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TWO VIEWS OF THE STEEPLE: TESTING PORN EXCEPTIONALISM IN TRADEMARK AND COPYRIGHT TARNISHMENT CLAIMS

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"The existence of a *Madeline Does Dallas* might lead to some awkward questions during bedtime stories."[1]

Copyright and trademark owners fear that the valuable images and symbols they create will be tarnished by unauthorized uses, so they seek more perfect control to prevent what they perceive to be unwholesome consumer associations. In a nutshell, Disney fears the damage that might be caused by the release of an x-rated film starring Mickey and Minnie Mouse--and possibly Goofy--over the internet. Even copyright skeptics admit that "Rowling, Disney and other creative authors have at least some justification for being outraged when their characters are used in contexts wholly different from the original, such as pornography."[2] Whether the fear of tarnishment is justified or not, claims of damage have had real world effects. In 2006, Congress amended the Lanham Trademark Act to provide a remedy against those who "use of a mark or trade name in commerce that is likely to cause . . . dilution by tarnishment of [a] famous

[1] *See* Stan Liebowitz & Stephan Margolis, *Seventeen Famous Economists Weigh in on Copyright: The Role of Theory, Empirics, and Network Effects*, 18 HARV. J. L. & TECH. 435, 449 fn.24 (2005).
[2] Dennis Karjala, *Harry Potter, Tanya Grotter, and the Copyright Derivative Work*, 38 ARIZ. ST. L. REV. 17, 35-36 (2006).

mark."[3]   In 1998, Congress also retroactively extended the term copyright 20 years, a solution

suggested by those who feared works falling into the public domain would be subject to misuse.[4]

Overseas, the specter of tarnishment has stunted the full development of a parody defense in EU

copyright law[5] and may have resulted in the narrowing of the parody defense in U.S. law.[6]

Despite its surface appeal, the theory underlying the tarnishment hypothesis is

surprisingly thin and few attempts have been made to discover whether copyright and trademark

owners actually suffer damage when unauthorized and unwholesome uses of their images are

made. In Part I of this article, we briefly survey how tarnishment doctrines, particularly those

condemning sexual associations, operate in law. In Part II, we summarize theories of the danger

posed by unwholesome, unauthorized uses of copyrighted and trademark goods. In Part III, we

summarize the extant psychological literature on the effect of sex on brand perception and

purchasing decisions and propose a test of tarnishment caused by pornographic associations, the

most extreme worry asserted by image owners. In Part IV, we describe our methodology and

report the results of a unique experiment which exposes subjects to posters of unauthorized porn

films and measures the effects on subjects' responses to the target of the sexual association along

several important dimensions, including their valuation of the affected work. In Part V, we

caution policymakers about blindly accepting the tarnishment hypothesis and make some modest

recommendations for reform, including the elimination of the distinction currently made between

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[3] 15 U.S.C. § 1125(c)(1).
[4] *See* Christopher Buccafusco & Paul J. Heald, *Do Bad Things Happen When Works Enter the Public Domain?: Empirical Tests of Copyright Term Extension*, 28 BERKELEY TECH. L. J. 1 (2013).
[5] *See* John Deckmyn and Vrijheidsfons VZW v. Helena Vandersteen and Others, C-201/13 (Court of Justice of European Union 2014) (copyright owners have the right to prevent their works from being associated with certain negative messages).
[6] *See* Walt Disney Productions v. Air Pirates, 581 F.2d 751 (9th 1978) (finding a sexually explicit parody featuring drug-running Disney characters unprotected by the fair use doctrine).

parody and satire in copyright law and elimination of the presumption of harm currently made in certain types of trademark tarnishment cases.

I.   LEGAL DOCTRINES OF TARNISHMENT

Claims of tarnishment have been actionable in trademark law for decades while the notion is more subtly embedded in copyright law.

A.   TRADEMARK DILUTION

Congress has provided protection to the owners of well-known marks against a third-party uses that are "likely to cause . . . dilution by tarnishment . . . regardless of the presence or absence of actual or likely confusion, of competition, or of actual economic injury."[7] Tarnishment is defined as an "association arising from the similarity between a mark or trade name and a famous mark that harms the reputation of the famous mark."[8] The Second Circuit explains that "t]arnishment is a form of trademark dilution which occurs when a trademark is linked to products of inferior quality or when it is placed in an 'unsavory or unwholesome' setting which diminishes the commercial appeal of the mark."[9] The statute provides that "identifying and parodying" a mark not actionable,[10] but as we will see, parody is defined narrowly to protect only those third-party uses actually meant to comment upon the trademark owner.[11]

Unauthorized uses that create sexual associations are especially suspect. The Sixth

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[7] 15 U.S.C. § 1125(c)(1).

[8] 15 U.S.C § 1125(c)(2)(C).

[9] *See also* Hormel Foods Corp. v. Jim Henson Prods., 73 F.3d 497, 508, 37 U.S.P.Q.2d 1516, 1524 (2d Cir. 1996) ("Tarnishment occurs when the good will that a senior user has cultivated in a mark is displaced by "bad will" engendered by an unauthorized use . . . The sine qua non of tarnishment is a finding that plaintiff's mark will suffer negative associations through defendant's use.").

[10] 15 U.S.C. § 1125(c)(3)(A).

[11] *See, for example*, N.Y. Yankees Partnership v. IET Products and Services, Inc., slip. op. (TTAB, May 8, 2015) (rejecting application of N.Y. Yankees parodist to register THE HOUSE THAT JUICE BUILT with top hat and syringe logo for hats, t-shirts, and coffee mugs).

Circuit has held that the law "creates a kind of rebuttable presumption, or at least a very strong inference, that a new mark used to sell sex related products is likely to tarnish a famous mark if there is a clear semantic association between the two."[12] The court reasoned that the association "between a famous mark and lewd or bawdy sexual activity disparages and defiles the famous mark and reduces the commercial value of its selling power."[13] The court makes "an economic prediction about consumer taste and how the predicted reaction of conventional consumers in our culture will affect the economic value of the famous mark."[14]

In support of its presumption that sexual associations are tarnishing, the court cites eight different cases from six jurisdictions.[15] In fact, the Sixth Circuit finds "no exceptions in the case

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[12] V Secret Catalog, Inc. v. Victoria's Secret Stores, Inc., 605 F.3d 382 (6th Cir. 2010) (sex toy store "Victor's Little Secret" tarnishes the Victoria's Secret mark) (the law "places on the owner of the new mark the burden of coming forward with evidence that there is no likelihood or probability of tarnishment. The evidence could be in the form of expert testimony or surveys or polls or customer testimony."). *See also* Jessica Taran, *Dilution by Tarnishment a Case for Vulgar Humor*, 7 INTELL. PROP. L. BULL. 1 (2002) ("Courts, although not explicitly, have held that any association of a famous mark with pornographic material is per se tarnishing."). This presumption has been criticized a leading commentator in the field. *See* THOMAS J. MCCARTHY, 4 MCCARTHY ON TRADEMARKS AND UNFAIR COMPETITION § 24:89 (4th ed.) ("The majority's creation of a presumption of dilution by tarnishment if there is use on "sex related products" is wildly misguided.").

[13] *Id.* at 388.

[14] *Id.* at 389.

[15] *See* Pfizer Inc. v. Sachs, 652 F.Supp.2d 512, 525 (S.D.N.Y.2009) (defendants' display at an adult entertainment exhibition of two models riding a VIAGRA-branded missile and distributing condoms would likely harm the reputation of Pfizer's trademark); Williams–Sonoma, Inc. v. Friendfinder, Inc., No. C 06–6572 JSW (MEJ), 2007 WL 4973848, at *7 (N.D.Cal. Dec. 6, 2007) (defendants' use of POTTERY BARN mark on their sexually-oriented websites likely to tarnish "by associating those marks for children and teenager furnishings"); *Kraft Foods Holdings, Inc. v. Helm,* 205 F.Supp.2d 942, 949–50 (N.D.Ill.2002) (pornographic website's use of "VelVeeda" tarnishes VELVEETA trademark); Victoria's Cyber Secret Ltd. P'ship v. V Secret Catalogue, Inc., 161 F.Supp.2d 1339, 1355 (S.D.Fla.2001) (defendants' internet trade names likely to tarnish famous mark when websites "will be used for entertainment of a lascivious nature suitable only for adults"); Mattel, Inc. v. Internet Dimensions Inc.,2000 WL 973745, 55 U.S.P.Q.2d 1620, 1627 (S.D.N.Y. July 13, 2000) (linking BARBIE with pornography will adversely color the public's impressions of BARBIE); Polo Ralph Lauren L.P. v. Schuman, 46 U.S.P.Q.2d 1046, 1048 (S.D.Tex.1998) (defendants' use of "The Polo Club" or "Polo Executive Retreat" as an adult entertainment club tarnished POLO trademark); Pillsbury Co. v. Milky Way Prods., Inc., 1981 WL 1402, 215 U.S.P.Q. 124, 135 (N.D.Ga. Dec. 24, 1981) (defendant's sexually-oriented variation of the PILLSBURY DOUGHBOY tarnished plaintiff's mark); *Dallas Cowboys Cheerleaders, Inc. v. Pussycat Cinema, Ltd.,* 467 F.Supp. 366, 377 (S.D.N.Y.1979) (pornographic

law that allow such a new mark associated with sex to stand." If the court had looked a little

harder, it could have found even more support for its sex exceptionalism. In *Hasbro, Inc. v.*

Internet Entertainment Group, Ltd.,[16] the court enjoined the use of CANDYLAND.COM for use

on an adult entertainment web site, holding that the reputation of the children's board game was

in grave danger. Similarly, a court found that a defendant's clever gold condom-containing card

labeled with the motto, "Never leave home without it," tarnished the reputation of the American

Express Company.[17] The Sixth Circuit could also have bolstered its reasoning by reference to

Toys "R" Us, Inc. v. Akkaoui,[18] which found that the TOYS 'R US trademark was tarnished by

the use of ADULTSRUS.COM as a domain name for pornographic web site. One commentator

captures the flavor of the case law nicely: "What may be gathered from analyzing the

tarnishment cases up to date is that a showing of injury is not necessary if the trademark is placed

in a type of setting a particular court finds offensive . . . an association with drugs or

pornography will necessarily tarnish the image of trademark."[19]

Defendants seeking to rely on a parody exception, must do far more than argue they are

trying to be funny, ironic, or satirical when using the famous trademark. Sarah Burstein suggests

that a parody is permitted only if: "1) The parody targets the famous mark owner or the mark

owner's goods or services; and 2) the parody does not serve 'as a designation of source' for the

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depiction of a Dallas Cowboys Cheerleader-style cheerleader in an adult film tarnished the professional
mark of the Dallas Cowboys)."

[16] 40 U.S.P.Q.2d 1479, 1996 WL 84853 (W.D. Wash. 1996).

[17] *See* Am. Express Co. v. Vibra Approved Labs. Corp., 10 U.S.P.Q.2d (BNA) 2006.

[18] 40 U.S.P.Q.2d 1836, 1996 WL 772709 (N.D. Cal. 1996).

[19] Taran, *supra* note 11, at ("The Restatement (Third) on Unfair Competition recognizes that the harm
caused by tarnishment is the loss of selling power by the trademark. However, the comments suggest that
certain 'inherently negative or unsavory associations' such as 'illicit drugs or pornography' are
presumptively tarnishing.").

parodist's 'own goods or services.'"[20] Thus, a porn parody of the movie *Stars Wars* has been allowed,[21] as has a raunchy parody of Carol Burnett's sad cleaning lady by the television show *Family Guy*.[22] Burstein notes, however, that "the holders of the rights to the 'Tarzan' character may still have a claim against the producers of the adult film entitled *Tarz & Jane & Boy & Cheeta* and featuring famous Tarzan characters."[23] The Tarzan name, invoked in the title, can be seen as a designation of source of the defendant's own work, and the trademarked characters themselves, if invoked explicitly enough, may also serve as source indicators. Second, the defendant's movie must clearly be targeting the original *Tarzan* as an object of commentary, not just a lewd appropriation. We note that the parody exception is only expressly included in the federal trademark dilution statute. State anti-dilution laws are under no obligation to recognize a parody exception, outside of the first amendment.

B. COPYRIGHT "TARNISHMENT"

Tarnishment theory is not as doctrinally engrained in copyright law as it is in trademark law, but it still enters into two important aspects of copyright law: fair use and term extension. In both, the risk that tarnishment can devalue works provides a strong argument in favor of giving copyright owners greater control over their works. We first explain the nature of U.S. copyright law, and then we explore claims about tarnishment and how copyright law can address it.

1. The Copyright Balance

In the United States, copyright law rests on a consequentialist rationale of optimizing creative production by providing authors with incentives to create new works. Novels, songs, and movies are expensive to create but very easy to copy. Accordingly, in the absence of copyright

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[20] Sarah Burstein, *Dilution by Tarnishment: The New Cause of Action*, 98 TRADEMARK REP. 1189, 1244 (2002).

[21] *See* Lucasfilm Ltd. v. Media Market Group, Ltd., 182 F. Supp. 2d 897, 901 (N.D. Cal. 2002).

[22] *See* Burnett v. Twentieth Century Fox Film Corp, 491 F. Supp. 2d 962 (C.D. Cal. 2007).

[23] Burstein, *supra* note 18 at 1224.

law, copyists would simply reproduce all of the successful works, resulting in competition that would drive the price of copies down to the marginal cost of reproduction. In such a world, authors would never be able to recoup their investments in time and resource that they spent creating the work in the first place. Copyright law solves this problem by giving authors a period of exclusive control over their works during which they can charge prices above the marginal cost of reproduction.

Although authors need some financial incentive to create new works, granting those incentives is costly to society. Because authors can charge higher prices for their works, some people who would have been willing to pay for the work if it was priced at marginal cost will now not be willing to pay for the work at the higher price. These lost readers, listeners, and viewers represent a "deadweight loss" that is the result of the copyright grant, and the pleasure they would have gotten from experiencing the copyrighted works is a welfare loss. Accordingly, copyright law must balance the initial incentive provided to authors with the opportunities the public and future creators have to access their works. This is typically accomplished by having copyright terms expire after a certain period—in the U.S., seventy years after the death of the author.

In addition to limiting authors' rights over time, copyright law also limits their rights to prevent certain uses of their works during the copyright period. There are certain uses of creative works that copyright law deems too important to society to allow authors to squelch them. These uses—which copyright law calls "fair uses"—are an exemption from the statutory grant given to authors. Thus, uses of a work for purposes of criticism, comment, and education are deemed "fair," and authors may not prevent authors from engaging in them. One of the most discussed

categories of fair use is parody in which a second creator mocks or pokes fun at an original work by copying aspects of its style.

In ruling that 2 Live Crew's version of Roy Orbison's "Pretty Woman" was a parodic fair use, the Supreme Court stated, "Like less ostensibly humorous forms of criticism, [parody] can provide social benefit, by shedding light on an earlier work, and, in the process, creating a new one."[24] And although this criticism could harm the market value of the work, copyright law would still tolerate it. The Court noted that "when a lethal parody, like a scathing theater review, kills demand for the original, it does not produce a harm cognizable under the Copyright Act."[25] Nonetheless, the Court clarified that there remained a "distinction between potentially remediable displacement and unremediable disparagement."[26] In these and other fair use cases, then, understanding the impact of a use on the market for the plaintiff's work is essential.

The above discussion focused exclusively on the economic consequences of uses of creative works because, in the U.S., these effects are the only ones that matter. An author's hurt feelings and moral outrage play effectively no role in in U.S. copyright law.[27] By contrast, many European countries' laws and international treaties make specific provisions for authors' "moral rights," which prevent certain uses of works that degrade or desecrate the author or her work. Although there is much to be discussed about the relationship between tarnishment and moral rights, we set these issues aside for now to maintain our focus on the economic consequences of tarnishment.

2. *Tarnishment in Copyright Doctrine*

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[24] Campbell, 510 U.S. at 579.
[25] *Id*. at 591-92.
[26] *Id*. at 592.
[27] Christopher Buccafusco & David Fagundes, *The Moral Psychology of Copyright Infringement*, 100 MINN. L. REV. (forthcoming 2016).

The tarnishment hypothesis asserts that when people are exposed to inappropriate uses of a work, they develop unpleasant associations with the work that undermines its value and attractiveness to them. If copyright owners have greater control over their works and can prevent tarnishing uses, the work's value is maintained and social welfare is increased.

a. Tarnishment and Term Extension

One way of increasing owners' control over works is by lengthening the term of copyright protection. When Congress retroactively extended the copyright terms of existing works by twenty years in 1998, it knew that doing so would not create any additional incentives for authors of those works. Instead, it justified the law, in part, as a way of increasing owner's control over their works to prevent unauthorized and inappropriate uses that might sap their cultural value. Had Mickey Mouse been allowed to enter the public domain as expected, Disney could not have used copyright law to prevent others from depicting Mickey in situations and contexts that might prove upsetting and harmful to viewers. By extending the copyright term, Mickey was saved from such humiliation.

William Landes and Richard Posner have offered a more technical argument in favor of extending copyright terms to prevent tarnishment, but their claim is fundamentally identical.[28] As discussed above, copyright law represents a tradeoff between the rights given to authors and the costs of those rights to the public. One of those costs is the deadweight loss from consumers unwilling or unable to pay the high prices associated with copyrights. When a work enters the public domain, those costs largely disappear as others can reproduce the work, driving down its price.

