLICITY

Building on this analysis, we suggest that negative publicity will, in certain circumstances, have a positive influence on product choice and sales. As suggested by the discussion above, whether negative publicity has positive or negative effects should depend on how it affects product evaluation, awareness, and accessibility.

We focus on indirect publicity first because it is the simpler case: Since indirect negative publicity by definition does not mention the cultural product, it cannot influence product awareness and should be less likely to hurt product evaluations. Thus indirect negative publicity should increase sales when it increases product accessibility. Even if the publicity does not directly mention a movie or album, press coverage about a star's altercation with the law, or musician's weird behavior, should provide cues that increase the likelihood that their movies or albums come to mind. Thus as long as people are already informed about a cultural product, and are aware that a given star or artist is connected to that product, negative attention to that star or artist may increase sales. We investigate this possibility in two contexts, examining how negative press about a musician or movie star influences choice and sales of related cultural products, i.e., their CDs (Pilot Study) or movies (Study 1).

Direct publicity, on the other hand, should influence product evaluations as well as awareness and accessibility, and thus direct negative publicity should only have positive effects in cases where any positive influence on awareness and accessibility overwhelms the negative influence on evaluations. If most consumers already know that *Mission Impossible 3* is about to come out on DVD, or there is a lot of buzz about a new

Stephen King book, then the potential increase in awareness or accessibility generated by negative publicity should be minimal. Along these lines, prior quantitative work may have found negative effects of negative publicity because they examined cultural products which already had considerable awareness. The average film in Basuroy et al.'s (2003) analysis, for example, grossed over $5 million in the first week (in the early 1990s) and was reviewed by more than 30 critics. While the dataset undoubtedly included some smaller films, these numbers place the set of films at the more popular end of films released over that period (www.boxofficeguru.com). More generally, the results of most prior work have been based on well-advertised cultural products of which many consumers should already have been quite aware. In contrast, in situations where accessibility is not particularly high (e.g., old TV shows or musicians' older CDs) or awareness is relatively low (e.g., an unknown wine or books by new authors), even direct negative publicity may have a positive influence on sales because it can increase product awareness and accessibility. We test this possibility by estimating the effect of *New York Times* book reviews on book sales. By examining both direct and indirect publicity, we hope to gain greater insight into negative publicity overall.

PILOT STUDY: THE KING OF POP (AND NEGATIVE PRESS)

For a preliminary investigation into whether negative publicity can actually have a positive effect on sales, we examined a particular music artist who has received publicity that is undoubtedly negative. Pop star Michael Jackson's personal life has received almost as much attention as his actual music, and much of this attention has

been less than flattering. Though he has sold millions of records and received numerous musical honors, he has also received a great deal of publicity for things that are undeniably negative, such as repeated charges of child sexual abuse and dangling his baby over a hotel balcony.

As a test case, we examined the relationship between negative publicity about Jackson and sales of his music. Based on the arguments outlined above, we predict that album sales will increase in times when Jackson receives more negative attention in the press.

Method

We collected data on both sales of Michael Jackson albums as well negative publicity about Jackson, and then predicted album sales in a given month based on negative publicity.

Album sales. We estimated sales of Michael Jackson's albums using a website that reports Amazon.com sales ranking data (www.junglescan.com; see Deschatres and Sornette 2005 for similar uses of the website). Once a user has inputted a product found on Amazon.com (e.g., book, CD, etc), Junglescan intermittently records the product's sales ranking, or how that product is selling relative to other items in its category.[2] We collected data for all the Michael Jackson albums on the site, which included rankings of three of his recent and most popular albums (*Invincible*, *Thriller*, and *HIStory*). For each album, we created an average monthly sales ranking for each of the 21 months of data

[2] The site does not record ranking on a regular interval, which forced us to aggregate ranking over a monthly basis.

that were available (Feb 2003 – Nov 2004). We then transformed the ranking data into sales using the method followed in prior research (Deschatres and Sornette 2005). Summing the sales for each of the albums created an album sales index for each month. Importantly, none of the albums were released over the period we examined, and the most recent album had been released over 15 months earlier. This reduces the possibility that advertising, or any other media surrounding the albums themselves, could be driving any observed effects.

Negative Publicity. We estimated the negative publicity surrounding Michael Jackson over the same time period using the Factiva newspaper and magazine search engine (global.factiva.com; see Berger and Heath 2005 for similar uses of the database). This database allows users to track the prevalence of a topic, word, or set of phrases in major newspapers and magazines over a specified period of time. Over the period in question, Jackson was in the news for child molestation charges, a revealing documentary that painted him in a negative light (and led to the molestation charges), and dangling his newborn child over a hotel balcony. For each month, we recorded the number of articles which mentioned "Michael Jackson" within five words of terms representing these main negative stories (i.e., any word with the stem molest, "bashir" the journalist who made the documentary, and "baby"). We searched for articles that mentioned these key words near Jackson's name to ensure the resulting set of articles were closely focused on the topics of interest.

