Towards an Objective Measure of Trademark Fame

Suneal Bedi[†*] *and Mike Schuster*[**]

Identifying whether a trademark is "famous" (a necessary condition for dilution protection) is historically a difficult question for courts. It is a haphazard procedure, driven mostly by the intuition of judges and imprecise proxies like "how much a company spent on advertising." There is presently no clear empirical method to determine whether a trademark is famous. That lack of clarity creates unpredictability and unfairness in legal proceedings.

This Article is the first to provide a uniform, empirically based measure of trademark fame situated in neuroscience and branding theory. Our interdisciplinary approach utilizes an existing method commonly employed in marketing research and imports it into the legal realm. Importantly, we root our approach in consumer perceptions, rather than the company-based proxies that courts routinely use.

We first define fame as a function of how quickly consumers identify a trademark as being associated with its particular product (e.g., Budweiser and beer). We then show that this recognition speed can be empirically measured using a technique called the product/recall method. Through this, trademark fame can be objectively quantified.

Using three large-scale experimental studies, we show how this method is a better, more predictable measure of fame that should be adopted in

* Assistant Professor of Business Law and Ethics, Kelley School of Business, Indiana University. Affiliated Faculty Center for IP Research, Indiana University Maurer School of Law. Authors listed alphabetically.

** Assistant Professor of Business Law, Terry College of Business, University of Georgia. We would like to thank the following for their helpful comments and insights: Alexandra Roberts, Dave Reibstein, Kathryn Kisska-Schulze, Barton Beebe, Jake Linford, John Holden, and Greg Day. We also thank the participants at Harmonizing Business Law Conference (University of Pennsylvania Law School), the participants at the Annual Academy of Legal Studies in Business Conference, and Oklahoma State University for funding this research. Finally, we would like to thank the editing staff at the *UC Davis Law Review* for all of their work and helpful insights.

trademark litigation. Through this evaluation, we draw attention to previous court decisions that incorrectly analyzed trademark fame because they did not employ the method we propose.

TABLE OF CONTENTS

INTRODUCTION

Anti-dilution law protects a select group of valuable trademarks from unauthorized uses that might injure positive associations between the brand and desirable attributes, like quality or status.[1] These safeguards stand above and beyond anti-consumer confusion measures afforded to all trademarks.[2] Federal anti-dilution protections are reserved for a particular variety of trademark: those that are *famous* (i.e., "widely recognized").[3]

There is, however, a problem with this regime. The judiciary and trademark owners are presently unable to reliably identify what marks qualify as famous, beyond obvious cases like Coca-Cola.[4] We remedy this shortcoming with an empirically based measure of trademark fame premised on the neuroscience and branding literature.

According to associative network theory, the brain operates as a network of interconnected ideas.[5] The relationships between particular ideas vary in strength depending on the development of their connection. For example, a common connection like that between *Coke* and *Cola* is probably well-developed, making *Cola* come to mind very quickly after thinking of *Coke*.

Our proposal uses the strength of this mental connection as a direct measure of fame, with famous trademarks enjoying particularly strong mental associations with their respective product types. The strength of this association (and thus, potential fame) is quantified using a technique called the product/recall method.[6] This procedure measures how long it takes a person to recognize that two stimuli (e.g., a brand and its product type) are related. As applied here, a famous mark (e.g., Budweiser) is strongly connected to its product type (e.g., beer), which is observable when consumers are relatively faster to recognize the association.

---

[1] *See* Louis Vuitton Malletier, S.A. v. My Other Bag, Inc., 156 F. Supp. 3d 425, 432-33 (S.D.N.Y.), *aff'd*, 674 F. App'x 16 (2d Cir. 2016).

[2] *See* Dep't of Parks & Recreation for the State of Cal. v. Bazaar Del Mundo Inc., 448 F.3d 1118, 1124 (9th Cir. 2006).

[3] 15 U.S.C. § 1125(c)(1) (2018).

[4] Thane Int'l, Inc. v. Trek Bicycle Corp., 305 F.3d 894, 908 (9th Cir. 2002) ("Absent strict policing of the famousness requirement, neither participants in the commercial market-place nor courts are likely to apply dilution statutes in a predictable fashion."); *see* Xuan-Thao N. Nguyen, *The New Wild West: Measuring and Proving Fame and Dilution Under the Federal Trademark Dilution Act*, 63 ALB. L. REV. 201, 202 (1999) [hereinafter *The New Wild West*].