Landes and Posner note, though, that the benefit of the work entering the public domain may be offset by the costs associated with tarnishing uses of it. Once people can depict Mickey

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[28] Landes & Posner, *supra* note XX.

Mouse in pornographic situations, Mickey's value and the demand for Mickey-related products will erode. If this reduction in demand is sufficiently large, it can offset whatever social welfare benefits were gained by the reduction of deadweight losses. Accordingly, Landes and Posner argue that works of enduring social value should be able to obtain indefinitely renewable copyrights.

Landes and Posner's claims have been seriously challenged both theoretically and anecdotally.[29] For example, Dennis Karjala notes that devaluation of one work might simply create an opportunity for another work to succeed.[30] This kind of "creative destruction" is no worse for social welfare than the invention of the car was for producers of horse-drawn buggies.[31] In addition, many have noted that characters like Mickey Mouse and Superman have been subjected to innumerable tarnishing uses without any meaningful diminution in value. We generally agree with these critics. Nonetheless, we offer more thorough empirical tests of their argument.

b. Fair Use and Tarnishment

The tarnishment hypothesis also has important implications for fair use law. Recall that copyright law allows others to make use of copyrighted works when those works are deemed "fair." The two most important aspects of fair use law are the inquiries into the "purpose and character" of the defendant's use and the effect of that use on the market for the plaintiff's work. Accordingly, it is important to understand how allegedly tarnishing pornographic uses affect the tarnished work.

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[29] Karjala; Lemley

[30] "A change in the demand curve for a work, however, while showing a change in how much society values that particular work relative to whatever else is available, says nothing about the total value to society of all the goods and services available." Karjala, supra note XX, at 1072.

[31] Id. He writes, "It is most plausible that society has shifted the focus of its entertainment dollars in other directions, to the dismay of Disney but to the delight of the producers of products that are now substituting for Mickey."

Courts have occasionally enjoined adult-themed uses of a copyright work because they sullied the underlying work. For example, in 1981 the Second Circuit rejected a fair use claim by the author of a "take off" of the song "Boogie Woogie Bugle Boy of Company B" called "Cunnilingus Champion of Company C."[32] In 1997, the Ninth Circuit relied, in part, on the substantial "good will and reputation" of Dr. Seuss's *Cat in the Hat* book in rejecting fair use arguments in favor of a satire of the O.J. Simpson trial using the children's book's style and characters.[33]

In other cases, however, courts have allowed fair use defenses when the infringing use parodied the copyrighted work. In these cases, courts have generally ruled that even though the parody may denigrate the original, leading to its devaluation, such harm is not part of the cognizable copyright interest. This is because the social value associated with parody and criticism is thought to outweigh whatever harm the initial author may suffer. Tarnishing uses that can claim parodic status are mostly insulated from any market harm that they cause.

Most of these fair use cases turn on whether the defendant's use can be characterized as a parody or not. But not all of the potentially tarnishing uses of a work are parodies. For example, many unauthorized pornographic movie versions simply borrow the underlying movie's title. In these situations, understanding the pornographic version's impact on the market for the underlying work is essential to judging fair use claims.

II.   THEORIES OF HARM FROM TARNISHMENT

At its foundation, a claim of tarnishment, whether it is made in the copyright or trademark context, is a claim that an interior psychological reaction by a consumer has diminished the value of an image or symbol to that consumer. As such, the existence or non-

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[32] MCA, Inc. v. Wilson
[33] Dr. Seuss Enterprises v. Penguin Books USA, Inc.

existence of that psychological reaction can be tested. Forming a testable hypothesis, however, requires a closer investigation into the nature of the alleged harm.

A.   A STRONG VERSION OF TARNISHMENT

Laura Bradford does a nice job summarizing the essence of legal claims of tarnishment in the context of copyright: "Owners of expressive works claim loss of control over the presentation of a work, be it an image, film, character, or song, has the potential to destroy the public's positive associations with the original and so exhaust the demand for the original and its attendant products."[34] She notes that the tarnishment hypothesis is implicitly based on a theory of human cognition which assumes that consumer attitudes toward a work change when an incompatible version of that work is encountered.[35] Landes and Posner worry this change is inevitably damaging. "If ... anyone were free to incorporate the Mickey Mouse character in a book, movie, song etc., the value of the character might plummet. Not only would the public rapidly tire of Mickey Mouse, but his image would be blurred, as some authors portrayed him as a Casanova, others as catmeat, others as an animal-rights advocate, still others as the henpecked husband of Minnie."[36] The existence of the damage feared by Landes and Posner could bear on judicial considerations of fair use or policy considerations of copyright term length.

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[34] Laura R. Bradford, *Parody and Perception: Using Cognitive Research to Expand Fair Use in Copyright*, 46 B.C. L. REV. 705, 707 (2005). *See also id*. at 716 ("Without strong ownership rights, those seeking to exploit the value created and maintained by a work's owners will exhaust the work's potential without considering the cost of their actions to others or to the work itself.").

[35] *Id*. at 709-10 (discussing the relevance of cognitive research in measuring consumer harm).

[36] William M. Landes & Richard A. Posner, *Indefinitely Renewable Copyright*, 70 U. CHI. L. REV. 471, 487-88 (2003). *See also* Bradford, *supra* note 7 at 743 ("If a brand somehow has been associated with incompatible values or unpleasant images, consumers will be less likely to purchase it."). Cf. THOMAS J. MCCARTHY, 4 MCCARTHY ON TRADEMARKS AND UNFAIR COMPETITION § 24:89 (4th ed.) (""Judge Posner used the hypothetical of someone using the famous mark TIFFANY to brand a "strip-tease joint" nightclub, thereby creating the danger of tarnishing the reputation of the famous mark TIFFANY for a chain of up-scale jewelry stores. He argued that: "[B]ecause of the inveterate tendency of the human mind to proceed by association, every time they think of the word "Tiffany" their image of the fancy jewelry store will be tarnished by the association of the word with the strip joint.").

Serious discussion of the cognitive mechanisms that might underlie tarnishment are rare, but Bradford suggests that "attention" and "identity" are the two key components that influence the decision to consume a particular entertainment good.[37] First, goods compete in the marketplace for the attention of consumers. An unauthorized user, therefore, may draw attention from the senior user and lower the value of the senior user's work.[38] An unauthorized use, however, does not inevitably draw attention away from the senior work. An unauthorized use may increase awareness of the original work.[39] An increase in awareness, however, does not necessarily translate into increased value due to the importance of the "identity" component in consumer perception.

Consumers identify particular works with certain ideas or emotions. "America the Beautiful" or "This Land is Your Land," for example, may evoke feelings of patriotism or community in listeners. In order for those meanings to retain their value to consumers, they must be relatively stable.[40] Absolute stability, however, is undesirable because overprotection would take from consumers the opportunity to rework meanings in valuable ways.[41] For example, feminists have long appropriated the image of Barbie to undermine traditional notions of beauty and femininity,[42] while the gay community has converted the Marlboro man into a homosexual icon.[43] Nonetheless, stability is given weight, and an appropriation may theoretically go too far, as in the case of a Florida insecticide company that referenced a Budweiser ad campaign with the

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[37] Bradford, *supra* note 7, at 752.

[38] *See* Bradford, *supra* note 7, at 756 ("Overuse or inconsistent use of such signifiers, however, ruins their informative value and impedes their utility for audience choice.")

[39] *Id*. at 754.

[40] *See* Justin Hughes, *"Recoding" Intellectual Property and Overlooked Audience Interests*, 77 TEX. L. REV. 923 (1999)

[41] Tushnet; Dreyfuss.

[42] *See* Eva Wisem, *Barbie, Sexualization, and Body Image: The Debates Rage On*, THE OBSERVER, May 3, 2013 at http://www.theguardian.com/lifeandstyle/2014/may/04/sports-illustrated-cover-barbie-sexualisation-arguments-feminism-body-image.

[43] *See* Google Plus "Communities" which include "Gay Leather Men/Marlboro Men."

slogan, "Where there's life, there's bugs [Bud]." The slogan may have drawn attention to the Budweiser jingle and Budweiser beer, but the association with liquid insecticide may also have corroded its identity, subverting consumers' positive associations of Budweiser.

Two points about attention and identity. First, they seem to be key in evaluating claims of tarnishment in both the trademark and copyright context. Brands, like copyrighted works, compete for attention and market share. Trademark owners constantly police unauthorized uses that distract and mislead consumers. Moreover, trademark owners are often keen to associate their marks with a particular brand identity. A short time in front of the television will reveal the brand identities sought to be established by firms like Sonic, Nike, and Volkswagen. Owners are usually very interested in keeping the meanings associated with their brands stable once the identity is established, and they will seek to suppress "a sense of incongruity between the intimate and inspirational tenor of an emotional-branding strategy and the profit-driven motives of the corporate sponsor."[44]

Until we discuss law reform, we see no reason to distinguish between the phenomena in the copyright and trademark contexts. Imagine an "unwholesome" film that features a copyrighted song in its soundtrack and features multiple uses of a famous brand name product by the actors. The description of consumer cognition made by both owners is the same. Consumers' attention is drawn to the copyrighted work and to the trademark by the unauthorized use, and the identity sought to be established by the owner is allegedly undermined. Whether the image, sound, or symbol is legally protected by copyright or trademark seems irrelevant to the nature of the claim about cognitive processing and lost value.

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[44] Craig J. Thompson, Aric Rindfleisch, and Zeynep Arsel, *Emotional Branding and the Strategic Value of the Doppelgänger Image*, 70 J. OF MARKETING 50, 53 (2006).

Finally, both attention levels and identity are measurable. Well-established experimental and survey techniques exist to measure both consumer perception and the meanings attached by consumers to particular objects. Claims of tarnishment should almost always be empirically verifiable. In fact, in a prior study we demonstrated that a consumer who has listened to a low quality recording of a novel was likely to value it less than one who listed to a higher quality recording of the same novel.[45]

Current case law, however, contains no requirement that a copyright and trademark owner present actual evidence of lessened value or actual damage. The presumption of damage is seen most clearly in cases involving the association of copyrighted works or trademarks with pornography. In the copyright context, Disney battled hard to enjoin the sex-fueled antics of its most famous characters as they appeared in the unauthorized comic, "The Air Pirates." Disney sought to protect its "image[s] of innocent delightfulness"[46] from the frontal assault of illustrators who thought that raunchy sex, drug use, and robbery better fitted the Disney crew.

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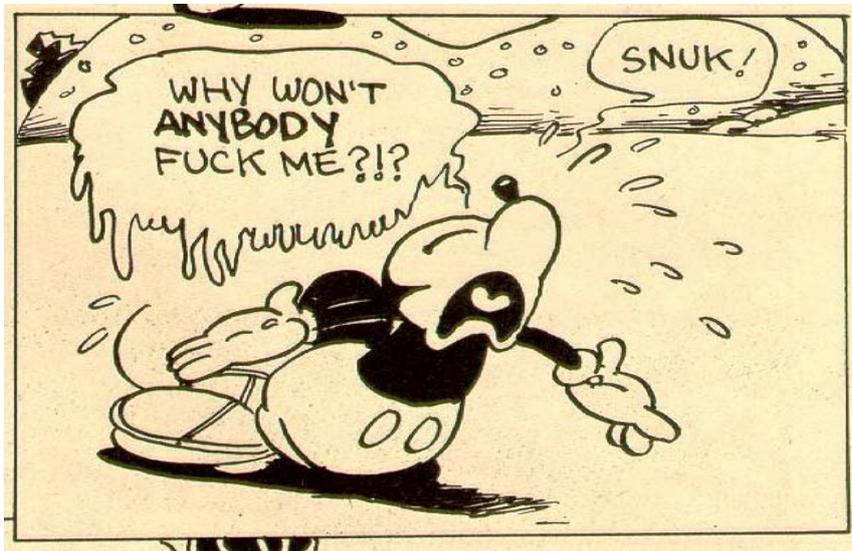
[45] Buccafusco & Heald, *supra* note 4 at 23-28.
[46] Walt Disney Productions v. Air Pirates, 345 F.Supp. 108, 110 (N.D. Cal. 1972).

Disney succeeded in its copyright claim for injunctive relief against the infringers. Years later, Judge Kozinski explained, "What I think actually motivated the court in that case, as in the case of the Dallas Cowboys cheerleaders, is that unsavory use of the characters was inconsistent with the images of the products and would have had an unfairly destructive effect on them."[47]

Allegedly inappropriate uses of sex in the trademark context can be seen in the case of a Florida bank that sued a strip club for using the same term that the bank used to refer to its automated teller machine: "Cookie Jar." The strip club's billboard announced "Annie's Cookie Jar" as "Adult Entertainment" and "The most fun you can have in town (with your clothes on!)."[48] Although no direct evidence was offered by the plaintiff on the issue of actual injury, a photo of the bulletin board advertising the strip club sufficed to convince that court that an injunction against the use of the term should issue.[49] The *Restatement (Third) of Unfair Competition* uses the "Cookie Jar" case as a prime illustration of the tarnishment theory in action.[50] The association with illicit sex is so pungent that no proof of actual damage need be offered.

B. SKEPTICISM TOWARD CLAIMS OF TARNISHMENT

Many commentators doubt the tarnishment hypothesis, at least in some contexts. Fournier and Avery suggest, "When a brand stands as a target of parody, this can be an indication of much-coveted cultural resonance for the original advertising campaign."[51] They are particularly skeptical of claims of damage when a parody does not satirize its target, and even

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[47] Alex Kozinski, *Trademarks Unplugged*, 68 N.Y.U. L. REV. 960, 967 (1993).

[48] *See* Community Federal Savings & Loan Association v. Orondorff, 678 F.2d 1034, 1035 (11th Cir. 1982).

[49] *Id*. at 1937 ("Appellee argues that 'Appellant failed to produce evidence of any nature whatsoever to suggest actual or likely injury to itself, or ... dilution of its mark.' However, we regard the exhibits of record, including photographs of appellee's billboard, as potent witnesses . . .").

[50] *See* RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 25, cmt g. (1995).

[51] Susan Fournier & Jill Avery, *The Uninvited Brand*, 54 BUSINESS HORIZONS 193 (2011).

argue that such unauthorized uses can "increase brand and advertising awareness, producing effects that are positive if not simply benign."[52] They cite numerous examples of trademark owners encouraging parody memes that they deem to be beneficial to the value of their brands,[53] while also noting some vigorous defenses launched by trademark owners against unauthorized users.[54]

Bradford argues that tarnishment may be ameliorated or eliminated by four common cognitive processes: Resistance, source effects, frequency of exposure, and level of processing effort.[55] Resistance refers to the natural human tendency to maintain established attitudes toward the world.[56] Her research leads her to conclude that "People who have a long history of positive relations with a work, such as an iconic novel like *Gone With the Wind*, are likely to discount any information that might persuade them to change their attitude."[57] Unauthorized uses will be "unlikely to chip away much at underlying attitudes about iconic originals because those attitudes are so rote and well-rehearsed."[58] She notes, however, that newer works may be less resistant to inconsistent messages and asserts that they may be entitled to more protection than iconic works.[59]

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[52] *Id*. at

[53] *Id*. at (Snuggies is the best).

[54] *Id*. at

[55] Bradford, supra note 7 at 760-67.

[56] *Id*. at 761, *citing* ALICE H. EAGLY & SHELLY CHAIKEN, THE PSYCHOLOGY OF ATTITUDES 590-608 (1993); James L. McGaugh, *Emotional Activation, Neuromodulatory Systems, and Memory, in* MEMORY DISTORTION: HOW MINDS, BRAINS, AND SOCIETIES RECONSTRUCT THE PAST 255, 255 (Daniel L. Schacter ed., 1995); *see also* Green et al., *supra* note 305, at 172-73 (noting the strength of attitudes formed through experience of fiction, though also noting at least one theory as to why those attitudes may be more vulnerable to counterpropaganda).

[57] *Id*. at 762, *citing* David W. Schumann, *Media Factors That Contribute to a Restriction of Exposure to Diversity, in* THE PSYCHOLOGY OF ENTERTAINMENT MEDIA: BLURRING THE LINES BETWEEN ENTERTAINMENT AND PERSUASION 235-36 (L.J. Shrum ed., 2004).

[58] *Id*., *citing* McGaugh, *supra* note 21 at 255-56.

[59] Id. at 762.

According to Bradford, consumers also consider the source of information about a work or a brand to be critically important. An inconsistent message will be discounted if the source of the message is clearly known to be an unauthorized user.[60] She argues this is consistent with "the phenomenon observed by Tushnet and others that users seem not to mind unauthorized reworkings of popular texts in the form of fan fiction or parody so long as one "orthodox" version exists."[61] Consumers may be able to cabin effectively a variety of different meanings and messages as long as they are not confused about their sources.

Tarnishment may also be correlated with the frequency with which consumers encounter an inconsistent message. Bradford cites research that very frequent exposure to a work, even in its original form, may cause consumer attitudes toward it to change.[62] If so, then an unauthorized use of a work in an advertisement that consumers find difficult to avoid will be more likely to cause damage. When consumers must make an affirmative effort to find an unauthorized use, by searching for it on YouTube, for example, then the danger caused by the frequency effect is less likely to be present.[63]

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[60] Bradford, *supra* note 7, at 76

[61] *Id*., *citing* Benjamin A. Goldberger, *How the "Summer of the Spinoff" Came to Be: The Branding of Characters in American Mass Media*, 23 LOY. L.A. ENT. L. REV. 301, 353 (2003); Rebecca Tushnet, *Legal Fictions: Copyright, Fan Fiction, and a New Common Law*, 17 LOY. L.A. ENT. L.J. 651, 672-73 (1997).