Results

We are interested in whether increased negative publicity can lead to increased sales of a cultural product. The results of a multiple regression with robust standard errors suggest it can. Not surprisingly album sales significantly decreased over time (β = -34.08, S.E. = 7.99, $p < .001$). More importantly, however, the data indicate that Michael Jackson sold more albums in months were he received more negative publicity in the press (β = .58, S.E. = .17, $p = .003$).

Discussion

Though the pilot study only examined one music artist over a limited period of time, the results are consistent with the notion that negative publicity can sometimes have a positive effect. In months when musician Michael Jackson received more decidedly negative media attention, e.g., child molestation charges or dangling his kid over a balcony, he sold more albums.

The subsequent studies use a larger set of cultural products to provide a broader examination of the effects of negative publicity while also allowing us to rule out a number of alternative interpretations for our results. One could argue that negative publicity about Jackson was only correlated with album sales because these articles also mentioned his albums, and thus provided direct positive publicity. Casting doubt on this possibility, however, closer examination found that less than 3% of the articles we coded as negative publicity mentioned any of his albums. To more directly rule out this

concern, however, the next study manipulates the presence of indirect negative publicity without any mention of the artist's cultural product.

In addition, though negative publicity was correlated with increased sales, one could argue that it did not have a causal effect. It unlikely, however, that the causal arrow is reversed. Much of the negative publicity focused on particular events (e.g., a trial hearing), and thus it is hard to argue that album sales on the internet precipitated these events. Further, the number of albums being sold (around 800 a month) does not seem high enough to warrant attention. Alternatively, maybe Jackson received more attention in general (both negative and positive) in certain periods, and that it was the positive attention, rather than negative publicity itself, caused the increase in sales. Testing this possibility, however, proved difficult in the current data. No particularly newsworthy positive events occurred to Jackson over the period, so we were unable to measure positive publicity per se. Instead, we estimated a general measure of attention, recording the number of articles that mentioned Jackson but did not mention one of the negative publicity search strings. Not surprisingly, this measure was correlated with negative publicity; in months where there was more negative publicity about Michael Jackson, he also received more media mentions in general ($r = .66$, $p < .001$). Non-negative media mentions, however, were not significantly related to estimated album sales ($r = .13$, $p > .55$) and did not add significant predictive power when added to the prior regression ($\beta = -.14$, S.E. = .08, $p = .10$). These relationships are difficult to interpret, however, given the imprecision of the measure we were able to obtain. Many articles only briefly mentioned Jackson's name in the context of entirely unrelated topics, or focused on the negative events in Jackson's life, but fell into this measure because they

did not include the relevant search words. To more definitively demonstrate a causal relationship between negative publicity and sales, the subsequent studies manipulate the presence of indirect negative publicity (Study 1) and use time series variation in book sales to identify the effect of a negative review (Study 2). [3]

STUDY 1: THROWING PHONES AND SELLING DVDS

In Study 1, we directly manipulate the presence of indirect negative publicity to examine how it influences product choice. First, participants read a series of newspaper articles, one of which discussed either a negative event involving a movie star or a control topic. Then, in the context of an unrelated study, they chose among a list of movies, two of which starred the actor discussed in the article.

We also collected additional measures to test the underlying mechanism. Cues in the environment should only influence responses toward conceptually linked products among consumers for whom the link exists (Berger and Fitzsimons 2008). If certain consumers are not aware that an actor participated in a particular movie, for example, there is no way that reading negative publicity about that actor (i.e., negative indirect publicity) could activate the movie. Consequently, we asked participants to list all the movies they could think of in which the actor appeared. We predict that negative publicity about a movie star will influence choice of movies starring that actor, but

[3] One could also argue that negative publicity increased sales in this instance because strong Jackson supporters bought his albums after negative events to show their support. This seems unlikely given that strong supports should have already had his older albums (unless, of course, they were willing to own multiple copies of the same album), but by demonstrating that the effects of negative publicity are moderated by existing awareness, Study 2 avoids this concern.

consistent with prior work, this effect should only occur for people who have a conceptual link between the actor and the movie.

Method

Participants (N = 112, mean age = 33) completed two ostensibly unrelated studies as part of a larger group of experiments. They completed the studies online and received a chance to win a $25 gift certificate as compensation for their participation.

The first study, entitled "News and Events" manipulated exposure to negative publicity of an indirect nature. Participants were given the cover story that the experimenters were interested in peoples' responses to news, and used 7-point scales to rate three news articles on a number of innocuous dimensions (e.g., how interesting they found the article, how often they read similar articles). Each article was taken from recent news on the web and mimicked web news articles in font and style.