[5] See *infra* Part II for a discussion of the associative network theory.

[6] *See infra* Part II.C.

We validate this method through three human experiments, each asking respondents to identify whether a mark and a product type are related and measuring the speed of their response. As expected, respondents were quicker to identify related pairs including a well-known trademark. The third experiment uses our science-based method of identifying fame to analyze recent court cases that may have arrived at incorrect conclusions on the issue.

This Article proceeds in five segments. The first part introduces trademark law's anti-dilution provisions with emphasis given to the threshold issue that a protected mark must be famous. Parts II and III introduce associative network theory as a framework to understand the mind and use this approach to identify fame as a function of mental associations. The fourth part presents results from three large-scale experimental studies used to introduce and validate our novel, objective measure of trademark fame. The first two tests confirm the validity of our approach, and the third uses the method to analyze a series of recent judicial fame determinations. Part V describes implementation and advantages of our method to identify fame.

I. LAW: FAMOUS TRADEMARK DESIGNATIONS

Trademarks are an important asset in modern business. Relevant law protects them from various intrusions, including precluding the use of another's mark in a manner likely to cause confusion among the consuming public.[7] Beyond this, the law may protect against dilution of the value of famous trademarks, even absent consumer confusion.[8]

Not everyone, however, receives this extra protection. The law affords this benefit only to famous trademarks, which "are more likely to be remembered and associated in the public mind than a weaker mark."[9]

This Part addresses the law pertaining to anti-dilution measures meant to avoid the "whittling away" of trademark value by unauthorized uses, even if they don't cause consumer confusion.[10] It begins by describing federal dilution protections granted only to famous marks. We then proceed to review the law relating to the threshold issue

[7] *See* Scott Paper Co. v. Scott's Liquid Gold, Inc., 589 F.2d 1225, 1229 (3d Cir. 1978). This protection is available to marks capable of identifying the source of a good or service. *See* Brookfield Commc'ns, Inc. v. W. Coast Entm't Corp., 174 F.3d 1036, 1046 (9th Cir. 1999).

[8] Toys "R" Us, Inc. v. Canarsie Kiddie Shop, Inc., 559 F. Supp. 1189, 1206 (E.D.N.Y. 1983) (citing Sally Gee, Inc. v. Myra Hogan, Inc., 699 F.2d 621 (2d Cir. 1983)).

[9] U.S. PATENT & TRADEMARK OFFICE, TMEP § 1207.01(d)(ix) (Oct. 2018).

[10] Mattel, Inc. v. MCA Records, Inc., 296 F.3d 894, 903 (9th Cir. 2002).

of what constitutes "fame." As discussed below, determining whether a mark is famous is often not a trivial or predictable task. In light of that, we employ this Part as a primer to be used in conjunction with insights from neuroscience and psychology to present a new, objective manner of identifying fame.

A. Dilution

While trademark law is historically viewed as precluding activities that create confusion as to the origin of goods,[11] anti-dilution statutes prevent damage to mental associations to a senior mark (i.e., the first use of a particular mark) in the consumer's mind.[12] The dilution cause of action originated in the 1920s-era works of Frank Schechter, who argued "that the preservation of the uniqueness of a trademark should constitute the only rational basis for its protection," as opposed to confusion-related doctrines.[13] This theory found purchase in the 1950s, when early adopting states enacted anti-dilution statutes.[14]

The first federal anti-dilution protections were introduced in the Federal Trademark Dilution Act ("FTDA") of 1995.[15] Congress amended the FTDA eleven years later with the Trademark Dilution Revision Act of 2006,[16] which narrowed dilution protection to nationally famous marks.[17] As amended, this cause of action requires

[11] *See Scott Paper Co.*, 589 F.2d at 1229.

[12] Louis Vuitton Malletier, S.A. v. My Other Bag, Inc., 156 F. Supp. 3d 425, 432 (S.D.N.Y.), *aff'd*, 674 F. App'x 16 (2d Cir. 2016); *see also* Moseley v. V Secret Catalogue, Inc., 537 U.S. 418, 429 (2003).

[13] Frank I. Schechter, *The Rational Basis of Trademark Protection*, 40 HARV. L. REV. 813, 831 (1927); *see also* FRANK I. SCHECHTER, THE HISTORICAL FOUNDATIONS OF THE LAW RELATING TO TRADE-MARKS 150, 164-66, 171 (1925).