[62] *Id*. at 765, *citing* John T. Cacioppo & Richard E. Petty, *Central and Peripheral Routes to Persuasion: The Role of Message Repetition, in* PSYCHOLOGICAL PROCESSES AND ADVERTISING EFFECTS: THEORY, RESEARCH, AND APPLICATIONS 185 (Linda F. Alwitt & Andrew A. Mitchell eds., 1985); Bobby J. Calder & Brian Sternthal, *Television Commercial Wearout: An Information Processing View*, 17 J. MARKETING RES. 173, 185-86 (1980) (repetition of television ads).Lynn Hasher et al., *Frequency and the Conference of Referential Validity*, 16 J. VERBAL LEARNING & VERBAL BEHAV. 107, 107-12 (1977); Scott A. Hawkins & Stephen J. Hoch, *Low-Involvement Learning: Memory Without Evaluation*, 19 J. CONSUMER RES. 212, 214 (1992); Herbert E. Krugman, *The Impact of Television Advertising: Learning Without Involvement*, PUB. OPINION Q. 349, 354 (1965); Eagly & Chaiken, *supra* note 21 at 413 & 427; Alan Sawyer, *Repetition, Cognitive Responses, and Persuasion, in* COGNITIVE RESPONSES IN PERSUASION 254 (Richard E. Petty et al. eds., 1981).

[63] *Id*. at 765-66.

Finally, according to Bradford, tarnishment may be less likely when the unauthorized use is subject to systemic or high level cognitive processing.[64] When an unauthorized use requires significant processing capacity, e.g. it is a book or a movie which must be thoughtfully consumed, there would be a lower likelihood of damage. A brief encounter with the unauthorized work which could be processed subliminally may be more likely to change a consumer's attitude. Natural cognitive resistance and the amelioration of source effects may be less significant when an unauthorized use is processed on the edge of consciousness.

One of the few quantitative studies of the effect of parody on the targeted work,[65] may illustrate role that resistance, source effects, frequency of exposure, and level of processing effort can play in minimizing tarnishment. Erickson, Kretschmer, and Mendes studied 8299 unauthorized YouTube parodies of the top 100 U.K. charting songs of 2011. They reported an average of 24 parodies per song and tracked the sales of the songs as the parodies appeared.[66] They found no substitution effect and found a positive correlation between the sales of a song and the number of views of the parodies of the song.[67] They concluded that the possibility of reputational harm to the song was minimal, especially given the fact that only 1.5% of the parodies took a "directly negative stance" and actively discouraged the purchase of the original.[68]

Perhaps this is not surprising. Fournier and Avery suggest that the existence of parody can be a signal of success. Per Bradford, consumer resistance to a change in the meaning of a favorite song may be quite high, and Erickson, *et. al,* report that 78% of all parodists appear

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[64] *Id*. at 766-67.
[65] *See* Kris Erickson, Martin Kretschmer, & Dinusha Mendes, *Copyright and The Economic Effects of Parody: An Empirical Study of Videos on the YouTube Platform and an Assessment of Regulatory Options*, REPORT OF THE INTELLECTUAL PROPERTY OFFICE OF THE UNITED KINGDOM (2013), *available at* http://www.ipo.gov.uk/ipresearch-parody-report3-150313.pdf.
[66] *Id*. at 9.
[67] *Id*. at 10-11.
[68] *Id*. at 11.

themselves in the parody,[69] which helps makes the source of the parody clear and enhances the consumer ability to cabin responses. Both frequency of exposure and subliminal processing effects are reduced by the fact that viewers of the parodies must actively search for them on YouTube and find them. No third party is "wearing out" the song against the consumers will, and an intentionally-found parody is likely to be systemically processed at a high level of cognition, reducing potential negative subliminal effects.

C. TESTING TARNISHMENT?

The Erickson, Kretschmer, and Mendes study suggested to us that finding a tarnishing effect might be more likely when consumers are exposed to unauthorized images which they have not sought out.[70] In addition, consumers may be less able to resist a corrupting message if they have not first formed a strong prior opinion about the work subject to the unauthorized use. Finally, given that the study found mostly friendly, mocking parodies, we speculated that a more negative exposure might be more damaging. The study might suggest that consumers might react more negatively to an unsought-out association of a copyrighted work or a trademark with pornography, a fear already articulated, but untested, in the commentary and case law.

III. CONSUMER PSYCHOLOGY RESEARCH ON SEX AND ADVERTISING

The anxiety of copyright and trademark owners seems to be at its highest when their works are associated with what they perceive to be inappropriate sexual imagery. Since researchers in the fields of consumer psychology and advertising have conducted numerous studies on consumer reactions to sex in advertising, we looked to that body of research to help form a testable tarnishment hypothesis.

A. EMPIRICAL STUDIES OF SEX AND ADVERTISING

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[69] *Id*. at 3.

[70] *See* Paul J. Heald . .

Not all sexual association is spurned by business entities. In fact, "sex sells" is a familiar commercial adage,[71] and it's easy to find examples in all sorts of media advertising, including Gucci's famous ad featuring its trademark *G* shaved into a model's pubic hair.[72] Not surprisingly, the willingness to use sex to attract consumers has been studied extensively for over thirty years, and much of the research has focused on what sort of sexual appeals might backfire and repel consumers. The lessons from this large body of empirical work is helpful in predicting when tarnishment might occur in this context where copyright and trademark owners have expressed the most concerns.

A recent meta-study conducted by Professor John Wirtz has collected data from 48 separate empirical studies on consumer responses to sex in advertising that include a total of 8883 different subjects.[73] He was able find enough similarities in the research design of the studies to combine data along several different dimensions, all of which measure the effect of sexual content on consumers:

Ad Attention and memory---Brand Recognition and Attitude---Purchase Intention

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[71] *See* RODGER STREITMATTER, SEX SELLS!: THE MEDIA'S JOURNEY FROM REPRESSION TO OBSESSION (2004); Fan Liu, et al, *Consumer Responses to Sex Appeal Advertising: A Cross-Cultural Study*, 26 INT'L MARKETING REV. 501, 502 (2009) ("sex appeal has become one of the most popular and effective tactics used in advertising."); Douglas Amyx & Kimberly Amyx, Sex and Puffery in Advertising, 2 INT'L BUS. & MANAGEMENT 1, 2 (2011) ("The prevailing assumption by those in the advertising industry remains that sex sells," *citing* (Gifford 2007; Stephey 2009)).

[72] http://i.dailymail.co.uk/i/pix/2013/08/05/article-0-005D418100000258-291_634x478.jpg.

[73] *See* John Wirtz, *Sex Attracts, Sex Distracts: A Meta-Analysis of the Effect of Sexual Content in Advertisements on Persuasive Outcomes* 1, 17 (on file with the author).

He reports several significant findings. First, the inclusion of sexual content in an ad (usually some level of nudity[74]), increased consumer attention to the ad and consumer memory of the ad.[75] Second, and somewhat paradoxically, while sexual content was associated significantly with diminished brand memory, it was positively associated with increased purchase intention.[76] Reichert and Walker attempt to explain the paradox: "[O]nce a stimulus is recognized and interpreted as sexual, a response is evoked within the viewer that consists of feelings, thoughts, arousal–responses that encourage movement toward the stimulus [but] the emotional response elicited by sexual content can inhibit."[77] They conclude, "This [dual] effect is supported by ad research demonstrating that sexual content reduces product/message thoughts but increases attitudes about the ad and purchase intention [but inhibits] viewers' ability to carefully consider the persuasive message."[78]

Research into consumer psychology, therefore, would seem to suggest that the locus of tarnishment would be along the dimension of brand recognition and brand attitude. Although sex may draw attention to an ad and make it more memorable,[79] and even positively affect purchase intention, consumer ability to recall the brand may be diminished and attitudes toward

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[74] *Id.* at 4 ("While there is wide variation in how sex in advertising has been operationalized, three of the most common ways are: 1) differing levels of nudity, 2) overt or implied sexual behavior, and 3) sexual imbeds.")

[75] *Id.* at 23 ("While the effects of sexual content on attention and purchase intention were significant, the effect on attitude toward the ad was not, so there does not seem to be a logical progression. Thus, we might conclude that certainly "sex attracts," it also seems that sex in ads may also distract from the brands and products featured in ads and that the intention to purchase may be a product of the effects of memory on ads.")

[76] *Id.*

[77] *See* Tom Reichert & Kristin Walker, *Sex and Magazine Promotion: The Effects of Sexualized Subscription Cards on Magazine Attitudes, Interest, and Purchase Intention*, 11 J. OF PROMOTION MANAGEMENT 131, 133-34 (2005).

[78] *See id.*

[79] *See, for example*, Sid Dudley, *Consumer Attitudes toward Nudity in Advertising,* 7 J. MARKETING THEORY & PRAC. 89, 89 (1999) ("nudity resulted in a more attention-getting, interesting, appealing ad"); *see* Davies, *supra* note ___ at 80 ("media content can act as a prime to increase the accessibility of constructs in memory. These constructs in turn influence evaluative judgments, change affective states, or even impact behavioral decisions.").

the brand may be affected. At this point, one might ask whether any cognizable harm is truly done. After all, affecting purchase intent is the ultimate goal of any ad campaign. However, the long term effects of a sexualized ad campaign on long term profits have not been studied, and advertisers may fear that over the long term damage to brand image, if it subsists, may be greater than short-term gains from momentarily altered purchase intentions. Nonetheless, sophisticated firms with access to the most current data on consumer psychology continue to use sex in their advertising[80] and often for products which themselves have no common sexual connotation.[81]

Wirtz seeks to explain the negative effect on brand attitude in a way that might explain advertisers' persistent willingness to employ sex: "If sex in ads absorbs attentional resources (as evidenced by higher recall of ads with sex), then these attentional resources may come at the expense of processing information about the brands. In that case, brand messages would not be processed as deeply and thus the lower evaluations may reflect a more shallow processing rather than simply liking the brands less."[82] If a momentary downturn in brand image is merely the by-product of the attention-sapping power of sexual images, rather than a long-lasting ethical judgment made by consumers, then the use of sex might remain attractive for advertiser. At worst, sex would be a distraction.[83]

Rather than rely exclusively on the Wirtz meta-data analysis, we tracked down 36 of the studies he cited in order to obtain a more nuanced understanding of the factors that might predict

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[80] *Id*. at 3 ("More recent reviews indicate that the popularity of sex in advertisements not only continues to be significant but is increasing in frequency and with more explicit sexual content than in the past.")

[81] *See* Nina Bahadur, *Seven Ridiculously Sexy Ads for Totally Unsexy Things*, HUFFINGTON POST, 1/23/2014 at http://www.huffingtonpost.com/2014/01/23/sex-sells-ads-should-have-thought-twice_n_4653226.html.

[82] *See* Wirtz, *supra* note ___ at 23.

[83] *Id*. ("sex in ads may also distract from the brands and products featured in ads and that the intention to purchase may be a product of the effects of memory on ads."); Tom Reichert, *Sex in Advertising Research: A Review of Content, Effects, and Function in Sexual Advertising*, 13 ANN. REV. OF SEX RES. 241, 252 (2002) (discussing the phenomenon of distraction).

negative consumer reaction to sexual associations. Because different studies focused on different factors, Wirtz was only able to accumulate adequate data for meta-analysis along the basic dimensions listed above. Looking at the individual studies in detail suggests some of the mechanisms that may explain his findings. At least four other factors relevant to consumer reaction to sex were tested in other studies: 1. Congruence between the sexual image and the advertised product; 2. Level of eroticism present in the ad; 3. Subject gender; and 4. Level of consumer cognition of the ad.

First, some studies show that consumers react negatively when a sexual message is not congruent with the advertised product. For example, consumers in one study reacted more negatively to the use of sex in an ad for frying pans than to the use of sex in an ad for perfume.[84] Multiple studies confirm the relevance of product congruence to consumer attitude toward the advertisement itself or the brand.[85] Several researchers have speculated that this phenomenon reflects an ethical judgment made by the consumer which reflects negatively on the advertiser.[86] Sex may be less offensive in advertisements for perfume, tight jeans, sun tan lotion, and hotel rooms than for coffee, textbooks, pet grooming services, and breakfast cereal.

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[84] *See* Eric Reidenbach & Ken McCleary, *Advertising and Male Nudity: An Experimental Investigation*, 11 J. OF ACAD. OF MARKET SCI. 444, 450 (1983) (testing the effect of male nudity on consumer reactions to advertisements of cologne and frying pans).

[85] *See, for example*, Dudley, *supra* note ___ at 94; *see* Simpson, *et al, supra* note ___ at 261; Judd & Alexander, *supra* note ___ at 166.

[86] *See* Michael LaTour & Tony Henthorne, *Ethical Judgments of Sexual Appeal in Print Advertising*, 23 J. OF ADVERTISING 81, 81 (1994) ("The findings indicate that, regardless of the respondent's gender, the use of a strong overt sexual appeal in a print advertisement was not well received."); Banwari Mittal & Walfried Lassar, *Sexual Liberalism as a Determinant of Consumer Response to Sex in Advertising*, 15 J. BUS. & PSYCH. 111, 111 (2000) ("Results show that while the ad with high sexual content was uniformly judged to be ethically more unjust (compared to ads with low sexual content), the adverse effect on attitude toward the ad is not obtained for all consumers. Our results show that it depends on the sexual liberalism of the audience and on whether or not the use of sex is considered manipulative."); Tom Reichert, Michael LaTour, & John Ford, *The Naked Truth Revealing the Affinity for Graphic Sexual Appeals in Advertising*, 2011 J. OF ADVERTISING RES. 436, 436 (2011) ("the Reidenbach- Robin Multi-dimensional Ethics Scale [was an] important predicator[ ] of viewers' emotional, attitudinal, and behavioral responses, especially as nudity increased.").

Second, the level and type of eroticism depicted in an advertisement may also affect consumer reaction to it (and these effects may well vary with the gender of consumer).[87] The use of full nudity or simulated sex has been found to be the most risky advertising strategy, especially where congruency is lacking.[88] It is the most attention-grabbing, but also the most likely to alienate consumers, especially female consumers. High levels of nudity are likely to cause the most arousal (especially in men) and therefore cause the most distraction from ad and brand.[89] Milder forms of nudity, demure and seductive, obtain better results,[90] especially among women when they perceive a positive message of commitment associated with sex.[91] Researchers distinguish between "pleasurable" cognitive responses to ads and "arousal" responses.[92] The former may be less attention grabbing, but in some cases more likely to more likely to create the positive brand associations sought by the advertiser.[93]

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[87] *See* Ralph Weller, *et al*, *Longitudinal Study on the Effect of Erotic Content Upon Advertising Brand Recall*, ___ CURRENT ISSUES IN RESEARCH AND ADVERTISING 145, 147 ("The three recall tests suggest a pattern in terms of correct responses per level of erotic content. As erotic content increases the recall rate appears to decrease significantly.").

[88] *See* Jaideep Sengupta & Darren Dahl, *Gender Related Reactions to Gratuitous Sexual Appeals in Advertising*, 18 J. OF CONSUMER PSYCH. 62, 63 (2008) ("The authors found that whereas the seductive - relevant ad received the highest ratings in terms of ad appeal for both men and women, the nude - irrelevant combination (i.e., the most gratuitous use of sex) was rated significantly lower by both sexes," *citing* Peterson and Kerin).

[89] *See* Ben Judd & Wayne Alexander, *On the Reduced Effectiveness of Some Sexually Explicit Ads*, 11 ACAD. OF MARKETING SCI. 156, 165 (1983) (finding that sex distracts from brand memory).

[90] *See* Yahui Kang & Mark Hamilton, *The Effect of Sex Appeal on Believability, Attitude Toward the Advertisement and Brand, and Purchase Intention*, CONFERENCE PAPERS -- INTERNATIONAL COMMUNICATION ASSOCIATION, 1, 30 (2003) (finding consistently significant positive results with ads of "low to moderate level of sex appeal").

[91] *See* Min-Hui Huang, *Romantic Love and Sex: Their Relationship and Impact on Ad Attitudes*, 21 PSYCH. & MARKETING 58, 68-69 (2004) (finding "spiritual companionate love and sexual passionate love as two subtypes of romantic love separable from sex" and showing more positive consumer response to ads invoking the former); Darren Dahl, *et al*, *Sex in Advertising: Gender Differences and the Role of Relationship Commitment*, 36 J. OF CONSUMER RES. 215, 215 ("women's spontaneous dislike of sexual ads softened when the ad could be interpreted in terms of commitment related resources being offered by men to women . . .").

[92] *See* Huang, *supra* note ___ at 68-69.

[93] *See id.*

Third, subject gender, especially when related to sexual self-schema,[94] has been found to have some predictive power in studies on sexual advertising.[95] Not every study shows that women are more likely to be distracted or alienated than men; nonetheless, when gender is included with other variables, some researchers have made significant findings.[96] As noted above, women are more tolerant of demure or mildly erotic ads than blatant sexual appeals.[97] Within the sub-set of women, studies show that those with positive attitudes to sex were more likely to be attracted by sex in advertising.[98] In addition, male subjects in experiments were less positively affected by the use of attractive male models than were women subjects.[99] In some experiments, gender is clearly used as a proxy for attitudes about sex.