The first and third articles were the same across all participants (results from golf's U.S. Open and a report of a mild earthquake), and the only difference between conditions was the content of the second article. While participants in the control condition read about an innocuous topic (drilling on the Great Lakes), those in the negative publicity condition read about actor Russell Crowe's 2005 run-in with the law (i.e., throwing a telephone at a hotel employee). Neither article mentioned any of his movies. A pre-test confirmed that this publicity about Crowe was indeed negative.[4]

[4] Participants (N = 41) were exposed to one of the same two conditions as the main study, and then rated their attitudes towards Crowe on a number of seven point scales (good-bad, favorable-unfavorable, positive-negative, $\alpha = .86$, averaged to form an index). Compared to the control condition ($M = 4.57$), those who read about Crowe's phone throwing incident reported more negative attitudes towards Crowe (*M*

After completing a few filler studies, participants completed a "Movie Study" which asked them to choose among a number of older movie releases. They were told the experimenter was interested in what movies people like, given a list of nine movies out on DVD (e.g., *Napoleon Dynamite* and *Minority Report*), and asked to rank the DVDs based on "which DVDs you would choose to see." Russell Crowe was the star of two of these movies (*Gladiator* and *Master and Commander*), and the relative ranking of these two movies in the list constituted the main dependent variable.

After ranking their preferences, participants completed a number of final measures. To examine whether they were aware of Russell Crowe's participation in the movies listed, they were asked to list any movies in which Russell Crowe had participated. They also filled out some demographic measures (e.g., age), and were thanked for their time.

Results

As expected, there was no effect of experimental condition on participants' responses to the target (2nd) article, Fs < 2.4, ps > .13. For each participant, the ranking of the two Russell Crowe movies were averaged to form the main dependent variable, and participants were split based on whether they did or did not recognize that Crowe had been in the two movies. The movie ranking was then analyzed using a 2 (Negative Indirect Publicity: Present vs. Control) x 2 (Conceptual Link: Present vs. Absent) ANOVA, where lower ranking indicate greater interest in seeing the movies in question.

= 3.68; $F(1, 39) = 7.48$, $p < .01$). These results demonstrate that participants in the target condition were indeed exposed to negative publicity.

There was a main effect of Negative Indirect Publicity ($F(1, 108) = 6.35$, $p = .01$), but more importantly, this was qualified by the predicted Negative Indirect Publicity x Conceptual Link interaction ($F(1, 108) = 13.78$, $p < .001$, Figure 1). Specifically, among participants who knew Crowe had participated in the two target movies, being exposed to negative publicity about Crowe led to higher preferences for the target movies ($F(1, 108) = 13.05$, $p < .001$). In contrast, negative publicity about Crowe did not influence the movie preferences of participants who were unaware of Crowe's presence in the target movies ($F(1, 108) = 1.39$, $p > .20$).

Alternative explanations. Ancillary data also cast doubt on a number of potential alternative explanations. One could argue that this particular example of negative publicity (i.e., someone aggressively throwing a phone) might have made participants more interested in seeing any action movie. Examining the ranking of other action movies (e.g., Minority Report), however, shows that this is not the case; there were no main effects or interactions of publicity on any of the other movies (Fs < 2.0, ps > .14). This explanation also has trouble explaining why publicity only had a significant effect among participants aware of the conceptual link between the actor and the movie.

Alternatively, one could argue that after an actor or musician gets negative press for doing something negative, they seem more interesting, and thus people purchase their related cultural products to find out more about them. This argument would suggest that reading negative publicity about Russell Crowe made him seem more interesting, and that increased interest in Crowe, rather than increased accessibility of his movies, led to higher rankings of movies in which he starred. To test this possibility, a separate set of participants (N = 95) were assigned to one of the two conditions from the main study.

Instead of ranking movies after reading the articles, these participants used 7-point scales to rate their interest in Russell Crowe (i.e., "How interesting do you think Russell Crowe is?") and how much they wanted to learn more about him (i.e., "How interested are you in learning more about Russell Crowe?"). Results cast doubt on the veracity of this alternative explanation; there were no effects of negative publicity on either of these measures (Fs < 1.0, ps > .32).

Discussion

Results of Study 1 again demonstrate that negative publicity can positively impact product success. Exposure to a negative news story about an actor increased peoples' choice of related cultural products (in this case, movies). The findings also underscore our suggestion that these effects were driven by underlying conceptual links between the actor and their movies; only participants who had conceptual links between the actor and the target movies, and thus should have found the movies more accessible after indirect publicity, were influenced. Ancillary data also help rule out potential alternative explanations; the negative news did not make the actor seem more interesting nor did it influence the choice of all action movies with equal strength, rather it only affected the choice of conceptually linked movies.

Both the pilot study and Study 1 focused on relatively less accessible cultural products (e.g., older albums and movies), in part to demonstrate situations in which negative publicity could have positive effects. To test the importance of this point more

directly, however, the next study examines a broad range of cultural products that should vary in their levels of awareness and accessibility within the population.