[14] Todd Anten, *In Defense of Trademark Dilution Surveys: A Post-*Moseley *Proposal*, 39 COLUM. J.L. & SOC. PROBS. 1, 7-8 (2005); Robert N. Klieger, *Trademark Dilution: The Whittling Away of the Rational Basis for Trademark Protection*, 58 U. PITT. L. REV. 789, 794 n.18 (1997) (detailing state anti-dilution causes of action). In 1947, Massachusetts enacted the first such statute. *See* 1947 Mass. Acts 300.

[15] Federal Trademark Dilution Act of 1995, Pub. L. No. 104-98, 109 Stat. 985 (1996), *amended by* Trademark Dilution Revision Act of 2006, 15 U.S.C. § 1125 (2018) (originally enacted as Trademark Act of 1946, ch. 540, 60 Stat. 427).

[16] Trademark Dilution Revision Act of 2006, Pub. L. No. 109-312, 120 Stat. 1730.

[17] Deborah R. Gerhardt, *The 2006 Trademark Dilution Revision Act Rolls Out a Luxury Claim and a Parody Exemption*, 8 N.C. J.L. & TECH. 205, 229 (2007). The Trademark Dilution Revision Act also did away with the requirement to establish *actual* (as opposed to likely) dilution and clarified that any distinctive mark (inherent *or* acquired) can be protected. Dille Family Tr. v. Nowlan Family Tr., 276 F. Supp. 3d 412, 434 n.10 (E.D. Pa. 2017); Hugh C. Hansen, Barton Beebe, Dennis McCooe & Eric A.

"(1) the mark is famous; (2) the alleged infringer adopted the mark after the mark became famous; [and] (3) the infringer diluted the mark."[18]

Establishing the hallmark of this suit — dilution of a mark — necessitates showing that an unauthorized junior mark (i.e., the second or later use of a particular mark) will interfere with the network of mental associations surrounding a particular trademark.[19] Anti-dilution law protects these associations from two types of dilution: tarnishment and blurring.[20] The touchstone of tarnishment is an unauthorized use creating negative associations with the senior brand.[21] An example of an actionable "unwholesome or unsavory"[22] association is the use of "Victor's Little Secret" to sell sexually explicit products, which purportedly tarnished Victoria's Secret's mark.[23] Beyond sex, tarnishment is commonly found through associations created to drugs or violence.[24]

Dilution by blurring presents the more common variant of the cause of action[25] and is found where a junior mark forms associations between the senior famous mark and an unrelated product or idea.[26] For instance, consider the creation of *Tylenol* snowboards. This is unlikely to cause confusion as to whether the pain relief company is now producing snow gear (traditional infringement)[27] or create

Prager, *Trademark Dilution and Its Effects on the Marks of Big and Small Business*, 19 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 1025, 1030-31 (2009).

[18] Syndicate Sales, Inc. v. Hampshire Paper Corp., 192 F.3d 633, 639 (7th Cir. 1999). To avoid statutory defenses, the plaintiff must also establish that the defendant's use is commercial. 15 U.S.C. § 1125(c)(3)(C) (2018). Plaintiff must likewise establish that its mark is "distinctive, inherently or through acquired distinctiveness." *Id.* § 1125(c)(1); V Secret Catalogue, Inc. v. Moseley, 558 F. Supp. 2d 734, 742 (W.D. Ky. 2008).

[19] *See* Sungho Cho, *Empirical Substantiation of Sport Trademark Dilution: Quasi-Experimental Examination of Dilutive Effects*, 25 J. LEGAL ASPECTS SPORT 27, 33 (2015) ("[D]ilution law primarily protects the mark owners' intellectual property rights associated with the schematic value of trademarks (i.e., brand associations).").

[20] 15 U.S.C. § 1125(c).

[21] *See* Hormel Foods Corp. v. Jim Henson Prods., Inc., 73 F.3d 497, 507 (2d Cir. 1996).

[22] Starbucks Corp. v. Wolfe's Borough Coffee, Inc., 588 F.3d 97, 110 (2d Cir. 2009).

[23] V Secret Catalogue, Inc. v. Moseley, 605 F.3d 382, 387 (6th Cir. 2010). Victoria's Secret argued that it conveys a "sexy and playful" image, which is at odds with the allegedly tarnishing sexually explicit wares of the defendant. *Id.* at 394.

[24] *See* Sarah M. Konsky, *Publicity Dilution: A Proposal for Protecting Publicity Rights*, 21 SANTA CLARA COMPUTER & HIGH TECH. L.J. 347, 374 (2005).