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[94] *See* John Davies*, et al*, *Sexual Appeals that Appeal: Negative Sexual Self-Schemas as a Moderator of Priming Effects of Sexual Ads on Accessibility*, 29 J. OF CURR. ISSUES IN RES. IN ADVERTISING 79, 87 (2007) ("If the sexual content in advertising poses a threat to the belief systems of individuals with negative sexual self-schema, then exposure to sexual advertisements ought to increase attention and vigilance to the sexual information in the ads, resulting in heightened accessibility of sexual constructs in memory.").

[95] *See* Sengupta & Dahl, *supra* note ___ at 73 ("women with liberal attitudes to sex . . . exhibit more positive attitudes toward the sex-based ad than the nonsexual ad."); see Reichert, LaTour, and Ford, supra note ___ at 436 ("Sexual Self Schema, Sensation Seeking, and dimensions of the Reidenbach- Robin Multi-dimensional Ethics Scale to determine which factors best account for individual response. Findings indicate that elements of all three variables were important predicators of viewers' emotional, attitudinal, and behavioral responses, especially as nudity increased.").

[96] *See* Michael LaTour, *Female Nudity in Print Advertising*: *An Analysis of Gender Differences in Arousal and Ad Response*, 7 PSYCH. & MARKETING 65, 65 (1990) ("Women were found to generate more tension and negative feelings towards explicit female nudity in print ads than men. Men were more energized and positive in their feelings about such ads.").

[97] *See* Reidenbach & McCleary, *supra* note ___ at 451; *see* LaTour, *supra* note ___ at 74 ("Surprisingly, the semi-nude model group exhibited the greatest Deactivation Sleep (fatigue) and General Deactivation (calmness) across both genders," indicating that the semi-nude ads were not offensive, i.e. tension-causing.); *see also id.* at 78 ("women receiv[ed] more energized arousal from "toned down" ads").

[98] *See* Mittal & Lassar, *supra* note ___ at 111 (""Results show that while the ad with high sexual content was uniformly judged to be ethically more unjust (compared to ads with low sexual content), the adverse effect on attitude toward the ad is not obtained for all consumers. Our results show that it depends on the sexual liberalism of the audience and on whether or not the use of sex is considered manipulative.").

[99] *See* Reidenbach & McCleary, *supra* note ___ at 451; Penny Simpson, *et al*, *Male Nudity in Advertisements: A Modified Replication of Gender and Product Effects*, 24 J. OF ACAD. OF MARKETING SCI. 257, 261 (1996); Amyx & Amyx, *supra* note ___ at 6. *See also* Wirtz, *supra* note ___ at ___ (overall men reacted less positively to male models).

Fourth, several researchers have suggested that the level of cognitive processing by consumers is relevant to their reaction.[100] They suggest that the greater attention paid to the ad, the smaller the positive affect from the addition of sexual content.[101] Since the main benefit of sexual content is to attract the consumer's attention, that function may be most effective when consumers have little time to sort between messages.[102] In other words, the more subliminally the sexual message is processed, the more likely it will later engage a subject's memory instead of a non-sexual message.[103] This phenomenon may be enhanced because of the reflexive nature of response to some sexual appeals, which "comes from the fact that sex is the second strongest of the psychological appeals, right behind self-preservation."[104]

B. FORMULATING THE HYPOTHESES

Almost all of the studies discussed above measure the response of subjects to sexual content embedded within an advertisement. In the context of the potential tarnishment of a copyrighted work or a trademark, however, the sexual content is usually separate—consider the physical separation of Mickey Mouse comics and Air Pirate comics or the distance between the bank's Cookie Jar ATM and the Cookie Jar strip club. Nonetheless, it is possible to apply the lessons of advertising research to the question of tarnishment. Taken as a whole, the studies suggest that tarnishment of a copyrighted work or trademark (in this case a negative reaction to

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[100] *See* Sengupta & Dahl, *supra* note ___ at 73 ("affective reactions (rather than considered cognitive deliberations) are primarily responsiblefor influencing evaluations of sexually explicit advertising.")

[101] *See* Amyx and Amyx, supra note ___ at 2 ("low need for cognition (NFC) consumers favor sex appeals while high NFC customers favor non-sexual appeals").

[102] *See* Reichert, *et al*, *The Effect of Sexual Social Marketing Appeals on Cognitive Processing and Information*, 30 J. OF ADVERTISING 13, 13 (2001) ("persuasion is largely the result of peripheral processing and distraction from somewhat unpleasant messages when receivers are expected to counterargue the message or be resistant to change.").

[103] *See* J. Stephen Kelley, *Subliminal Embeds in Print Advertising: A Challenge to Advertising Ethics*, 8 JOURNAL OF ADVERTISING 20-24 (1979).

[104] *See* Liu, *supra* note ___ at 503, *citing* Taflinger (1996).

an association with sexual content) should most likely occur when certain circumstances are present:

1. A work or trademarked product with little or no erotic content is associated with a sexual message.

2. The sexual content of the message is strong, e.g. significant nudity.

3. The target audience has negative attitudes toward sex.

4. Processing the sexual message does not require significant cognitive resources.

In such circumstances, Wirtz's meta-analysis suggests that damage is most likely to occur. In the context of an affected trademark, the reputation of the product or brand might be affected, while in the context of a copyrighted work, an analogous sort of damage might affect the reputation of the work or its owner.

We predict, therefore, that any negative reputational effect should vary with the degree of sexual association already present in the copyrighted work or trademark; the strength of the unauthorized sexual message newly associated with the copyrighted work or trademark; the sexual attitudes of the respondents; and the amount of time the respondents have to process their encounters with the copyrighted work or trademark and the sexual message.

In constructing our hypotheses, we took into account one important reality of the marketplace. After all, copyright and trademark owners (and the legal system itself) are only legitimately concerned about the reaction of consumers in the actual markets. So, we acknowledge the reality of obscenity laws and the regulation of pornography in the United States. Laboratory studies at a university can present (and have presented!) ads to subjects containing full frontal nudity. Real world consumers will never legally confront such images in open markets, so we focus on erotic partial nudity of the sort that might be encountered in a

popular magazine or in a store. Of course, some consumers will seek out more daring images in adult video stores or on-line, but when a consumer intentionally seeks out strong sexual content, we believe he or she is unlikely to have strong negative associations with sexual content.

For this reason, we identified a series of posters for pornographic movies based on real box office hits. Some of movies are clearly parodies, for example *Bi-Tanic*, while others are simply borrow a title and no content, e.g. *You've Got She-Male*. The posters (which we make available on-line) vary in levels of eroticism from suggestive (men in expensive fur coats with their arms around their neighbors' shoulders in *Bi-Tanic* or a pouting starlet in *Porn on the Fourth of July*) to a highly seductive pose by a bikini model in *The Da Vinci Load*. None of the posters, however, contain enough nudity or rough language to render them illegal to run as an advertisement in a magazine aimed at the general adult public.

We hypothesize:

H_1: Subjects exposed to the porn posters will rate the movie targeted by the poster less highly after exposure to the poster.

H_2: Subjects will rate target movies with little or no sexual content lower than target movies with sexual content.

H_3: Subjects will rate movies targeted by the most erotic posters lower than movies targeted by merely suggestive posters.

H_4: Responses will vary by gender of the subject

H_5: Responses will vary by attitude toward nudity in movies

H_6: Subjects who haven't seen the targeted film will be more likely to rate it lower.

Even though movie titles are protected as trademarks we wanted to separately test brand reputation by hypothesizing results more directly related to brand value.

H$_7$: Subjects will prefer a movie t-shirt related to a non-targeted movie rather than an action figure related to a movie targeted by a porn poster.

H$_8$: Subjects will prefer to see a sequel based on a non-targeted movie rather than a targeted movie.

IV. METHODOLOGY AND PRELIMINARY SUMMARY OF RESULTS

In this Part, we report the results of three [two] novel experiments designed to test the effects of exposure to pornographic content that could tarnish the market value of IP works. The stimuli in our experiments are movie posters from popular movies produced in the last thirty years. Our experiments ask whether subjects who have been exposed to a movie poster depicting a pornographic association with a popular film attach lower or higher value to that film than do subjects who have not been exposed to the pornographic content.

A. Experiment 1

1. *Methods*

Our experiments employ a between-subjects, differences-in-differences method to estimate the effect of pornographic tarnishment on movies. We measure tarnishment by the degree to which people's attitudes towards movies are affected by exposure to a pornographic association. We do this by asking people which of a pair of movies they think more people would rather see. For example, our subjects are asked whether they think a movie theater would make more money by showing *Titanic* or *Good Will Hunting*. Prior to being asked this question, though, some subjects will have been shown a movie poster of a pornographic version of *Titanic*. If the pornographic movie tarnishes people's attitudes towards the underlying movie, people who have been exposed to it should choose *Titanic* at a lower rate than people who have not been exposed to the pornographic version. If, instead, the pornographic version is generating positive

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attitudes in people's minds about the underlying movie, then those who have been exposed to it should choose *Titanic* at a higher rate.

The experiment was created and hosted on Qualtrics. Subjects were recruited from Amazon Mechanical Turk with a request that they complete a survey about their opinions about movies. We informed subjects that we were a research company that was employed by theaters interested in showing a mix of popular, classic, and "late night" films. They were told that they would see thirty pairs of movies and would be asked to tell us which one of the pair a theater should show to make as much money as possible. Subjects were paid $2 for completing the study, which took about fifteen minutes.

Subjects entering the study were first asked a series of demographic questions and questions about their movie watching habits. We collected data on subjects' age, gender, race, income, religiosity, and political affiliation, as well as the movie genres and MPAA rating levels of movies that they watched most. We also asked them a question intended to elicit their "porn tolerance," i.e., the degree to which they objected to nudity or sexuality in films.

After answering these questions, subjects were randomly assigned to one of three conditions: Baseline, Treatment, and Control.

The Baseline condition provided an initial estimate of the degree to which the population preferred one or the other movie in each pair. The first twenty pairs that the Baseline subjects were shown were filler comparisons that did not matter for purposes of our analysis. The last ten pairs were the "target" pairs. These were the pairs for which one movie in the pair would be subject to pornographic tarnishing in the Treatment condition. The target pairs are listed in the footnote.[105]

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[105] The target comparisons were:
    Titanic *vs. Good Will Hunting*

For each pair, subjects were shown the movie posters for four seconds before they could advance to the next page. In addition to the poster images, subjects were also shown a short description of the movie. After the time period elapsed, subjects were asked:

To maximize its profits, the theater should show:

> *Movie A*
>
> *Movie B*
>
> No opinion

After answering that question, subjects indicated whether they had seen the movies and whether they had heard of the movies.

The Treatment condition used the same ten target movie pairs at the end of the survey. In the prior twenty pairs, however, we replaced five of the pairs of posters with pairs that created pornographic associations with the target movies.[106] Now, before seeing the target pairs, these subjects first saw a poster containing a pornographic association with one of the movies in the pair. For example, before responding to the target comparison of *Titanic* vs. *Good Will Hunting*, these subjects were first shown the poster for a porn movie, *Bitanic*. Otherwise, subjects were asked all of the same questions as in the Baseline condition.

You've Got Mail *vs. Shakespeare in Love*
The Da Vinci Code *vs. Mission Impossible 3*
Bourne Identity *vs. Spiderman*
Harry Potter Sorcerer's Stone *vs. Shrek*
Raiders of the Lost Ark *vs. Chariots of Fire*
Superman *vs. Deer Hunter*
Lord of the Rings *vs. Monsters Inc.*
Les Miserables *vs. Avengers*
Born on the Fourth of July *vs. Dead Poets Society*
The first bolded movie in each pair is the one that would be subject to tarnishment.
[106] The pornographic versions were: *Bitanic, You've Got She-Male, The Da Vinci Load, The Porn Identity, Whorrey Potter and the Sorcerer's Balls, Carolina Jones and the Broken Covenant, Superman XXX, Lord of the G-Strings, Miserable Lesbians,* and *Porn of the Fourth of July.*

The pornographic posters were taken from actual films that had been produced and distributed. The sample of pornographic posters included some that were explicitly described as "parodies" of the target movies and others that were simply pornographic movies with clever titles. *You've Got Shemale*, for example, is merely a clip film of segments from other transsexual porn movies. In addition, the sample included heterosexual, homosexual, and bisexual movies. Finally, the targeted works included movies rated PG, PG-13, and R. We hoped that this variation would enable us to test different effects and to study interactions.

We included a Control condition to measure whether there might be a positive or negative confounding effect in the Treatment condition from being exposed to the same work twice (once in pornographic form and once in standard form). Other research suggests that being exposed to something previously can produce positive attitudes towards it.[107] It also seemed possible that some subjects would not want to pick the same movie twice, so perhaps there might be a negative effect on attitudes towards the target movie. Thus, in the Control condition, prior to answering the ten questions about the target movies, subjects were shown each of the target movies in an earlier pair with another movie. For example, before responding to the target comparison of *Titanic* vs. *Good Will Hunting*, these subjects were first shown the pair *Titanic* vs. *Men in Black.*

By comparing the percentage of subjects who chose the target movie in each of the pairs in the Treatment condition with the percentages of subjects who chose that movie in the Baseline and Control conditions, we can measure whether subjects' attitudes towards the films change in light of exposure to the pornographic version.

2. *Results*

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[107] Cite Mere Exposure Effect. In this sense, the Control condition is really an experimental condition but for a different experiment on exposure effects.

We recruited subjects from Amazon Mechanical Turk to participate in the experiment. They received $2 for completing the study. The population included 1260 people, of whom 39% were female, and the group had a median age of 29 (range: 18-68).

We begin to analyze the data by first looking at the full set of ten target pairs. In the Baseline condition, subjects chose the target movie 55.15% of the time.[108] This gives us an estimate of subjects' attitudes towards the movies before the experimental manipulation. In the Control condition, subjects only chose the target movie 53.27% of the time, a marginally significantly lower percentage of the time.[109] In the Treatment condition, however, the proportion of target movies chosen rose to 57.62%. This is significantly higher than both the Baseline and Treatment conditions.[110]

Contrary to the predictions of tarnishment theory, our results show that people who have been exposed to pornographic associations do not devalue the underlying work but actually think that it has higher value. This finding is consistent with some of the literature on the role of sexuality in advertising discussed in Part II.

We can look more closely at our data to understand more clearly the effects that we see. When we look at each of the pairs individually, we observe significant differences between Control and Treatment conditions for five of the ten pairs.[111] In each case, the target movie is chosen *more often* in the Treatment condition than in the Control condition. For no pair of

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[108] On average, subjects chose 5.49 target movies out of the ten pairs in the Baseline condition.

[109] Two-proportion z-tests (using pooled proportions for standard error):
Baseline vs Control: diff = .0188, z = 1.73, p = .08

[110] Baseline vs Treatment: diff = .0247, z = 2.27, p = .02
Control vs Treatment: diff = .0435, z = 4.01, p < .001

[111] The five pairs with significant differences were:
You've Got Mail vs. Shakespeare In Love, Diff = .0816, z = 2.37, p = .018
Da Vinci Code vs. Mission Impossible 3, Diff = .0818, z = 2.37, p = .018
Bourne Identity vs Spiderman, Diff = .0775, z = 2.59, p = .010
Harry Potter and the Sorcerer's Stone vs Shrek, Diff = .0791, z = 2.49, = .013
Born on the Fourth of July vs Dead Poets Society, Diff = .076, z = 3.32, p = .020

movies do we observe a significant decrease in the percentage of subjects choosing the tarnished movie in the Treatment condition.

We can also consider demographic differences in our data. Although there are some differences between men and women in the percentage of times that they choose the target movie, there are no differences in the rates of choosing the target movie across conditions. For example, although women choose some target movies less than men do (e.g. *Raiders of the Lost Ark*), women are no more or less affected by the pornographic tarnishment than men are.

Regression analyses of our demographic data support these findings. We examined whether differences between subjects age, gender, politics, willingness to watch R-rated movies, and belief that there is too much nudity in movies were affected by tarnishment. Controlling for these factors, we find that older subjects are significantly more likely to choose the target movie in the Treatment condition compared to the Control and Baseline condition, and that more conservative subjects are less likely to choose the target movie in the Treatment condition.[112] Willingness to see R-rated movies and objections to nudity had the predicted effect of reducing the probability of choosing the target movie in the Treatment condition, but these were not statistically significant.

Our findings about age are somewhat surprising, because we might have expected to see a tarnishment effect for old subjects who might be thought to be less accepting of and inured to pornographic content. But, given the advertising literature, this might be exactly why they chose the target movies more often than did younger subjects.

The data on political and social issues are interesting as well. Importantly, even though the effects are small and often not significant, their direction is consistent with tarnishment theory. This gives us reason to think that our experimental approach is valid. Nonetheless, only

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[112] See Appendix A, p. X.

about 12% of our sample identified as conservative, 92.3% watch R-rated movies, and most subjects did not think that there is too much nudity in movies these days.[113] Accordingly, we would like to be able to run this study again with a more representative sample.

Ultimately, our data do not support the predictions of tarnishment theory. We see no significant diminution in how valuable people think movies are after they have been exposed to pornographic versions of them. In fact, we see fairly strong evidence that the opposite is true; people seem to think movies are more valuable after experiencing a tarnishing version.