STUDY 2: BOOK REVIEWS AND SALES

Study 2 uses weekly sales data to estimate the impact of *New York Times* book reviews on the sales of 244 hardcover fiction titles. The reviews themselves are systematically classified as positive or negative in order to distinguish the effects of good and bad publicity. Inferring the impact of book reviews by comparing reviewed books to non-reviewed books is obviously problematic, since the *New York Times*' decision to review a book may depend on its potential popularity. In order to avoid endogeneity bias, our analysis focuses solely on reviewed books, using time series variation in sales (for a given book) to identify the effect of published reviews. Essentially, we measure the spike in sales in the week immediately following the book review, and ask whether the spike is different for positive and negative reviews.

We also examine whether the effect of negative publicity varies based on product awareness prior to the review. Hundreds of books are released each week, so consumers cannot possibly be informed about all of them. Consequently, books by relatively unknown authors (e.g., Dirk Wittenborn or Kevin Canty) have a lot to gain from the awareness and accessibility that the reviews provide. In contrast, books by more well-established authors (e.g., John Grisham or Stephen King) should already have decent exposure and thus publicity's ability to boost awareness or accessibility should be reduced. Taken together then, we predict that while positive publicity should increase

sales for all types of authors, the effect of negative publicity will depend on existing awareness in the population. For books by established authors, negative publicity will hurt sales, but for books by relatively unknown authors it will have a positive effect.

Method

The dataset analyzed here consists of weekly national sales for 244 hardcover fiction titles that were released from 2001 to 2003 and reviewed by the *New York Times*. For consistency's sake, paragraph-length reviews and articles mentioning multiple books are omitted, so only full-length reviews are included in the sample. The sales data were provided by Nielsen BookScan, a market research firm that tracks book sales using scanner data from an almost-comprehensive panel of retail booksellers. BookScan collects data through cooperative arrangements with virtually all the major bookstore chains, most major discount stores (e.g., Costco), and most of the major online retailers (e.g., Amazon.com). They claim to track at least 80 percent of total retail sales. We also obtained designated market area (DMA) level data for a subsample of 33 books published in early 2003. These data allows us to examine geographical variation in the effect of *Times'* reviews on sales and provide an additional test of our interpretation that these effects are causal. Additional information about individual titles (such as publication date, subject, and author information) was obtained from a variety of sources, including Amazon.com and the volunteer website Overbooked.org.

Unlike movie critics, book reviewers do not use stars or thumbs-up/thumbs-down systems to summarize their opinions, so we had to do it for them. In order to avoid

subjective biases, we attempted to do this in a systematic way. Typical reviews consist primarily of non-opinionated prose describing the book's characters and plot, so we flagged the sentences likely to be opinionated by using a textual search algorithm (looking for keywords such as the author's name or the word "writing"),[5] randomized them, and then judged them individually as positive, negative, or neutral. Each potentially opinionated sentence is therefore evaluated on its own merit. The relative opinion score for each book was then calculated as the ratio of positive sentences to opinionated sentences; for example, a book with P positive sentences, N negative sentences, and Z neutral sentences received a score of $P/(P+N)$. In the econometric analysis, reviews are categorized as negative when the ratio is below 50% and positive otherwise. The resulting estimates are similar if publicity valence is kept as a continuous measure, if publicity valence is calculated other ways, or if other negative publicity cut-offs (e.g., below 33% positive statements) are used.[6] Summary statistics for the sentence and opinion data are reported in Table 1.

The primary motivation for this approach, which essentially involves removing opinionated sentences from the larger context of the review, was to avoid confounding subjective opinions about a book's content with objective evaluations of the reviewer's critique. For example, a reader enthused about the history of the American West may believe that a review of a Western novel is positive, even though the reviewer criticizes

[5] The details of the Perl script we used to find the opinionated sentences are available on request. The algorithm prioritized Type II rather than Type I error minimization in order to limit the number of opinionated sentences excluded from the analysis: 42.3 percent of flagged sentences were opinionated, whereas among a sample of 200 unflagged sentences only 18 (9 percent) were opinionated.

[6] A possible drawback to our method is that it doesn't give extra weight to extreme expressions of opinion: e.g., a review with five mildly positive sentences and one sentence saying "this is the worst novel I've ever had the misfortune to read" will still be characterized as a positive review. However, given that reviewers who write for the *New York Times* are given to relatively nuanced prose, and blunt expressions of extreme opinion are rare, this possibility seems like less of a concern.

the novel as dull or otherwise poorly written. We expect our measure to differ somewhat from (but still be positively correlated with) scores based on an individual's subjective reading of the reviews; our intent is to approximate the average subjective reading in the population (e.g., averaging over readers who do and don't like Westerns).[7]

Our analysis focuses on reviewed books, identifying the impact of reviews from the time series variation in sales for a given book. We restrict our attention to the nine-week window surrounding each book's review week (the week of the review, plus up to four weeks pre- and post-review). As indicated in Table 1, most books are reviewed shortly after their release. In some cases, reviews are published within one week of a book's release; we were forced to omit such books from our sample, since we would have no pre-review sales trajectory to use as a benchmark for measuring the impact of the review.