[25] Shontavia Johnson, *Branded: Trademark Tattoos, Slave Owner Brands, and the Right to Have "Free" Skin*, 22 MICH. TELECOMM. & TECH. L. REV. 225, 238 (2016).

[26] Visa Int'l Serv. Ass'n v. JSL Corp., 610 F.3d 1088, 1090 (9th Cir. 2010).

[27] *See* Mattel, Inc. v. MCA Records, Inc., 296 F.3d 894, 903 (9th Cir. 2002).

unwholesome associations (tarnishment). Blurring, however, requires neither confusion nor tarnishment. It protects against damage to the existing "mental associations evoked by the mark,"[28] and can occur where the junior use creates new associations to the senior mark.[29] Accordingly, harm via blurring arises when a consumer sees the mark *Tylenol* and immediately thinks of the analgesic *and* winter sports. As will be discussed later, neuroscience provides an underlying mechanism for both types of dilutive harms (blurring and tarnishment).[30]

A threshold to establish dilution liability is that the senior mark is *famous*.[31] The Lanham Act offers no objective standard of fame.[32] Instead, it provides that courts should consider "all relevant factors" including: the scope of advertising for the mark, the breadth of sales, the quantum of actual recognition, and whether the mark was federally registered.[33] This holistic test caused courts and commentators alike to struggle to define what constitutes a "famous" mark.[34] This issue is discussed in the following subpart.

B. Fame

In his article, Schechter argued "[t]he more distinctive or unique" a trademark is, the further ingrained it is on the public consciousness and thus, the greater its need for protection from dilution.[35] Congress

[28] RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 25 cmt. f (AM. LAW INST. 1995); *see also* Monica Hof Wallace, *Using the Past to Predict the Future: Refocusing the Analysis of a Federal Dilution Claim*, 73 U. CIN. L. REV. 945, 973 n.205 (2005).

[29] Louis Vuitton Malletier, S.A. v. My Other Bag, Inc., 156 F. Supp. 3d 425, 433 (S.D.N.Y.), *aff'd*, 674 F. App'x 16 (2d Cir. 2016).

[30] *See infra* Part II.B; *see also* Rebecca Tushnet, *Gone in Sixty Milliseconds: Trademark Law and Cognitive Science*, 86 TEX. L. REV. 507, 519-24 (2008) [hereinafter *Gone in Sixty Milliseconds*].

[31] *See* 15 U.S.C. § 1125(c)(1) (2018).

[32] Impulsaria, LLC v. United Distribution Grp., LLC, No. 1:11-CV-1220, 2012 WL 5178147, at *7 (W.D. Mich. Oct. 18, 2012). "The statute most responsible for protecting trademarks against confusion is the Lanham Act of 1946. The Act prohibits the unauthorized use of a registered mark in a fashion that is likely to cause confusion, or to cause mistake, or to deceive." Robert C. Bird & Joel H. Steckel, *The Role of Consumer Surveys in Trademark Infringement: Empirical Evidence from the Federal Courts*, 14 U. PA. J. BUS. L. 1013, 1020 (2012) (citations and internal quotation marks omitted).

[33] 15 U.S.C. § 1125(c). The current four factors are trimmed from eight in the original Federal Trademark Dilution Act of 1995. Christopher L. Buongiorno, *Evidence of Fame and Dilution Before the Trademark Trial and Appeal Board*, 29 AIPLA Q.J. 1, 14 (2001).

[34] Xuan-Thao Nguyen, *Fame Law: Requiring Proof of National Fame in Trademark Law*, 33 CARDOZO L. REV. 89, 93-94 (2011).

[35] Schechter, *supra* note 13, at 825.

adopted that theme in the FTDA through its requirement that a mark be famous to receive anti-dilution protection.[36] At present, this threshold is highly subjective, relies upon indirect and often imprecise measures of fame, and is addressed on a case by case basis.[37] The below Part analyzes the current standard, and Parts 0 and 0 present a novel, objective method of identifying fame.

Caselaw supports that famous marks are "widely recognized by the general consuming public"[38] and "truly prominent and renowned."[39] A famous mark should likewise be identifiable by a significant portion of the general population; fame within a particular niche (e.g., a golf ball manufacturer being "famous" solely amongst golfers) is insufficient.[40] Awareness in a single state will not satisfy this standard;[41] famous marks will be known "throughout a substantial portion of the U.S."[42]

Given the holistic, and largely subjective, nature of the fame analysis, courts are inconsistent in their description and application of the standard. One cadre hones exclusively on the mark's public recognition,[43] with some commentators going so far as to promote a rigid 75% brand awareness threshold.[44] While adopted by some courts, this standard faces resistance because it distills the evaluation to a single enumerated consideration (recognition) to the exclusion of the mark's general "renown."[45] Other courts take a broader view, attempting to

[36] *See* 15 U.S.C. § 1125(c).