B. Experiment 2

1. *Methods*

In Experiment 2 we wanted to further refine our analysis of tarnishment. To do so we modified the method used in Experiment 1 in two ways. First, we changed the nature of the question that subjects were asked about the movie pairs. Instead of asking the question to elicit an objective response ("Which movie should the theater show to make as much money as possible?"), we asked a question eliciting a subjective response: "Which movie would you rather see?" Perhaps our failure to find evidence of tarnishment in Experiment 1 was caused by subject isolating the experience of tarnishment from their objective judgments. That is, subjects may have experienced a sense of tarnishment with respect to the movies, but they might have realized that other moviegoers who did not see the pornographic posters would not feel the same. Accordingly, our subjective question in Experiment 2 was designed to more closely investigate subjects' own attitudes.

In addition, Experiment 2 adds to the first experiment's stated-preferences approach by incorporating a revealed-preferences component. In addition to choosing which movie they would hypothetically rather see, at the end of the survey, subjects were told that the

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[113] On a scale of 1-5 where 5 was "strongly agree," the mean was 2.5 and the median was 2.

experimenters were going to distribute movie-themed t-shirts to a randomly drawn subset of participants. Accordingly, after answering twenty-seven movie pair questions (20 filler and 7 target), subjects were shown three pairs of movie posters and asked to choose which movie they would prefer to receive a t-shirt from if they were selected.

The pairings for the t-shirt component were taken from the list of target movies used in Experiment 1.[114] We chose movies for which subjects might plausibly desire t-shirts. As in Experiment 1, for one movie in each t-shirt pair, subjects in the Treatment condition saw a movie poster that created pornographic associations with that film. According to tarnishment theory, subjects in the Treatment condition who were exposed to poster depicting a pornographic version of *Les Miserables* should choose to receive a t-shirt from that movie less often than subjects in the Baseline and Control conditions who had not seen the pornographic poster.

The addition of the t-shirt component served three purposes. First, it incorporates a revealed-preferences approach to studying tarnishment. Rather than simply asking subjects to tell us their attitudes towards the movies, the t-shirt choice requires them to explicitly decide which of two movies they prefer. They now have some skin in the game, so their responses should be more trustworthy. Second, the t-shirt choice task more closely approximates the kinds of harms that tarnishment has been theorized to cause. Tarnishment of the character Superman may harm not just the demand for Superman comics and movies but also for the broad array of derivative works that incorporate the character, including action figures, coffee mugs, and t-shirts. Finally, the t-shirt choice task adds a market-mimicking component that more closely tracks concerns about tarnishment. It enables us to tell not just whether subjects' attitudes towards a work change

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[114] The t-shirt pairs were:
> **Lord of the Rings** *vs. Monsters, Inc.*
> **Les Miserables** *vs. The Avengers*
> **Harry Potter and the Sorcerer's Stone** *vs. Shrek*
The first movie in each pair was the tarnished movie.

when it has been tarnished but also whether those attitudes will influence purchasing decisions for goods derived from the work.

2. *Results*

For Experiment 2, we recruited 303 subjects from Mechanical Turk with the same payment. This time they were also offered the chance to receive a free movie t-shirt. Of the sample, 41% were female, and the group had a median age of 31 (range: 19-67). Here, we have two separate sets of results. The first set replicates seven of the ten movie pairs from Experiment 1, and the second set are the three t-shirt pairings. We will discuss them separately.

For the seven movie pairings, we see a similar set of results to those we found in Experiment 1. Subjects in the Baseline condition chose the target movie 49.93% of the time, while those in the Control condition only chose the target movie 47.63% of the time. This rebounded to 49.93% for the Treatment condition. Our sample size was considerably smaller in this experiment, so although these differences have similar magnitudes to those in Experiment 1, they do not reach statistical significance. Nonetheless, we consider this a valuable, if only partial, replication of our findings from Experiment 1.

Turning to the t-shirt pairs, we again find no effect of tarnishment across the sample. Subjects were not significantly less likely to choose the target t-shirt in the Treatment condition (43.9%) than in the Baseline (46.5%) or Control (45.4%) conditions. There was, however, one pair in which we do observe a tarnishing effect. In the *Les Miserables vs. Avengers* pair, subjects in the Treatment condition chose the *Les Mis* t-shirt less often (20.2%) than did subjects in the Baseline condition (35.4%). Interestingly, this difference is driven largely by female subjects.[115]

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[115] Female preference for *Les Miserables* t-shirts declined from 52.4% to 34.4% (diff = 18.0), while male preference only declined from 23.1% to 13.9% (diff = 9.2).

We caution, however, that given the relatively small sample size and the number of pairs tested, we cannot be confident that this is a meaningful result.

Our regression analyses do not clarify the picture significantly. For the seven movie pairs, again, subject age was positively correlated with choosing the target movie in the Treatment condition, as was willingness to watch R-rated movies. This time, however, conservatives were more likely to choose target movies in the Treatment condition. This result was reversed for the t-shirt choice, however, where conservatives were less likely to choose the tarnished t-shirt.

C. **Experiment 3**

1. *Methods*

Experiment 3 extends our analysis of the effect of pornographic tarnishment on the market for derivative works. Tarnishment theorists' principal concern is that inappropriate uses of a work will undermine the value that the public attaches to it, thereby decreasing demand for future versions of the work. The owner of a work needs to assert strong control over it in order to make sure that the characters are not misused so they retain value for subsequent uses. This need is especially pressing in the context of sequels and reboots, which (for better or worse) are an increasing part of popular culture.[116]

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[116] Mark Harris, The Day the Movies Died, GQ (Feb. 2011) available at http://www.gq.com/entertainment/movies-and-tv/201102/the-day-the-movies-died-mark-harris. For 2012 Harris noted:

> With that in mind, let's look ahead to what's on the menu for this year: four adaptations of comic books. One prequel to an adaptation of a comic book. One sequel to a sequel to a movie based on a toy. One sequel to a sequel to a sequel to a movie based on an amusement-park ride. One prequel to a remake. Two sequels to cartoons. One sequel to a comedy. An adaptation of a children's book. An adaptation of a Saturday-morning cartoon. One sequel with a *4* in the title. Two sequels with a *5* in the title. One sequel that, if it were inclined to use numbers, would have to have a *7 1/2* in the title.

Experiment 3 used the same basic structure as the prior two experiments, but it added a component at the end of the survey where subjects were shown six pairs of movie posters and asked which of the two movies they would rather see a sequel of. The sequel pair movies were all recently released films that could plausibly generate sequels.[117] Each pair included one movie that, in the Treatment condition, had been tarnished by an earlier pornographic movie poster.[118] Because we were using newly released movies, the tarnishing pornographic versions had not yet been produced. Accordingly, we employed a graphic designer to produce movie posters for the pornographic versions.

The remainder of the experiment functioned similarly to Experiment 1. After answering demographic questions, subjects answered subjectively framed questions about twenty filler movie pairs. In the Treatment condition, five of these pairs were replaced with pairs of pornographic movie posters. In the Control condition, five pairs were replaced with pairs that repeated the target movie comparison to control for exposure or recency effects. Subjects then answered four target movie pair questions[119] and six sequel questions.

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[117] The sequel pairs were:
Wreck-It Ralph vs. The Lorax
Jack Reacher vs. John Carter
Interstellar vs. Prometheus
Inside Llewyn Davis vs. Wolf of Wall Street
Her vs. Prisoners
Gone Girl vs. World War Z
The first movie in each pair was the tarnished target.
[118] The tarnishing movies were:
Rectum Ralph
Jack Reach Around
Enter Stella
Inside Lou and Davis
Her, Her & Her
Groan Girl
[119] The target movies were the same as those used in earlier experiments:
***Titanic** vs. Good Will Hunting*
***You've Got Mail** vs. Shakespeare in Love*
***The Da Vinci Code** vs. Mission Impossible 3*

We make two further changes to our methodology. First, we add a brief component to measure the subjects' recall of the target movie. Subjects will be asked to list five movies that they remember having encountered in the study. Second, several of the porn movies will be more clearly described as *not* being parodies. Some of the literature suggests that subjects react more favorably to sexual associations in the context of parody. We will clarify for the subjects, for example, that "You've Got Shemale" is just a series of clips of transsexual encounters and not a parody of "You've Got Mail." This is obviously relevant to the law, in that parodies receive special exemptions in both trademark and copyright law.

2. *Results*

[To be run after workshop.]

V.   CONCLUSIONS

[We will write up our conclusions after the final experiment is concluded, but we are likely to make several recommendations: 1) Tarnishment theory seems like a silly reason to extend the copyright term beyond its existing limits; 2) As far as the copyright fair use doctrine goes, there seems little reason to treat satire or other humerous or ironic uses different than parody; 3) Sex exceptionalism in trademark dilution cases is unjustified, and plaintiffs should carry the burden of proving sexual associations are likely to damage their brand.]

I. Combined 10 Movie Pairs

Mean choosing Target movie in Baseline, Control, and Treatment.

TargetTotal the total number of target movies each participant selected out of 10 pairs.

```
. tab Condition, summarize(TargetTotal)

                  Summary of TargetTotal
    Condition        Mean    Std. Dev.      Freq.

            B     5.492823    1.571996        418
            C    5.2997658    1.6341643       427
            T     5.746988    1.6611748       415

        Total    5.5111111    1.6319011      1260
```

Total number of times target movies were chosen divided by the total number of responses.

Condition	Proportion (n_{Target})	N_{Total}
Baseline	.5515 (2296)	4163
Control	.5327 (2263)	4248
Treatment	.5762 (2385)	4139
Total	.5533 (6944)	12550

T-test of differences in these means.

Baseline vs Control, using TargetTotal: $M_B - M_C = .193$, $t_{(843)} = 1.75$, $p = .08$

```
. ttest TargetTotal, by(Condition)

Two-sample t test with equal variances

    Group      Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]

        B      418     5.492823    .0768888    1.571996    5.341685    5.643961
        C      427     5.299766    .0790828    1.634164    5.144325    5.455207

 combined      845     5.395266    .0552367     1.60567    5.286849    5.503684

     diff              .1930572    .1103451               -.0235262    .4096405

    diff = mean(B) - mean(C)                                  t =    1.7496
Ho: diff = 0                                 degrees of freedom =       843

    Ha: diff < 0                 Ha: diff != 0                  Ha: diff > 0
 Pr(T < t) = 0.9597      Pr(|T| > |t|) = 0.0806        Pr(T > t) = 0.0403
```

Baseline vs Treatment, using TargetTotal: $M_T - M_B = .254$, $t_{(831)} = 2.27$, $p = .02$

```
. ttest TargetTotal, by(Condition)

Two-sample t test with equal variances

─────────────────────────────────────────────────────────────────────────────
   Group │     Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
─────────┼───────────────────────────────────────────────────────────────────
       B │     418    5.492823    .0768888    1.571996    5.341685    5.643961
       T │     415    5.746988    .0815439    1.661175    5.586696     5.90728
─────────┼───────────────────────────────────────────────────────────────────
combined │     833    5.619448    .0561665    1.621062    5.509203    5.729692
─────────┼───────────────────────────────────────────────────────────────────
    diff │            -.254165    .1120549               -.4741089   -.0342211
─────────────────────────────────────────────────────────────────────────────
    diff = mean(B) - mean(T)                                    t =  -2.2682
Ho: diff = 0                                    degrees of freedom =      831

    Ha: diff < 0                 Ha: diff != 0                   Ha: diff > 0
 Pr(T < t) = 0.0118        Pr(|T| > |t|) = 0.0236          Pr(T > t) = 0.9882
```

Control vs Treatment, using TargetTotal: $M_T - M_C = .447$, $t_{(840)} = 3.94$, $p < .001$
```
. ttest TargetTotal, by(Condition)

Two-sample t test with equal variances

─────────────────────────────────────────────────────────────────────────────
Variable │     Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
─────────┼───────────────────────────────────────────────────────────────────
       C │     427    5.299766    .0790828    1.634164    5.144325    5.455207
       T │     415    5.746988    .0815439    1.661175    5.586696     5.90728
─────────┼───────────────────────────────────────────────────────────────────
combined │     842     5.52019    .0572653    1.661681     5.40779     5.63259
─────────┼───────────────────────────────────────────────────────────────────
    diff │           -.4472221    .1135669               -.6701304   -.2243139
─────────────────────────────────────────────────────────────────────────────
    diff = mean(C) - mean(T)                                    t =  -3.9380
Ho: diff = 0                                    degrees of freedom =      840

    Ha: diff < 0                 Ha: diff != 0                   Ha: diff > 0
 Pr(T < t) = 0.0000        Pr(|T| > |t|) = 0.0001          Pr(T > t) = 1.0000
```

Two-proportion z-tests (using pooled proportions for standard error):
    Baseline vs Control: diff = .0188, z = 1.73, p = .08
    Baseline vs Treatment: diff = .0247, z = 2.27, p = .02
    Control vs Treatment: diff = .0435, z = 4.01, p < .001

Note that with Bonferroni correction for multiple comparisons, critical $\alpha = .05/3 = .0167$, and the Baseline vs Treatment comparison would no longer be significant.

II. Specific Movie Pairs

Mean choosing Target movie in Baseline, Control, and Treatment.
Proportions:

	Baseline	Control	Treatment
Titanic vs Good Will Hunting	.8371 (347/415)	.8373 (355/424)	.8329 (344/413)
You've Got Mail vs Shakespeare in Love	.4892 (203/415)	.4437 (189/426)	.5253 (218/415)
The Da Vinci Code vs Mission: Impossible 3	.3182 (133/418)	.4242 (179/422)	.5060 (210/415)
The Bourne Identity vs Spider-man	.3165 (132/417)	.2141 (91/425)	.2916 (121/415)
Harry Potter and the Sorcerer's Stone vs Shrek	.7146 (298/417)	.6534 (279/427)	.7325 (304/415)

Raiders of the Lost Ark vs Chariots of Fire	.8990 (374/416)	.8847 (376/425)	.8811 (363/412)
Superman vs the Deer Hunter	.7778 (322/414)	.7694 (327/425)	.7554 (312/413)
Lord of the Rings vs Monsters, Inc.	.7482 (312/417)	.7073 (302/427)	.7373 (306/415)
Les Miserables vs the Avengers	.1172 (49/418)	.9150 (39/426)	.1259 (52/413)
Born on the Fourth of July vs Dead Poets Society	.3029 (126/416)	.2993 (126/421)	.3753 (155/413)

T-test of differences in these means.

	B vs C	B vs T	C vs T
Titanic vs Good Will Hunting	z = .043, n.s.	z = .163, n.s.	z = .172, n.s.
You've Got Mail vs Shakespeare in Love	z = 1.04, n.s.	z = 1.32, p = .19 (n.s.)	Diff = .0816, z = 2.37, p = .018
The Da Vinci Code vs Mission: Impossible 3	Diff = .106, z = 3.18, p = .0016	Diff = .1878, z = 5.5, p < .001	Diff = .0818, z = 2.37, p = .018
The Bourne Identity vs Spider-man	Diff = .1024, z = 3.37, p < .001	z = .781, n.s.	Diff = .0775, z = 2.59, p = .010
Harry Potter and the Sorcerer's Stone vs Shrek	z = 1.91, p = .056	z = .258, n.s.	Diff = .0791, z = 2.49, = .013
Raiders of the Lost Ark vs Chariots of Fire	z = .667, n.s.	z = .823, n.s.	z < .667, n.s.
Superman vs the Deer Hunter	z < .761, n.s.	z = .761, n.s.	z < .761, n.s.
Lord of the Rings vs Monsters, Inc.	z = 1.33, p = .18	z < 1.33, n.s.	z < 1.33, n.s.
Les Miserables vs the Avengers	z < 1.59, n.s.	z < 1.59, n.s.	z = 1.59, p = .11
Born on the Fourth of July vs Dead Poets Society	z = .113, n.s.	Diff = .0724, z = 2.20, p = .028	Diff = .076, z = 3.32, p = .020

III. Demographic Comparisons

Female vs. Male

	Female			Male		
Movie	Baseline	Control	Treatment	Baseline	Control	Treatment
Titanic vs Good Will Hunting	.8456 (126/149)	.7935 (146/184)	.8228 (130/158)	.8302 (220/265)	.8708 (209/240)	.8392 (214/255)
You've Got Mail vs Shakespeare in Love	.5302 (79/149)	.4378 (81/185)	.5633 (89/158)	.4642 (123/265)	.4481 (108/241)	.5019 (129/257)
The Da Vinci Code vs Mission: Impossible 3	.3467 (52/150)	.4022 (74/184)	.5570 (88/158)	.2996 (80/267)	.4412 (105/238)	.4747 (122/257)
The Bourne Identity vs Spider-man	.3154 (47/149)	.2162 (40/185)	.3291 (52/158)	.3184 (85/267)	.2125 (51/240)	.2685 (69/257)
Harry Potter and the Sorcerer's Stone vs Shrek	.7067 (106/150)	.6162 (114/185)	.7848 (124/158)	.7180 (191/266)	.6818 (165/242)	.7004 (180/257)

Raiders of the Lost Ark vs Chariots of Fire	.8456 (126/149)	.7880 (145/184)	.8280 (130/157)	.9286 (247/266)	.9585 (231/241)	.9137 (233/255)
Superman vs the Deer Hunter	.7383 (110/149)	.7838 (145/185)	.7532 (119/158)	.7992 (211/264)	.7583 (182/240)	.7569 (193/255)
Lord of the Rings vs Monsters, Inc.	.7114 (106/149)	.6378 (118/185)	.6962 (110/158)	.7678 (205/267)	.7603 (184/242)	.7626 (196/257)
Les Miserables vs the Avengers	.1800 (27/150)	.1087 (20/184)	.1592 (25/157)	.0824 (22/267)	.0785 (19/242)	.1055 (27/256)
Born on the Fourth of July vs Dead Poets Society	.3221 (48/149)	.2707 (49/181)	.3312 (52/157)	.2895 (77/266)	.3208 (77/240)	.4023 (103/256)
Total	.5539 (827/1493)	.5060 (932/1842)	.5828 (919/1577)	.5492 (1461/2660)	.5532 (1331/2406)	.5722 (1466/2562)

Women (gender = 1) chose the target films less in the control condition than in either of the other conditions (baseline vs. control, $z = 2.76$, $p = .006$; control vs. treatment: $z = 4.49$, $p < .001$). Men (gender = 2) chose the target films marginally more in the treatment condition than in the baseline condition ($z = 1.67$, $p = .095$), but neither the baseline nor the treatment condition differed significantly from the control condition. The proportion of men and women choosing the target films significantly differed from each other in the control condition (F = 50.6%, M = 55.32%, $z = 3.06$, $p = .002$) but not in the other two conditions.