Suppose that sales of book *i* in week *t* are given by

$$s_{i,t} = s_{i,t\text{-}1} \cdot exp\{x'_{i,t}\,\beta\} \cdot \varepsilon_{i,t} \tag{1}$$

so that

$$ln\left(\frac{s_{i,t}}{s_{i,t\text{-}1}}\right) = x'_{i,t}\,\beta + u_{i,t} \tag{2}$$

We take equation 2 as the model to be estimated.[8] The dependent variable is the log of the sales ratio: today's sales as a fraction of yesterday's sales. Note that one advantage of

[7] A separate research assistant read a subset of 30 reviews and scored them on a five-point scale from negative to positive. Her scores were significantly correlated with our measure ($r = .44$, $p < .02$). Again, since individual readers may perceive a review differently, it is difficult to interpret too much from this relationship, but the fact that it is significant supports the notion that our measure adequately captured the valence of the review.

[8] We used this particular equation because prior work has shown that the sales of cultural products tend to peak in the first few weeks and then exponentially decline (Hendricks and Sorensen 2007). Indeed, in our own data, over 85% of books had downward trending sales over the first three months.

this specification is that it puts all books on the same scale, even though the sales levels vary dramatically across books in the sample. Another motivation for this specification relates to its predictive power: since measuring the impact of book reviews requires knowing what sales would have looked like in the absence of a review, we want a model that does a good job predicting the path of sales. Allowing sales to depend on lagged sales generates predicted sales paths that are smoother and more accurate than what would be obtained from a model containing only contemporaneous explanatory variables. Also, note that since we use time series variation to identify the impact of reviews, in order for endogeneity bias to be a problem it would have to be the case that reviews are systematically timed to correspond with large unobserved demand shocks—which is a relatively implausible scenario.

Our vector of covariates, $x_{i,t}$, contains variables related to book reviews (e.g., an indicator for whether a review of book i appeared in week t) as well as week dummies (one for each of the 110 weeks represented in the sample, to control for time trends and seasonal variation in book demand), weeks since the book was released, and indicators for whether the book was announced as a television book club pick. The errors, $u_{i,t}$, are assumed to be independent across books but potentially heteroskedastic across books and potentially dependent over time for a given book.[9]

[9] In the reported results, we simply present standard errors that are robust to the potential heteroskedasticity and within-group dependence. Testing directly for serial correlation in the errors is not a trivial exercise in this context; however, when the models are estimated assuming that u follows an AR(1) process, the results are largely unaffected.

Results

Table 2 reports the estimated coefficients for four specifications based on equation 2. The first column shows the simplest specification, in which $x_{i,t}$ contains an indicator for whether book *i* was reviewed in week *t*. Specifically, sales in the week where the review indicator equals one represent sales for the Monday-Sunday following the Sunday publication of the review. The coefficient is positive and precisely estimated; the point estimate suggests that sales are 32.6% higher after a review appears than they would have been without the review. Column two of the table looks at the timing of the sales spike more carefully: according to the estimates, sales increase slightly in the week leading up to the published review, substantially more in the week immediately following the review's publication, and then much of the increase in sales disappears after that.[10]

The third column investigates whether the impact of positive and negative reviews vary based on existing awareness. Using our (continuous) measure of reviews' opinions, we categorize reviews as positive or negative and estimate the impact of reviews among three categories of authors: those that have published one or fewer books prior to the book in question, those that have published between two and nine, and those that have published ten or more. We then estimate the regression with separate review dummies for each of the six categories implied by (review valence) x (author category).

The estimates indicate that regardless of the author's prior publication record, positive publicity increases sales; a positive review generates between a 31.9 and 51.7

[10] The increase in sales prior to the appearance of a review could raise doubts about our interpretation of the measured effects as causal. However, this result most likely reflects a quirk in the distribution of the *New York Times*: the Sunday Book Review is delivered a few days early to mail subscribers, which make up 75% of circulation.

percent increase in demand. In contrast, the estimates indicate that the effect of negative publicity depends on existing author awareness. For books by the well established authors, the estimates are consistent with prior work on negative publicity: a negative reviews hurts, leading to a 14.5 percent sales decrease. This estimate is slightly imprecise, however, due to the relatively small sample size. For books by relatively unknown authors, however, negative publicity has the opposite effect: a negative review generates a 45.1 percent sales *increase* (see Figure 2 for an example).

Standard F-tests on the coefficients for positive and negative publicity for different categories of authors provide further insight. While positive and negative publicity have significantly different effects on the sales of books by established authors ($F(1, 243) = 8.69$, $p = .003$), the two effects are indistinguishable for books by unknown authors ($F(1, 243) = .01$, $p > .90$). For books which should have relatively lower awareness and accessibility, both positive *and* negative publicity increase sales.