[37] *See* Clarisa Long, *Dilution*, 106 COLUM. L. REV. 1029, 1062 (2006).

[38] 15 U.S.C. § 1125(c)(2)(A).

[39] Carnival Corp. v. SeaEscape Casino Cruises, Inc., 74 F. Supp. 2d 1261, 1270 (S.D. Fla. 1999) (citations omitted); *see also* Bose Corp. v. QSC Audio Prods., Inc., 293 F.3d 1367, 1371 (Fed. Cir. 2002); Fruit of the Loom, Inc. v. Girouard, 994 F.2d 1359, 1363 (9th Cir. 1993) (noting a famous mark must be "mature and well-known").

[40] *See* Coach Servs., Inc. v. Triumph Learning LLC, 668 F.3d 1356, 1375 (Fed. Cir. 2012).

[41] Star Mkts., Ltd. v. Texaco, Inc., 950 F. Supp. 1030, 1034-35 (D. Haw. 1996).

[42] H.R. REP. NO. 104-374, at 7 (1995).

[43] *See* Aegis Software, Inc. v. 22d Dist. Agric. Ass'n, 255 F. Supp. 3d 1005, 1009 (S.D. Cal. 2017).

[44] *See* 4 J. THOMAS MCCARTHY, MCCARTHY ON TRADEMARKS AND UNFAIR COMPETITION § 24:106 (5th ed. 2020); Theodore H. Davis Jr., *Litigation in the Federal Courts and State Courts of General Jurisdiction*, 107 TRADEMARK REP. 101, 224 (2017); *see also* Apple Inc. v. Samsung Elecs. Co., No. 11-CV-01846-LHK, 2014 WL 4145499, at *5 (N.D. Cal. Aug. 20, 2014) (discussing litigant's proposal that 65% public recognition establishes fame).

[45] Under Armour, Inc. v. Body Armor Nutrition, LLC, No. JKB-12-1283, 2013 WL 5375444, at *5 (D. Md. Aug. 23, 2013); *see also* Avery Dennison Corp. v. Sumpton, 189 F.3d 868, 876 (9th Cir. 1999) ("[T]he FTDA does not indicate that any particular degree of distinctiveness should end the inquiry." (quoting Lori Krafte-Jacobs, Comment, *Judicial Interpretation of the Federal Trademark Dilution Act of 1995*, 66 U. CIN. L. REV.

ascertain which marks have "powerful consumer associations,"[46] are "household names,"[47] or would be immediately associated with the senior mark's owner.[48]

These divergent approaches are unsurprising, given the FTDA's failure to provide an objective standard of fame.[49] The situational and qualitative analysis has predictably led courts to reach mixed results in evaluating particular marks.[50] Commentators likewise note the non-quantitative nature of the factors renders determination unpredictable, unless the subject mark is clearly famous (e.g., Coke).[51] This volatility makes it harder for mark holders to enforce their rights and for defendants to defend against dilution lawsuits. In turn, calls have been made for a clearer, more evidence-based approach to identifying fame.[52]

These requests to set forth an objective, empirical basis to identify fame have heretofore gone unanswered.[53] We satisfy these calls by providing an objective standard to measure trademark fame. Part 0 addresses the attributes underlying fame to establish the groundwork for an objective standard defining fame as a function of consumers' mental associations. In preparation for this discussion, the following Part reviews the scientific literature on the creation of mental associations and addresses prior studies applying this work in the field of trademarks. We ultimately conclude that current designations of

659, 690 (1998))); Am. Mensa, Ltd. v. Inpharmatica, Ltd., No. WDQ-07-3283, 2009 WL 10682037, at *4 (D. Md. Feb. 10, 2009); Harris Research, Inc. v. Lydon, 505 F. Supp. 2d 1161, 1166 (D. Utah 2007) (considering multiple factors in the fame analysis).

[46] Adidas-Am., Inc. v. Payless Shoesource, Inc., 546 F. Supp. 2d 1029, 1060 (D. Or. 2008) (citing *Avery Dennison Corp.*, 189 F.3d at 875).