95% confidence intervals for differences between groups:
- Female, treatment – baseline: (-.0061, .0639)
- Female, treatment – control: (.0434, .1102)
- Male, treatment – baseline: (-.0039, .0499)
- Male, treatment – control: (-.0086, .0466)

The confidence intervals for these differences all overlap, meaning there are no significant differences between men and women in the differences between the treatment condition and either of the other conditions.

Conservative = answered 1 or 2 on scale; Liberal = answered 4 or 5 on scale

	Conservative			Liberal		
Movie	Baseline	Control	Treatment	Baseline	Control	Treatment
Titanic vs Good Will Hunting	.7917 (38/48)	.9273 (51/55)	.8085 (38/47)	.8722 (232/266)	.8099 (213/263)	.8405 (216/257)
You've Got	.5833	.5636	.4681	.4774	.3878	.5331

Mail vs Shakespeare in Love	(28/48)	(31/55)	(22/47)	(127/266)	(102/263)	(137/257)
The Da Vinci Code vs Mission: Impossible 3	.3750 (18/48)	.3273 (18/55)	.4468 (21/47)	.3008 (80/266)	.4677 (123/263)	.5253 (135/257)
The Bourne Identity vs Spider-man	.3750 (18/48)	.1818 (10/55)	.3830 (18/47)	.3120 (83/266)	.2319 (61/263)	.2957 (76/257)
Harry Potter and the Sorcerer's Stone vs Shrek	.5833 (28/48)	.5818 (32/55)	.6809 (32/47)	.7406 (197/266)	.6806 (179/263)	.7626 (196/257)
Raiders of the Lost Ark vs Chariots of Fire	.8333 (40/48)	.8909 (49/55)	.8723 (41/47)	.9398 (250/266)	.8935 (235/263)	.8872 (228/257)
Superman vs the Deer Hunter	.7083 (34/48)	.8545 (47/55)	.6383 (30/47)	.7932 (211/266)	.7414 (195/263)	.7626 (196/257)
Lord of the Rings vs Monsters, Inc.	.7292 (35/48)	.6727 (37/55)	.7660 (36/47)	.7782 (207/266)	.7414 (195/263)	.7588 (195/257)
Les Miserables vs the Avengers	.0833 (4/48)	.1091 (6/55)	.1489 (7/47)	.1053 (28/266)	.0722 (19/263)	.1206 (31/257)
Born on the Fourth of July vs Dead Poets Society	.3125 (15/48)	.2727 (15/55)	.3191 (15/47)	.2895 (77/266)	.3004 (79/263)	.3852 (99/257)
Total	.5375 (258/480)	.5382 (296/550)	.5532 (260/470)	.5609 (1492/2660)	.5327 (1401/2630)	.5872 (1509/2570)

95% confidence intervals for differences between groups:
- Conservative, treatment – baseline: (-.0476, .0790)
- Conservative, treatment – control: (-.0463, .0763)
- Liberal, treatment – baseline: (-.0005, .0531)
- Liberal, treatment – control: (.0276, .0814)

All of these confidence intervals overlap, indicating that there is no significant difference between liberals and conservatives in the difference between the treatment and the other conditions. Note that the confidence interval for liberals, treatment – control does not contain 0, indicating that liberals chose the target movie significantly more in the treatment condition than in the control condition.

*Note: power is relatively low for these comparisons because there were relatively few conservatives among the participants.

IV. Regression Analyses

Dummy variables for Baseline and Control conditions, so all regressions compare the baseline condition and the control condition to the treatment condition.

Other Variables:
      Gender: 1 = female; 0 = male
      Politics: 1 (very conservative) – 5 (very liberal)
      R-rated: binary variable 1 = watches R-rated movies; 0 = does not watch R-rated movies
      Nudity: "There is too much nudity in movies these days." 1 (strongly disagree) – 5 (strongly agree)

```
. regress TargetTotal Age Gender Baseline Control

      Source |       SS       df       MS              Number of obs =    1257
-------------+------------------------------           F(  4,  1252) =    5.57
       Model | 58.3156961      4   14.578924           Prob > F      =  0.0002
    Residual |    3279.81   1252  2.61965655           R-squared     =  0.0175
-------------+------------------------------           Adj R-squared =  0.0143
       Total | 3338.1257   1256  2.65774339           Root MSE      =  1.6185


 TargetTotal |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         Age |   .0101689   .0044834     2.27   0.023      .001373    .0189648
      Gender |    .139354   .0948539     1.47   0.142    -.0467361     .325444
    Baseline |  -.2663482   .1123088    -2.37   0.018    -.4866824   -.0460139
     Control |  -.4217181   .1119229    -3.77   0.000    -.6412952   -.2021411
       _cons |    5.19375   .2400429    21.64   0.000     4.722819    5.664681
```

Controlling for age and gender, people in the baseline and control conditions both chose significantly fewer target movies than people in the treatment condition did. (Baseline vs treatment: b = -.266, t = -2.37, p = .018; Control vs treatment: b = -.422, t = -3.77, p < .001.) These differences were also significant when only controlling for age or only controlling for gender.

```
. regress TargetTotal Age Gender Politics Baseline Control

      Source |       SS       df       MS              Number of obs =    1257
-------------+------------------------------           F(  5,  1251) =    5.64
       Model | 73.6313085      5  14.7262617           Prob > F      =  0.0000
    Residual | 3264.49439   1251   2.6095079           R-squared     =  0.0221
-------------+------------------------------           Adj R-squared =  0.0181
       Total | 3338.1257    1256  2.65774339           Root MSE      =  1.6154

-------------+----------------------------------------------------------------
 TargetTotal |     Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         Age |  .0115904   .0045131     2.57   0.010     .0027364    .0204444
      Gender |  .1550836   .0948923     1.63   0.102    -.0310821    .3412493
    Politics |  .1081741   .0446514     2.42   0.016     .0205741    .1957741
    Baseline | -.2682552   .1120938    -2.39   0.017    -.4881679   -.0483426
     Control | -.4211029   .1117061    -3.77   0.000    -.6402549   -.2019508
       _cons |  4.718202   .3097235    15.23   0.000     4.110567    5.325837
-------------+----------------------------------------------------------------
```

Baseline vs. treatment: b = -.268, t = -2.39, p = .017
Control vs. treatment: b = -.421, t = -3.77, p < .001

```
. regress TargetTotal Age Gender Rrated Baseline Control

      Source |       SS       df       MS              Number of obs =    1257
-------------+------------------------------           F(  5,  1251) =    4.52
       Model | 59.2353272      5  11.8470654           Prob > F      =  0.0004
    Residual | 3278.89037   1251   2.62101548          R-squared     =  0.0177
-------------+------------------------------           Adj R-squared =  0.0138
       Total | 3338.1257    1256  2.65774339           Root MSE      =   1.619

-------------+----------------------------------------------------------------
 TargetTotal |     Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         Age |  .0098851   .0045101     2.19   0.029     .0010369    .0187333
      Gender |   .144235   .0952356     1.51   0.130    -.0426042    .3310742
      Rrated | -.1031544   .1741468    -0.59   0.554    -.4448064    .2384977
    Baseline | -.2733841   .1129642    -2.42   0.016    -.4950042   -.0517639
     Control | -.4224154   .1119581    -3.77   0.000    -.6420617   -.2027691
       _cons |  5.292674    .292474    18.10   0.000      4.71888    5.866468
-------------+----------------------------------------------------------------
```

Baseline vs. treatment: b = -.273, t = -2.42, p = .016
Control vs. treatment: b = -.422, t = -3.77, p < .001

```
. regress TargetTotal Age Gender Nudity Baseline Control

      Source |       SS       df       MS              Number of obs =    1252
-------------+------------------------------           F(  5,  1246) =    4.83
       Model | 63.1387447      5  12.6277489           Prob > F      =  0.0002
    Residual | 3257.68154   1246   2.61451167          R-squared     =  0.0190
-------------+------------------------------           Adj R-squared =  0.0151
       Total | 3320.82029   1251   2.6545326           Root MSE      =  1.6169

-------------+----------------------------------------------------------------
 TargetTotal |     Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         Age |    .01048   .0045344     2.31   0.021      .001584    .0193759
      Gender |  .1104762   .0972279     1.14   0.256    -.0802722    .3012246
      Nudity | -.0597295   .0443931    -1.35   0.179    -.1468229    .0273639
    Baseline |  -.271936    .112565    -2.42   0.016    -.4927739   -.0510981
     Control | -.4315422   .1121673    -3.85   0.000    -.6515997   -.2114846
       _cons |  5.686362   .4214203    13.49   0.000      4.85959    6.513134
-------------+----------------------------------------------------------------
```

Baseline vs. treatment: b = -.272, t = -2.42, p = .016
Control vs. treatment: b = -.432, t = -3.85, p < .001

```
. regress TargetTotal Age Gender Politics Rrated Nudity Baseline Control
```

Source	SS	df	MS		Number of obs =	1252
					F(7, 1244) =	4.11
Model	75.0419235	7	10.7202748		Prob > F =	0.0002
Residual	3245.77836	1244	2.60914659		R-squared =	0.0226
					Adj R-squared =	0.0171
Total	3320.82029	1251	2.6545326		Root MSE =	1.6153

TargetTotal	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Age	.0110088	.0045655	2.41	0.016	.0020518	.0199658
Gender	.1404539	.0981432	1.43	0.153	-.0520905	.3329983
Politics	.0917431	.0468331	1.96	0.050	-.0001374	.1836237
Rrated	-.1667267	.1768644	-0.94	0.346	-.5137122	.1802587
Nudity	-.042017	.0468091	-0.90	0.370	-.1338506	.0498166
Baseline	-.2853699	.1130525	-2.52	0.012	-.5071645	-.0635752
Control	-.4314795	.1120591	-3.85	0.000	-.6513252	-.2116338
_cons	5.302703	.5653004	9.38	0.000	4.193656	6.411751

Baseline vs. treatment: b = -.285, t = -2.52, p = .012
Control vs. treatment: b = -.431, t = -3.85, p < .001

When controlling for each combination of variables, people chose significantly more target movies in the treatment condition than in the other conditions.

Specific Movie Pairs:

You've Got Mail vs Shakespeare in Love:
```
. regress Mail Age Gender Baseline Control
```

Source	SS	df	MS		Number of obs =	1257
					F(4, 1252) =	9.49
Model	9.23725745	4	2.30931436		Prob > F =	0.0000
Residual	304.645002	1252	.243326679		R-squared =	0.0294
					Adj R-squared =	0.0263
Total	313.882259	1256	.249906257		Root MSE =	.49328

Mail	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Age	.0074968	.0013664	5.49	0.000	.0048161	.0101775
Gender	-.0134553	.0289086	-0.47	0.642	-.07017	.0432594
Baseline	-.041655	.0342284	-1.22	0.224	-.1088063	.0254964
Control	-.0751135	.0341108	-2.20	0.028	-.142034	-.0081929
_cons	.3055831	.073158	4.18	0.000	.1620574	.4491089

Significantly more participants chose the target movie in the treatment condition than in the control condition when controlling for age and gender (b = -.0751, t = -2.20, p = .028). The difference between treatment and baseline is not significant.

```
. regress Mail Age Gender Politics Rrated Nudity Baseline Control

      Source |       SS       df       MS              Number of obs =    1252
-------------+------------------------------           F(  7,  1244) =    6.01
       Model | 10.2328132       7  1.46183046           Prob > F      =  0.0000
    Residual |  302.41495    1244  .243098835           R-squared     =  0.0327
-------------+------------------------------           Adj R-squared =  0.0273
       Total | 312.647764    1251  .249918276           Root MSE      =  .49305


        Mail |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         Age |   .0068545   .0013936     4.92   0.000     .0041204    .0095885
      Gender |  -.0172463   .0299573    -0.58   0.565    -.0760187     .041526
    Politics |  -.0260982   .0142954    -1.83   0.068    -.0541438    .0019475
      Rrated |  -.0458218   .0539862    -0.85   0.396    -.1517358    .0600923
      Nudity |   .0019007    .014288     0.13   0.894    -.0261306     .029932
    Baseline |   -.045772   .0345082    -1.33   0.185    -.1134727    .0219287
     Control |  -.0773126    .034205    -2.26   0.024    -.1444184   -.0102068
       _cons |    .460526   .1725526     2.67   0.008     .1219997    .7990522
```

Difference between treatment and control remains significant when controlling for other demographic variables.

Da Vinci Code vs Mission: Impossible 3:

```
. regress DaVinci Age Gender Baseline Control

      Source |       SS       df       MS              Number of obs =    1257
-------------+------------------------------           F(  4,  1252) =    8.85
       Model | 8.38264686       4  2.09566172           Prob > F      =  0.0000
    Residual |  296.32857    1252  .236684162           R-squared     =  0.0275
-------------+------------------------------           Adj R-squared =  0.0244
       Total | 304.711217    1256  .242604472           Root MSE      =   .4865


     DaVinci |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         Age |   .0019802   .0013476     1.47   0.142    -.0006637    .0046241
      Gender |  -.0234636   .0285113    -0.82   0.411    -.0793988    .0324717
    Baseline |  -.1905942    .033758    -5.65   0.000    -.2568226   -.1243657
     Control |  -.0868593    .033642    -2.58   0.010    -.1528602   -.0208585
       _cons |   .4802263   .0721525     6.66   0.000     .3386731    .6217794
```

Significantly more participants chose target movie in the treatment condition than in either of the other conditions (vs. baseline: $b = -.191$, $t = -5.65$, $p < .001$; vs. control: $b = -.087$, $t = -2.58$, $p = .01$), when controlling for age and gender.

```
. regress DaVinci Age Gender Politics Rrated Nudity Baseline Control

      Source |       SS           df       MS              Number of obs =    1252
-------------+----------------------------------           F(  7,  1244) =    5.43
       Model |  8.99068045        7  1.28438292            Prob > F      =  0.0000
    Residual |  294.344783     1244  .236611562            R-squared     =  0.0296
-------------+----------------------------------           Adj R-squared =  0.0242
       Total |  303.335463     1251  .242474391            Root MSE      =  .48643

-------------+----------------------------------------------------------------------
     DaVinci |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------------
         Age |   .0021259   .0013749     1.55   0.122    -.0005714    .0048232
      Gender |  -.0165961   .0295548    -0.56   0.575    -.0745789    .0413868
    Politics |   .0247667   .0141033     1.76   0.079    -.0029022    .0524356
      Rrated |   .0154193    .053261     0.29   0.772     -.089072    .1199105
      Nudity |    .010302   .0140961     0.73   0.465    -.0173528    .0379567
    Baseline |  -.1892168   .0340447    -5.56   0.000    -.2560081   -.1224256
     Control |  -.0854021   .0337455    -2.53   0.012    -.1516065   -.0191977
       _cons |   .2788397   .1702347     1.64   0.102    -.0551391    .6128184
```

Both differences are still significant when controlling for other demographic variables (baseline vs. treatment: b = -.189, t = -5.56, p < .001; control vs. treatment: b = -.085, t = -2.53, p = .012).