We also examined geographic variability in the effect of publicity on sales to provide an additional test of our interpretation of these estimates as causal effect. Though the *New York Times* is read widely throughout the nation, its readership is still somewhat concentrated in New York City (New York Times Company, 2006). Given this geographical dispersion, if the reviews are truly having a causal effect on sales, one would expect the impact to be larger in New York City. We were able to obtain designated market area (DMA) specific sales data for a small sub-sample of 33 books that allowed us to test this possibility. Nielsen defines DMAs for the purpose of studying geographic variation in sales and the DMAs generally encompass entire metropolitan areas: e.g., the New York, NY DMA includes Brooklyn and Queens and Manhattan, etc.

The last column of Table 2 reports the estimated effect of book reviews in New York City vs. all other DMAs combined. As expected, the effect is much larger in New York, lending additional credibility to our interpretation of these estimates as causal effects.

Discussion

An analysis of *New York Times* reviews and book sales bolsters our suggestion that negative publicity can increase sales. Being reviewed in the *Times* increased a book's sales, even in some instances where a reviewer clearly panned the book. The analyses further corroborate our predictions regarding when negative publicity will have positive versus negative effects. A negative review hurt sales of books by well-established authors, but helped sales of books by relatively unknown authors. This is consistent with our suggestion that the effects of negative publicity depend in part on existing product awareness and accessibility. An examination of geographic variation in these effects lends additional support to the interpretation that *New York Times'* reviews have a causal effect on sales.[11]

[11] In addition, the fact that negative publicity hurt demand in certain cases addresses the potential criticism that the publicity we examined was not truly negative. Publicity valence can of course vary greatly, from extremely upbeat to harshly condemning. Given our interest in studying negative publicity, it is important to show that what we are examining is at least on the non-positive portion of the scale. The fact that the type of reviews we categorized as "negative" did in fact hurt the sales of books by certain types of authors bolsters the interpretation that this publicity was indeed negative.

GENERAL DISCUSSION

This article examined the effects of negative publicity. While conventional wisdom may suggest that any publicity is good publicity, existing research has documented only downsides of negative press (e.g., decreased product evaluations and reduced sales). This article helps unify these perspectives. We build on prior literature on awareness and accessibility to suggest when negative publicity will positively impact product success. Our investigation is the first to show evidence of beneficial negative publicity, and to explain why (i.e. under what circumstances) negative publicity can be a good thing.

Three studies support our suggestion that negative publicity positively influence on product choice and product sales. Negative media attention to Michael Jackson was linked to increased album sales (Pilot Study) and books by relatively new authors sold more copies after they were reviewed in the *New York Times*, even if the review was negative (Study 2). By examining both direct (Study 2) and indirect negative publicity (Pilot Study and Study 1), the studies also illustrate the various ways in which seemingly negative attention can actually have a positive effect. Negative attention to either a cultural product (e.g., books, movies, albums) or to things that are conceptually linked to that product (e.g., writers, actors, artists) can both positively influence product success. In addition, the fact that positive consequences were shown across different types of negative publicity (newspapers articles and critical reviews) and products (CDs, DVDs, and movies), speaks to the generalizability of these effects. Finally, by combining

experiments and analyses of existing data, we were able to isolate the effects of negative publicity and demonstrate its consequences for actual product sales.

The results speak to when negative publicity will have positive versus negative effects. Consistent with prior work in the area, we find that conventional wisdom is wrong: Any publicity is not good publicity. At the same time, however, we go beyond prior research to show that negative publicity can sometimes be positive. Consistent with our predictions, whether negative publicity had a positive or negative effect depended on existing product awareness. Negative publicity helped products that consumers should have been less informed about, but hurt products which should have already had broader awareness in the population.

Our theorizing also helps unify our findings with prior results showing that negative publicity decreases sales. For the most part, prior work has focused on relatively popular cultural products (i.e., major films) which should already have at least some awareness among the population. While around 700 feature films are released in the U.S. every year, the number of new books numbers in the hundreds of thousands (Bogart 2001; Motion Picture Association 2006). Consequently, existing product awareness should be higher for reviewed movies than reviewed books, and negative effects of negative publicity should be more likely.

More generally, our theorizing helps explain how negative publicity will impact product success under different circumstances. Negative publicity should be more likely to have a positive impact on sales in situations where existing product awareness or accessibility is low. Though they found downsides to negative press, consistent with this suggestion, Reinstein and Snyder (2005) report that reviews only influenced demand for

more obscure films (e.g., those that were narrowly released). Similarly, though the relative imprecision of the estimates prevents us from drawing any strong conclusions, when we estimate separate coefficients for the three author categories in our own book sales data, the coefficient is largest for the new authors. Regardless of valence, reviews may have less impact on widely released books or movies because everyone knows about them already.

Even when general awareness is low, however, we suggest that negative publicity will be unlikely to have a positive effect when product awareness and accessibility are high among the people reached. Chevalier and Mayzlin (2006), for example, examine consumer reviews on internet booksellers and find that negative reviews hurt sales. This situation differs from prior work on movies because the general population should have lower existing product awareness, but the effects are likely similar because product awareness/accessibility should be high among people reached by the reviews. Reviews on sites like Amazon.com appear on the same page as the book itself, and most consumers only read the review after they have already searched for the book by name. To perform such a search the consumer must be aware of the book, and have it highly accessible, and thus the review will have little ability to increase accessibility or awareness. Consequently, a negative review will be unlikely to positively affect sales.

We examined indirect and direct publicity in different studies, but it would also be interesting to compare the two types of effects. If indirect publicity works through activating related nodes in memory then its effects on accessibility should generally be smaller because the activation should weaken as it spreads (Collins and Loftus 1975). Consequently, as long as indirect publicity does not influence product evaluation, one

might expect that indirect publicity would have similar effects to direct publicity (though weakened) when product accessibility is low and null effects when accessibility is high. If indirect publicity affects product evaluation (e.g., through affective contagion), though, these effects may differ (e.g., negative indirect publicity would have null effects even when product accessibility was low). Comparing these effect sizes would require a rich dataset that contained product sales data over time as well as information on the incidence and prevalence of both direct publicity (e.g., product reviews) and related product cues.

Marketers often try to combat negative publicity, but our findings indicate that in some cases, it can actually be helpful. Though producers of major motion pictures or highly anticipated books might want to attempt to deaden negative press, smaller producers might want to allow, or even fan the flames of negative publicity. Many consumers attempt to discount direct advertising, but because negative indirect publicity does not include direct product appeals, it may slip in under the radar and thus have a more pronounced effect. In summary, though negative publicity can definitely hurt sales in some cases, in others, negative may actually be positive.

TABLE 1:
SUMMARY STATISTICS FOR REVIEWS

	Mean	Std. Dev.	Percentiles .10	.50	.90
Books:					
List Price	$24.63	$3.12	$23.00	$24.95	$25.95
Average weekly sales	2,685.5	10,831.9	48.9	368.3	3,570.2
Week reviewed (wrt release)	7.7	8.2	3	5	12
Reviews:					
Number of sentences	45.5	22.6	12	48	74
Number opinionated	6.8	4.4	2	6	13
Percent opinionated	16.0%	8.9%	7.1%	14.6%	25.0%
Percent positive	55.3%	30.3%	11.1%	52.6%	100.0%

TABLE 2:
REGRESSION ESTIMATES: THE IMPACT OF REVIEWS ON SALES

	I	II	V	VI
Weeks since release	-.051	-.045	-.051	-.051
	(.012)	(.015)	(.012)	(.012)
Review	.282	-	-	-
	(.067)			
Review (*t*-2)	-	.210	-	-
		(.106)		
Review (*t*-1)	-	.504	-	-
		(.119)		
Review (*t*=0)	-	.286	-	-
		(.077)		
Review (*t+1*)	-	-.372	-	-
		(.048)		
Review (*t+2*)	-	-.292	-	-
		(.049)		
PosReview x (< 2 previous titles)	-	-	.347	-
			(.103)	
PosReview x (2-9 previous titles)	-	-	.277	-
			(.095)	
PosReview x (>10 previous titles)	-	-	.417	-
			(.179)	
NegReview x (< 2 previous titles)	-	-	.372	-
			(.202)	
NegReview x (2-9 previous titles)	-	-	.137	-
			(.162)	
NegReview x (>10 previous titles)	-	-	-.145	-
			(.098)	
Review x (New York City)	-	-	-	.812
				(.143)
Review x (all other markets)	-	-	-	.439
				(.092)
Number of books	244	244	244	33
Number of observations	1,942	1,942	1,942	3,936
R^2	.179	.232	.182	.083

Robust standard errors in parentheses. Each specification also includes a full set of week fixed effects, and indicators for whether the book was announced as a television book club pick. (A full table of results is available from the authors upon request.) The review dummies equal one in the week immediately following the publication of the book review in the Sunday *New York Times*.