Bourne Identity vs Spider-man:

```
. regress Bourne Age Gender Baseline Control

      Source |       SS           df       MS              Number of obs =    1257
-------------+----------------------------------           F(  4,  1252) =    3.27
       Model |  2.58347744        4   .64586936            Prob > F      =  0.0112
    Residual |  247.274916     1252  .197503926            R-squared     =  0.0103
-------------+----------------------------------           Adj R-squared =  0.0072
       Total |  249.858393     1256  .198931842            Root MSE      =  .44441

-------------+----------------------------------------------------------------------
      Bourne |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------------
         Age |   .0000164   .0012311     0.01   0.989    -.0023988    .0024315
      Gender |   -.020166   .0260448    -0.77   0.439    -.0712623    .0309302
    Baseline |   .0261481   .0308375     0.85   0.397    -.0343508    .0866471
     Control |  -.0789629   .0307316    -2.57   0.010    -.1392539   -.0186719
       _cons |   .3236927   .0659105     4.91   0.000     .1943855    .4529999
```

Significantly more people chose the target movie in the treatment condition than in the control condition (b = -.079, t = -2.57, p = .010).

```
. regress Bourne Age Gender Politics Rrated Nudity Baseline Control

      Source |       SS       df       MS              Number of obs =    1252
-------------+------------------------------           F(  7,  1244) =    1.89
       Model | 2.61742361      7  .373917658           Prob > F      =  0.0675
    Residual | 245.960851   1244  .197717726           R-squared     =  0.0105
-------------+------------------------------           Adj R-squared =  0.0050
       Total | 248.578275   1251  .198703657           Root MSE      =  .44465


      Bourne |     Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         Age | -9.99e-06   .0012568    -0.01   0.994    -.0024757    .0024557
      Gender | -.0226594   .0270168    -0.84   0.402    -.0756629    .0303441
    Politics | -.0036784   .0128922    -0.29   0.775    -.0289712    .0216144
      Rrated |  .0213566   .0486871     0.44   0.661    -.0741613    .1168746
      Nudity | -.0027986   .0128856    -0.22   0.828    -.0280785    .0224813
    Baseline |  .0290973    .031121     0.93   0.350    -.0319582    .0901527
     Control | -.0776456   .0308475    -2.52   0.012    -.1381645   -.0171266
       _cons |  .3417635   .1556155     2.20   0.028     .0364657    .6470613
```

Difference between treatment and control remains significant when controlling for other demographic variables (b = -.078, t = -2.52, p = .012).

Harry Potter vs Shrek:
```
. regress HP Age Gender Baseline Control

      Source |       SS       df       MS              Number of obs =    1257
-------------+------------------------------           F(  4,  1252) =    5.76
       Model | 4.77658717      4  1.19414679           Prob > F      =  0.0001
    Residual | 259.552768   1252  .207310518           R-squared     =  0.0181
-------------+------------------------------           Adj R-squared =  0.0149
       Total | 264.329356   1256  .210453309           Root MSE      =  .45531


          HP |     Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         Age | -.0051181   .0012612    -4.06   0.000    -.0075925   -.0026437
      Gender |  -.020161   .0266835    -0.76   0.450    -.0725104    .0321884
    Baseline | -.0207235   .0315938    -0.66   0.512    -.0827062    .0412592
     Control | -.0851609   .0314853    -2.70   0.007    -.1469306   -.0233912
       _cons |  .9300537    .067527    13.77   0.000     .7975751    1.062532
```

Controlling for age and gender, significantly more people chose the target movie in the treatment condition than in the control condition (b = -.085, t = -2.70, p = .007).

```
. regress HP Age Gender Politics Rrated Nudity Baseline Control

      Source |       SS       df       MS              Number of obs =    1252
-------------+------------------------------           F(  7,  1244) =    5.18
       Model |  7.46270611     7  1.06610087           Prob > F      =  0.0000
    Residual |  256.015728  1244  .205800425           R-squared     =  0.0283
-------------+------------------------------           Adj R-squared =  0.0229
       Total |  263.478435  1251  .210614256           Root MSE      =  .45365


          HP |     Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         Age |  -.0046644   .0012822    -3.64   0.000    -.00718    -.0021489
      Gender |  -.0130693   .0275635    -0.47   0.635    -.0671454   .0410067
    Politics |   .0420452   .0131531     3.20   0.001     .0162406   .0678498
      Rrated |  -.0638073   .0496723    -1.28   0.199    -.161258    .0336435
      Nudity |  -.0068835   .0131463    -0.52   0.601    -.032675    .0189079
    Baseline |  -.0245778   .0317508    -0.77   0.439    -.0868687   .0377132
     Control |  -.0844594   .0314718    -2.68   0.007    -.146203   -.0227158
       _cons |   .8578717   .1587644     5.40   0.000     .5463961   1.169347
```

Difference remains significant when controlling for other variables (b = -.084, t = -2.68, p = .007).

Born on the 4th of July vs Dead Poets Society:
```
. regress July Age Gender Baseline Control

      Source |       SS       df       MS              Number of obs =    1257
-------------+------------------------------           F(  4,  1252) =    9.71
       Model |  8.27127336     4  2.06781834           Prob > F      =  0.0000
    Residual |   266.59428  1252  .212934728           R-squared     =  0.0301
-------------+------------------------------           Adj R-squared =  0.0270
       Total |  274.865553  1256  .218842001           Root MSE      =  .46145


        July |     Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         Age |   .0069987   .0012782     5.48   0.000     .004491    .0095064
      Gender |   .0547529   .0270431     2.02   0.043     .0016981   .1078077
    Baseline |  -.0739276   .0320195    -2.31   0.021    -.1367454  -.0111097
     Control |  -.0659891   .0319095    -2.07   0.039    -.1285911  -.0033871
       _cons |   .0593747   .0684369     0.87   0.386    -.0748889   .1936382
```

Controlling for age and gender, significantly more people chose the target movie in the treatment condition than in either of the other conditions (baseline vs. treatment: b = -.074, t = -2.31, p = .021; control vs. treatment: b = -.066, t = -2.07, p = .039).

```
. regress July Age Gender Politics Rrated Nudity Baseline Control

      Source |       SS       df       MS              Number of obs =    1252
-------------+------------------------------           F(  7,  1244) =    5.68
       Model |  8.48015217      7  1.21145031           Prob > F      =  0.0000
    Residual |  265.509464   1244  .213432045           R-squared     =  0.0310
-------------+------------------------------           Adj R-squared =  0.0255
       Total |  273.989617   1251   .21901648           Root MSE      =  .46199


        July |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         Age |   .0069832   .0013058     5.35   0.000     .0044214     .009545
      Gender |   .0511786   .0280699     1.82   0.069     -.003891    .1062481
    Politics |    .007393   .0133947     0.55   0.581    -.0188857    .0336717
      Rrated |  -.0505723   .0505849    -1.00   0.318    -.1498135    .0486689
      Nudity |  -.0122393   .0133879    -0.91   0.361    -.0385046     .014026
    Baseline |  -.0786676   .0323341    -2.43   0.015     -.142103   -.0152322
     Control |   -.068444     .03205    -2.14   0.033     -.131322    -.005566
       _cons |   .1793739   .1616813     1.11   0.267    -.1378243    .4965721
```

Differences remain significant when controlling for other variables (treatment vs baseline: b = -.079, t = -2.43, p = .015; treatment vs control: b = -.068, t = -2.14, p = .033).

The other five movie pairs did not show significant differences between the treatment condition and either of the other conditions when controlling for age, gender, politics, R-rated movie-watching, or nudity preferences.

APPENDIX B: EXPERIMENT 2 – T-SHIRTS

I. Combined 7 Movie Pairs

Method 1: TargetTotal

```
                      Summary of TargetMovies
      Condition  |      Mean    Std. Dev.       Freq.
      -----------+-----------------------------------
      Baseline   |   3.4791667    1.428869         96
       Control   |   3.3106796   1.4144155        103
      Treatment  |   3.4807692    1.677844        104
      -----------+-----------------------------------
         Total   |   3.4224422   1.5114654        303
```

Method 2: Treating each response as independent

Condition	Proportion (n_{Target})	N_{Total}
Baseline	.4993 (334)	669
Control	.4763 (341)	716
Treatment	.4993 (362)	725
Total	.4915 (1037)	2110

T-test of differences in these means.

Method 1:
Baseline vs Control: $M_B - M_C = .168$, $t_{(197)} = 0.836$, $p = .404$, n.s.

```
Two-sample t test with equal variances

---------------------------------------------------------------------------
Variable |    Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
---------+-----------------------------------------------------------------
Baseline |     96    3.479167    .1458333    1.428869    3.189651   3.768682
 Control |    103     3.31068    .1393665    1.414415    3.034247   3.587112
---------+-----------------------------------------------------------------
combined |    199     3.39196    .1006838     1.42032     3.19341    3.59051
---------+-----------------------------------------------------------------
    diff |             .1684871    .2016461               -.2291749   .5661491
---------------------------------------------------------------------------
    diff = mean(Baseline) - mean(Control)                      t =   0.8356
Ho: diff = 0                                    degrees of freedom =      197

    Ha: diff < 0                   Ha: diff != 0                  Ha: diff > 0
 Pr(T < t) = 0.7978         Pr(|T| > |t|) = 0.4044         Pr(T > t) = 0.2022
```

Baseline vs Treatment: $M_B - M_T = -.002$, $t_{(198)} = -.007$, $p = .994$, n.s.

```
Two-sample t test with equal variances
─────────────────────────────────────────────────────────────────────────
Variable │    Obs        Mean    Std. Err.    Std. Dev.   [95% Conf. Interval]
─────────┼───────────────────────────────────────────────────────────────
Baseline │     96    3.479167    .1458333    1.428869    3.189651    3.768682
Treatmen │    104    3.480769    .1645261    1.677844     3.15447    3.807068
─────────┼───────────────────────────────────────────────────────────────
combined │    200        3.48    .1102669     1.55941    3.262558    3.697442
─────────┼───────────────────────────────────────────────────────────────
    diff │            -.0016026    .2212671                -.4379452     .43474
─────────────────────────────────────────────────────────────────────────
    diff = mean(Baseline) - mean(Treatmen)                      t =  -0.0072
Ho: diff = 0                                     degrees of freedom =      198

    Ha: diff < 0                   Ha: diff != 0                  Ha: diff > 0
 Pr(T < t) = 0.4971         Pr(|T| > |t|) = 0.9942          Pr(T > t) = 0.5029
```

Control vs Treatment: $M_C - M_T = -.170$, $t_{(205)} = -.788$, $p = .432$, n.s.

```
Two-sample t test with equal variances
─────────────────────────────────────────────────────────────────────────
Variable │    Obs        Mean    Std. Err.    Std. Dev.   [95% Conf. Interval]
─────────┼───────────────────────────────────────────────────────────────
 Control │    103     3.31068    .1393665    1.414415    3.034247    3.587112
Treatmen │    104    3.480769    .1645261    1.677844     3.15447    3.807068
─────────┼───────────────────────────────────────────────────────────────
combined │    207    3.396135    .1077979    1.550942    3.183607    3.608664
─────────┼───────────────────────────────────────────────────────────────
    diff │            -.1700896    .2157969                -.5955555    .2553762
─────────────────────────────────────────────────────────────────────────
    diff = mean(Control) - mean(Treatmen)                       t =  -0.7882
Ho: diff = 0                                     degrees of freedom =      205

    Ha: diff < 0                   Ha: diff != 0                  Ha: diff > 0
 Pr(T < t) = 0.2157         Pr(|T| > |t|) = 0.4315          Pr(T > t) = 0.7843
```

Method 2: Two-proportion z-tests (using pooled p for SE):
  Baseline vs Control: diff = .023, z = .856, p = .390, n.s.
  Baseline vs Treatment: diff = 0, z = 0, p = 1, n.s.
  Control vs Treatment: diff = .023, z = .873, p = .384, n.s.

II. T-shirt pairs

Method 1: TargetTotal

```
                  Summary of TargetTShirts
    Condition │     Mean    Std. Dev.      Freq.
────────────┼──────────────────────────────────
    Baseline │  1.3958333   .95673971         96
     Control │  1.3398058   .85810322        103
   Treatment │  1.3173077   .89512621        104
────────────┼──────────────────────────────────
       Total │   1.349835    .9005471        303
```

Method 2:

Condition	Proportion (n$_{Target}$)	N$_{Total}$
Baseline	.465 (134)	288
Control	.454 (138)	304

Treatment	.439 (137)	312
Total	.452 (409)	904

T-test of differences in these means.

Method 1:

Baseline vs Control: $M_B - M_C = .056$, $t_{(197)} = 0.435$, $p = .664$, n.s.

```
Two-sample t test with equal variances
──────────────────────────────────────────────────────────────────────────────
Variable │     Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
─────────┼────────────────────────────────────────────────────────────────────
Baseline │      96    1.395833    .0976468    .9567397     1.20198    1.589687
 Control │     103    1.339806    .0845514    .8581032    1.172098    1.507513
─────────┼────────────────────────────────────────────────────────────────────
combined │     199    1.366834    .0641645    .9051511    1.240301    1.493368
─────────┼────────────────────────────────────────────────────────────────────
    diff │            .0560275     .128672                -.1977238    .3097788
──────────────────────────────────────────────────────────────────────────────
    diff = mean(Baseline) - mean(Control)                         t =   0.4354
Ho: diff = 0                                     degrees of freedom =      197

   Ha: diff < 0                  Ha: diff != 0                  Ha: diff > 0
 Pr(T < t) = 0.6681        Pr(|T| > |t|) = 0.6637          Pr(T > t) = 0.3319
```

Baseline vs Treatment: $M_B - M_T = .079$, $t_{(198)} = .600$, $p = .549$, n.s.

```
Two-sample t test with equal variances
──────────────────────────────────────────────────────────────────────────────
Variable │     Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
─────────┼────────────────────────────────────────────────────────────────────
Baseline │      96    1.395833    .0976468    .9567397     1.20198    1.589687
Treatmen │     104    1.317308    .0877743    .8951262    1.143228    1.491387
─────────┼────────────────────────────────────────────────────────────────────
combined │     200       1.355    .0653162    .9237106    1.226199    1.483801
─────────┼────────────────────────────────────────────────────────────────────
    diff │            .0785256    .1309479                -.1797059    .3367572
──────────────────────────────────────────────────────────────────────────────
    diff = mean(Baseline) - mean(Treatmen)                        t =   0.5997
Ho: diff = 0                                     degrees of freedom =      198

   Ha: diff < 0                  Ha: diff != 0                  Ha: diff > 0
 Pr(T < t) = 0.7253        Pr(|T| > |t|) = 0.5494          Pr(T > t) = 0.2747
```

Control vs Treatment: $M_C - M_T = .022$, $t_{(205)} = .185$, $p = .854$, n.s.

```
Two-sample t test with equal variances
──────────────────────────────────────────────────────────────────────────────
Variable │     Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
─────────┼────────────────────────────────────────────────────────────────────
 Control │     103    1.339806    .0845514    .8581032    1.172098    1.507513
Treatmen │     104    1.317308    .0877743    .8951262    1.143228    1.491387
─────────┼────────────────────────────────────────────────────────────────────
combined │     207    1.328502    .0608057    .8748421    1.208621    1.448384
─────────┼────────────────────────────────────────────────────────────────────
    diff │            .0224981     .121899                -.2178384    .2628346
──────────────────────────────────────────────────────────────────────────────
    diff = mean(Control) - mean(Treatmen)                         t =   0.1846
Ho: diff = 0                                     degrees of freedom =      205

   Ha: diff < 0                  Ha: diff != 0                  Ha: diff > 0
 Pr(T < t) = 0.5731        Pr(|T| > |t|) = 0.8538          Pr(T > t) = 0.4269
```

Method 2: Two-proportion z-tests (using pooled p for SE):

Baseline vs Control: diff = .011, z = .268, p = .787, n.s.

Baseline vs Treatment: diff = .062, z = .639, p = .522, n.s.

Control vs Treatment: diff = .015, z = .374, p = .711, n.s.

III. Individual Pairs

Mean choosing Target movie in Baseline, Control, and Treatment.

	Baseline	Control	Treatment
Titanic vs Good Will Hunting	.333 (32/96)	.291 (30/103)	.337 (35/104)
You've Got Mail vs Shakespeare in Love	.457 (43/94)	.500 (51/102)	.505 (52/103)
The Da Vinci Code vs Mission: Impossible 3	.521 (50/96)	.475 (48/101)	.500 (52/104)
The Bourne Identity vs Spider-man	.646 (62/96)	.534 (55/103)	.650 (67/103)
Raiders of the Lost Ark vs Chariots of Fire	.740 (71/96)	.676 (69/102)	.692 (72/104)
Superman vs the Deer Hunter	.479 (46/96)	.553 (57/103)	.495 (51/103)
Born on the Fourth of July vs Dead Poets Society	.316 (30/95)	.304 (31/102)	.317 (33/104)

T-test of differences in these means.

	B vs C	B vs T	C vs T
Titanic vs Good Will Hunting	z < .713, n.s.	z < .713, n.s.	z = .713, n.s.
You've Got Mail vs Shakespeare in Love	z < .66, n.s.	z = .66, n.s.	z < .66, n.s.
The Da Vinci Code vs Mission: Impossible 3	z = .645, n.s.	z < .645, n.s.	z < .645, n.s.
The Bourne Identity vs Spider-man	z = 1.60, p = .110	z < 1.60, n.s.	z = 1.70, p = .089
Raiders of the Lost Ark vs Chariots of Fire	z = .975, n.s.	z = .74, n.s.	z < .74, n.s.
Superman vs the Deer Hunter	z = 1.09, n.s.	z < .84, n.s.	z = .84, n.s.
Born on the Fourth of July vs Dead Poets Society	z < .208, n.s.	z < .208, n.s.	z = .208, n.s.

Mean choosing Target t-shirt in Baseline, Control, and Treatment.

	Baseline	Control	Treatment
Lord of the Rings vs Monsters, Inc.	.563 (54/96)	.525 (53/101)	.567 (59/104)
Les Miserables vs The Avengers	.354 (34/96)	.257 (26/101)	.202 (21/104)
Harry Potter vs Shrek	.479 (46/96)	.578 (59/102)	.548 (57/104)

T-test of differences in these means.