FIGURE 1:

EFFECT OF NEGATIVE ATTENTION TO A MOVIE STAR AND PRESENCE OF CONCEPTUAL LINK TO MOVIES ON MOVIE CHOICE (STUDY 1)

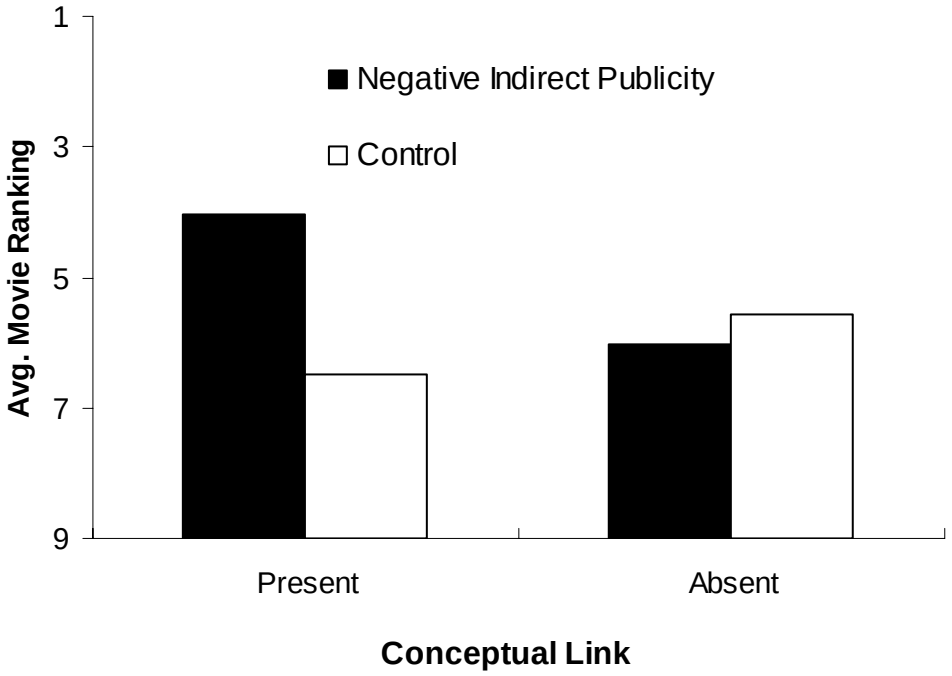
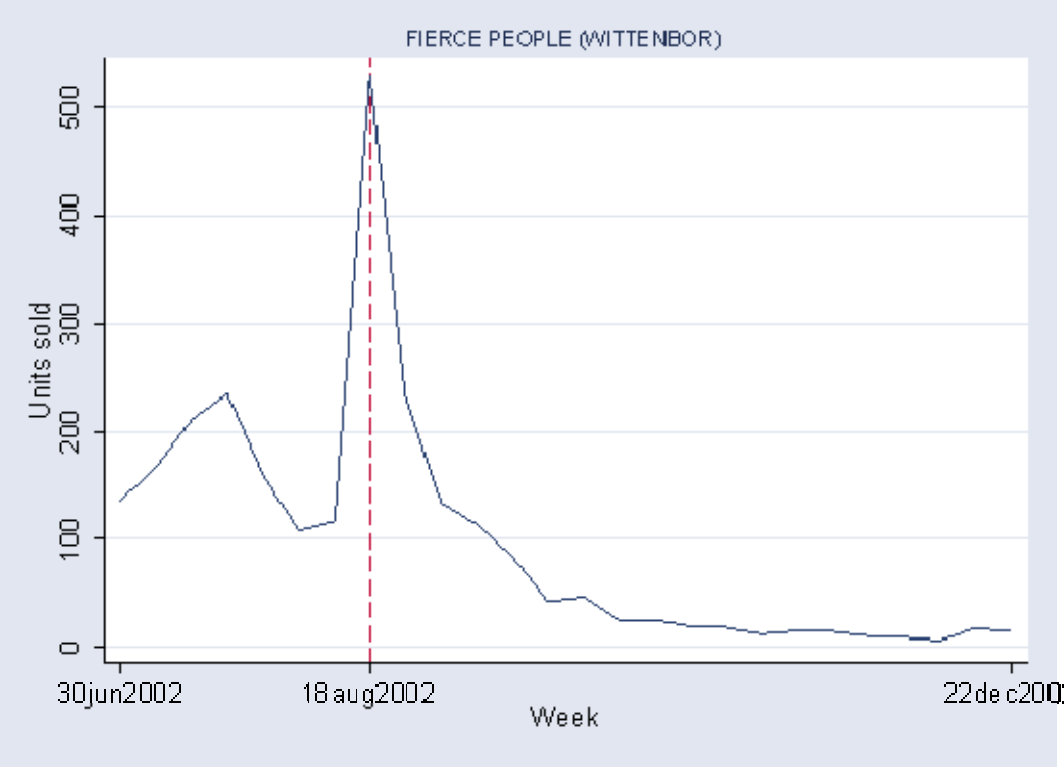


FIGURE 2:

EXAMPLE OF HOW A NEGATIVE REVIEW INFLUENCES SALES FOR A BOOK BY A RELATIVELY UNKNOWN AUTHOR



Example sentences from the review:
- "The change in tone is so abrupt that the dissonance it creates is almost distasteful."
- "On the whole, however, Wittenborn does not have a particularly sharp eye."
- "He gets by on attitude, not such a great strategy if the reader can't figure out what that attitude is."

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