	B vs C	B vs T	C vs T
Lord of the Rings vs Monsters, Inc.	z < .611, n.s.	z < .611, n.s.	z = .611, n.s.
Les Miserables vs the Avengers	z = 1.47, n.s.	Diff = .152, z = 2.41, p = .016	z = .945, n.s.
Harry Potter and the Sorcerer's Stone vs Shrek	z = 1.40, n.s.	z = .97, n.s.	z = .44, n.s.

IV. Demographics

Movies:

	Female			Male		
Movie	Baseline	Control	Treatment	Baseline	Control	Treatment
Titanic vs Good Will Hunting	18/42	20/49	17/32	14/53	10/54	18/72
You've Got Mail vs Shakespeare in Love	22/42	26/49	20/32	20/53	25/54	32/72
The Da Vinci Code vs Mission: Impossible 3	23/42	28/49	19/32	26/53	20/54	33/72
The Bourne Identity vs Spider-man	26/42	21/49	19/32	35/53	34/54	48/72
Raiders of the Lost Ark vs Chariots of Fire	26/42	29/49	22/32	44/53	40/54	50/72
Superman vs the Deer Hunter	20/42	27/49	18/32	25/53	30/54	33/72
Born on the Fourth of July vs Dead Poets Society	10/42	10/49	9/32	19/53	21/54	24/72
Total	145/294 = .493	161/343 = .469	124/224 = .554	183/371 = .493	180/378 = .476	238/504 = .472

95% confidence intervals for differences between groups:
- Female, treatment – baseline: (-.026, .148)
- Female, treatment – control: (.001, .169)
- Male, treatment – baseline: (-.088, .046)
- Male, treatment – control: (-.071, .063)

The confidence intervals for these differences all overlap, meaning there are no significant differences between men and women in the differences between the treatment condition and either of the other conditions.

T-shirts:

	Female			Male		
Movie	Baseline	Control	Treatment	Baseline	Control	Treatment
Lord of the Rings vs Monsters, Inc.	19/42	18/49	11/32	35/53	35/54	48/72
Les Miserables vs the Avengers	22/42	16/49	11/32	12/53	10/54	10/72
Harry Potter and the Sorcerer's Stone vs Shrek	21/42	27/49	15/32	25/53	32/54	42/72
Total	62/126 = .492	61/147 = .415	37/96 = .385	72/159 = .453	77/162 = .475	100/216 = .463

95% confidence intervals for differences between groups:

- Female, treatment – baseline: (-.239, .025)
- Female, treatment – control: (-.156, .096)
- Male, treatment – baseline: (-.092, .112)
- Male, treatment – control: (-.114, .090)

The confidence intervals for these differences all overlap, meaning there are no significant differences between men and women in the differences between the treatment condition and either of the other conditions.

Conservative = answered 1 or 2 on scale; Liberal = answered 4 or 5 on scale

Movies:

	Conservative			Liberal		
Movie	Baseline	Control	Treatment	Baseline	Control	Treatment
Titanic vs Good Will Hunting	5/15	5/19	7/16	15/59	16/60	20/66
You've Got Mail vs Shakespeare in Love	10/15	12/19	8/16	22/59	29/60	31/66
The Da Vinci Code vs Mission: Impossible 3	7/15	6/19	5/16	33/59	31/60	38/66
The Bourne Identity vs Spider-man	9/15	9/19	15/16	40/59	32/60	36/66
Raiders of the Lost Ark vs Chariots of Fire	12/15	10/19	11/16	42/59	40/60	46/66
Superman vs the Deer Hunter	9/15	16/19	10/16	23/59	29/60	27/66
Born on the Fourth of July vs Dead Poets Society	4/15	4/19	8/16	15/59	18/60	16/66
Total	56/105 = .533	62/133 = .466	64/112 = .571	190/413 = .460	195/420 = .464	214/462 = .463

95% confidence intervals for differences between groups:
- Conservative, treatment – baseline: (-.092, .168)
- Conservative, treatment – control: (-.021, .231)
- Liberal, treatment – baseline: (-.063, .069)
- Liberal, treatment – control: (-.067, .065)

All of these confidence intervals overlap, indicating that there is no significant difference between liberals and conservatives in the differences between the treatment condition and the other conditions.

T-shirts:

Movie	Conservative			Liberal		
	Baseline	Control	Treatment	Baseline	Control	Treatment
Lord of the Rings vs Monsters, Inc.	6/15	6/19	6/16	35/59	34/60	41/66
Les Miserables vs the Avengers	5/15	6/19	5/16	26/59	16/60	16/66
Harry Potter and the Sorcerer's Stone vs Shrek	7/15	6/19	4/16	31/59	36/60	39/66
Total	18/45 = .400	18/57 = .316	15/48 = .313	92/177 = .520	86/180 = .478	96/198 = .485

95% confidence intervals for differences between groups:
- Conservative, treatment – baseline: (-.282, .108)
- Conservative, treatment – control: (-.181, .175)
- Liberal, treatment – baseline: (-.136, .066)
- Liberal, treatment – control: (-.094, .108)

All of these confidence intervals overlap, indicating that there is no significant difference between liberals and conservatives in the differences between the treatment condition and the other conditions. But note the small sample sizes and wide confidence intervals for conservatives.

V. Regression Analyses

Movies, controlling for age and gender:
```
. regress TargetMovies Age Gender Baseline Control

      Source |       SS       df       MS              Number of obs =     302
-------------+------------------------------           F(  4,   297) =    1.49
       Model | 13.4125475      4  3.35313688           Prob > F      =  0.2061
    Residual | 669.849042    297  2.25538398           R-squared     =  0.0196
-------------+------------------------------           Adj R-squared =  0.0064
       Total | 683.261589    301  2.26997206           Root MSE      =  1.5018


------------------------------------------------------------------------------
TargetMovies |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         Age |   .0185104   .0088394     2.09   0.037     .0011145    .0359063
      Gender |  -.1112743   .1793822    -0.62   0.536    -.4642955     .241747
    Baseline |   -.129754   .2178624    -0.60   0.552    -.5585036    .2989956
     Control |  -.2284195   .2114309    -1.08   0.281     -.644512    .1876731
       _cons |   3.085469   .4618663     6.68   0.000     2.176523    3.994414
------------------------------------------------------------------------------
```

Significant effect of age: older participants chose more target movies (b = .019, t = 2.09, p = .037). Controlling for age and gender does not make differences between the treatment condition and either of the other conditions significant.

T-shirts, controlling for age and gender:
```
. regress TargetTShirts Age Gender Baseline Control
```

Source	SS	df	MS		
Model	4.1692857	4	1.04232142		
Residual	238.920118	297	.804444843		
Total	243.089404	301	.807605993		

Number of obs = 302
F(4, 297) = 1.30
Prob > F = 0.2717
R-squared = 0.0172
Adj R-squared = 0.0039
Root MSE = .89691

TargetTShi~s	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]
Age	-.0102089	.0052791	-1.93	0.054	-.0205982 .0001803
Gender	.072163	.1071315	0.67	0.501	-.1386701 .282996
Baseline	.1507132	.1301128	1.16	0.248	-.1053468 .4067731
Control	.056482	.1262718	0.45	0.655	-.1920189 .3049828
_cons	1.517061	.2758381	5.50	0.000	.9742166 2.059906

Older participants chose marginally fewer target t-shirts (b = -.010, t = -1.93, p = .054). Controlling for age and gender does not make differences between the treatment condition and either of the other conditions significant.

Movies, other variables:
```
. regress TargetMovies Age Gender Politics Baseline Control
```

Source	SS	df	MS		
Model	23.2882118	5	4.65764236		
Residual	659.801489	295	2.23661522		
Total	683.089701	300	2.27696567		

Number of obs = 301
F(5, 295) = 2.08
Prob > F = 0.0676
R-squared = 0.0341
Adj R-squared = 0.0177
Root MSE = 1.4955

TargetMovies	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]
Age	.0163702	.008894	1.84	0.067	-.0011336 .0338739
Gender	-.1052075	.1789658	-0.59	0.557	-.4574191 .247004
Politics	-.1616475	.0776222	-2.08	0.038	-.3144108 -.0088841
Baseline	-.1264524	.2174521	-0.58	0.561	-.5544065 .3015017
Control	-.237395	.2105967	-1.13	0.261	-.6518572 .1770673
_cons	3.74264	.5628982	6.65	0.000	2.634835 4.850446

Significant effect of politics: the more conservative participants chose more target movies overall (b = -.162, t = -2.08, p = .038). But controlling for age, gender, and politics doesn't make differences between the treatment condition and the other conditions significant.

```
. regress TargetMovies Age Gender Rmovies Baseline Control

      Source |       SS       df       MS              Number of obs =     302
-------------+------------------------------           F(  5,   296) =    1.92
       Model | 21.4541155      5  4.29082309           Prob > F      =  0.0910
    Residual | 661.807474    296  2.23583606           R-squared     =  0.0314
-------------+------------------------------           Adj R-squared =  0.0150
       Total | 683.261589    301  2.26997206           Root MSE      =  1.4953


------------------------------------------------------------------------------
TargetMovies |     Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         Age |  .0197011   .0088234     2.23   0.026     .0023365    .0370657
      Gender | -.1698097   .1812505    -0.94   0.350    -.5265126    .1868932
     Rmovies |  .5405177   .2850096     1.90   0.059    -.0203843     1.10142
    Baseline | -.1486674   .2171453    -0.68   0.494    -.5760118    .2786769
     Control | -.2506949   .2108401    -1.19   0.235    -.6656305    .1642406
       _cons |  2.668836   .5096408     5.24   0.000     1.665857    3.671814
------------------------------------------------------------------------------

. regress TargetMovies Age Gender Nudity Baseline Control

      Source |       SS       df       MS              Number of obs =     302
-------------+------------------------------           F(  5,   296) =    1.21
       Model | 13.6471891      5  2.72943782           Prob > F      =  0.3060
    Residual |  669.6144     296  2.26221081           R-squared     =  0.0200
-------------+------------------------------           Adj R-squared =  0.0034
       Total | 683.261589    301  2.26997206           Root MSE      =  1.5041


------------------------------------------------------------------------------
TargetMovies |     Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         Age |  .0181116    .008939     2.03   0.044     .0005196    .0357036
      Gender | -.0983932   .1840518    -0.53   0.593    -.4606091    .2638227
      Nudity |  .0239878   .0744824     0.32   0.748    -.1225945      .17057
    Baseline | -.1342673   .2186414    -0.61   0.540    -.5645559    .2960214
     Control | -.2303209    .211833    -1.09   0.278    -.6472105    .1865686
       _cons |  2.905331   .7258224     4.00   0.000     1.476904    4.333757
------------------------------------------------------------------------------
```

Marginal effect of R-rated movie watching: people who watch R-rated movies trended toward choosing more target movies (b = .540, t = 1.90, p = .059). No effect of nudity intolerance. Controlling for these variables did not make differences between the treatment condition and either of the other conditions significant.

```
. regress TargetMovies Age Gender Politics Rmovies Nudity Baseline Control

      Source |       SS       df       MS              Number of obs =     301
-------------+------------------------------           F(  7,   293) =    2.42
       Model | 37.2759744      7  5.3251392            Prob > F      =  0.0203
    Residual | 645.813727    293  2.20414241           R-squared     =  0.0546
-------------+------------------------------           Adj R-squared =  0.0320
       Total | 683.089701    300  2.27696567           Root MSE      =  1.4846


------------------------------------------------------------------------------
TargetMovies |     Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         Age |  .0169049   .0088805     1.90   0.058    -.0005729    .0343826
      Gender | -.1675935   .1832121    -0.91   0.361     -.528172    .1929851
    Politics | -.1978578   .0820731    -2.41   0.017    -.3593855   -.0363302
     Rmovies |  .7688329   .3091064     2.49   0.013     .1604826    1.377183
      Nudity |  .0380213   .0826821     0.46   0.646    -.1247048    .2007474
    Baseline | -.1609859   .2170268    -0.74   0.459     -.588115    .2661431
     Control | -.2741539   .2096919    -1.31   0.192     -.686847    .1385393
       _cons |  3.014732   .9763213     3.09   0.002      1.09324    4.936223
------------------------------------------------------------------------------
```

Controlling for the entire set of variables, politics (b = -.198, t = -2.41, p = .017) and R-rated movie-watching (b = .769, t = 2.49, p = .013) had significant effects on how many target movies participants chose, but the difference between the treatment condition and the other conditions still was not significant.

T-shirts, other variables:

```
. regress TargetTShirts Age Gender Politics Baseline Control

      Source |       SS       df       MS              Number of obs =     301
-------------+------------------------------           F(  5,   295) =    3.02
       Model | 11.8089368      5  2.36178735           Prob > F      =  0.0113
    Residual |  230.86216    295  .782583592           R-squared     =  0.0487
-------------+------------------------------           Adj R-squared =  0.0325
       Total | 242.671096    300  .808903654           Root MSE      =  .88464


------------------------------------------------------------------------------
TargetTShi~s |     Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         Age |  -.008366    .005261    -1.59   0.113    -.0187199    .0019878
      Gender |  .0657659   .1058619     0.62   0.535    -.1425745    .2741062
    Politics |   .143255   .0459151     3.12   0.002     .0528924    .2336177
    Baseline |  .1464086   .1286274     1.14   0.256    -.1067349    .3995522
     Control |  .0643799   .1245722     0.52   0.606     -.180783    .3095428
       _cons |  .9380865   .3329658     2.82   0.005     .2827972    1.593376
------------------------------------------------------------------------------
```

Significant effect of politics: more liberal participants chose more target t-shirts overall (b = .143, t = 3.12, p = .002). Controlling for politics did not make differences between the treatment condition and the other conditions significant.

```
. regress TargetTShirts Age Gender Rmovies Baseline Control

      Source |       SS       df       MS              Number of obs =     302
-------------+------------------------------           F(  5,   296) =    1.03
       Model |  4.17001671     5  .834003341           Prob > F      =  0.3981
    Residual |  238.919387   296  .807160092           R-squared     =  0.0172
-------------+------------------------------           Adj R-squared =  0.0006
       Total |  243.089404   301  .807605993           Root MSE      =  .89842


TargetTShi~s |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         Age | -.0102203   .0053015    -1.93   0.055    -.0206536    .0002131
      Gender |   .072721   .1089028     0.67   0.505    -.1416009    .2870429
     Rmovies | -.0051535   .1712456    -0.03   0.976    -.3421666    .3318597
    Baseline |  .1508935   .1304699     1.16   0.248    -.1058727    .4076597
     Control |  .0566944   .1266815     0.45   0.655    -.1926161    .3060048
       _cons |  1.521034   .3062133     4.97   0.000     .9184026    2.123665


. regress TargetTShirts Age Gender Nudity Baseline Control

      Source |       SS       df       MS              Number of obs =     302
-------------+------------------------------           F(  5,   296) =    1.51
       Model |  6.05802434     5  1.21160487           Prob > F      =  0.1855
    Residual |   237.03138   296  .800781688           R-squared     =  0.0249
-------------+------------------------------           Adj R-squared =  0.0085
       Total |  243.089404   301  .807605993           Root MSE      =  .89486


TargetTShi~s |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         Age | -.0090775   .0053184    -1.71   0.089    -.0195441    .0013891
      Gender |  .0356172   .1095042     0.33   0.745    -.1798881    .2511226
      Nudity | -.0680571   .0443144    -1.54   0.126    -.1552682    .0191541
    Baseline |  .1635179   .1300837     1.26   0.210    -.0924883    .4195241
     Control |  .0618768   .1260329     0.49   0.624    -.1861574     .309911
       _cons |  2.028141   .4318381     4.70   0.000     1.178279    2.878003
```

No significant effects of R-rated movie watching or nudity preferences, and controlling for each of these variables did not make differences between the treatment condition and the other conditions significant.

```
. regress TargetTShirts Age Gender Politics Rmovies Nudity Baseline Control

      Source |       SS       df       MS              Number of obs =     301
-------------+------------------------------           F(  7,   293) =    2.34
       Model | 12.8584915     7  1.83692736            Prob > F      =  0.0243
    Residual | 229.812605   293  .784343361            R-squared     =  0.0530
-------------+------------------------------           Adj R-squared =  0.0304
       Total | 242.671096   300  .808903654            Root MSE      =  .88563


------------------------------------------------------------------------------
TargetTShi~s |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         Age | -.0081062   .0052975    -1.53   0.127    -.0185323    .0023198
      Gender |  .0644068   .1092918     0.59   0.556    -.1506896    .2795033
    Politics |  .1413732   .0489592     2.89   0.004     .0450169    .2377295
     Rmovies | -.1900602   .1843917    -1.03   0.304    -.5529603    .1728398
      Nudity | -.0414801   .0493225    -0.84   0.401    -.1385513    .0555911
    Baseline |  .1612558   .1294633     1.25   0.214    -.0935401    .4160517
     Control |  .0754106   .1250878     0.60   0.547    -.1707738    .3215951
       _cons |  1.402855   .5824063     2.41   0.017     .2566254    2.549085
------------------------------------------------------------------------------
```

Controlling for the entire set of variables, politics still had a significant effect on how many target t-shirts participants chose (b = .141, t = 2.89, p = .004). Differences between the treatment condition and each of the other conditions were not significant.

Individual movies: No significant differences between the treatment condition and other conditions when controlling for age and gender or when controlling for the full set of variables.

Individual t-shirts: No significant differences between the treatment condition and other conditions when controlling for age and gender or when controlling for the full set of variables.