[47] Luxottica Grp. S.P.A. v. Atl. Sunglasses LLC, No. 4:15-CV-1795, 2017 WL 6885602, at *8 (S.D. Tex. Mar. 24, 2017); *see also Aegis Software, Inc.*, 255 F. Supp. 3d at 1009.

[48] *See* Coach Servs., Inc. v. Triumph Learning LLC, 668 F.3d 1356, 1373 (Fed. Cir. 2012).

[49] Krista F. Holt & Scot A. Duvall, *Chasing* Moseley's *Ghost: Dilution Surveys Under the Trademark Dilution Revision Act*, 98 TRADEMARK REP. 1311, 1319 (2008).

[50] Donna L. Howard, Note and Comment, *Trademarks and Service Marks and Internet Domain Names: Giving ICANN Deference*, 33 ARIZ. ST. L.J. 637, 648 n.77 (2001) (citation omitted).

[51] *See* Susan L. Serad, *One Year After Dilution's Entry into Federal Trademark Law*, 32 WAKE FOREST L. REV. 215, 234 (1997).

[52] Nguyen, *The New Wild West*, *supra* note 4, at 656; Adam Omar Shanti, Comment, *Measuring Fame: The Use of Empirical Evidence in Dilution Actions*, 5 MARQ. INTELL. PROP. L. REV. 177, 178 (2001); *see also* Mark A. Lemley, *Fame, Parody, and Policing in Trademark Law*, 2019 MICH. ST. L. REV. 1, 1 (2019) (arguing that "unauthorized parodies, satires, and complaint sites" should be viewed as evidence of fame).

[53] Alexandra J. Roberts, *New-School Trademark Dilution: Famous Among the Juvenile Consuming Public*, 100 TRADEMARK REP. 1021, 1022 (2010) (citation omitted).

fame attempt to indirectly identify the psychological reality of fame. A better method would be to utilize both neuroscience theory and methodology to directly measure how famous a mark is.[54]

II. ASSOCIATIVE NETWORK THEORY

Associative network theory provides a framework with which to create an objective measure of fame. Most simply, the theory predicts that concepts are connected in a consumer's mind via a network of memories.[55] Within this network, each idea can be represented by a single point (a "node").[56] These nodes are connected to each other by associative links. Those links represent memories and are created over time as consumers are exposed to various experiences.[57] The inter-nodal relationships need not be particularly broad or vibrant. Something simple like the connection between boiling water and pain could represent the memory that touching boiling water causes pain. The complete set of interrelated memories is referred to as the associative network and is widely used within the marketing, psychology, and neuroscience literature.[58]

How are connections made between nodes? Generally, these connections are made by focusing attention on a set of nodes.[59] Not all types of attention are, however, created equal for this purpose. Simple repetition of, or exposure to, connected nodes has significantly less memory-making ability (a weaker connection) relative to actively thinking about the related items and how they interrelate (a stronger connection).[60] For example, repeating the elements of a tort creates

---

[54] *See generally* Alexandra J. Roberts, *How to Do Things with Word Marks: A Speech-Act Theory of Distinctiveness*, 65 ALA. L. REV. 1035, 1081 (2014) (noting the use of proxies associated with trademark distinctiveness and concluding that "informal proxies for gauging distinctiveness tend to overprotect descriptive terms").

[55] DANIEL REISBERG, COGNITION: EXPLORING THE SCIENCE OF THE MIND 236-37 (Sheri L. Snavely ed., W.W. Norton & Co. 4th ed. 2010).

[56] *Id.*

[57] *See id.*; Kevin Lane Keller, *Conceptualizing, Measuring, and Managing Customer-Based Brand Equity*, 57 J. MARKETING 1, 2-3 (1993) ("Most widely accepted conceptualizations of memory structure involve some type of associative model formulation." (citation omitted)).

[58] *See, e.g.*, Keller, *supra* note 57, at 2 ("Most widely accepted conceptualizations of memory structure involve some type of associative model formulation." (citation omitted)); Jenni Romaniuk & Byron Sharp, *Conceptualizing and Measuring Brand Salience*, 4 MARKETING THEORY 327, 330 (2004) (discussing the "network of information linked to the brand name").

[59] *See* REISBERG, *supra* note 55, at 237; Romaniuk & Sharp, *supra* note 58, at 329.

[60] *See* REISBERG, *supra* note 55, at 148-49.

relatively weak connections among the various nodes connected with tort law. In contrast, the acts of discussing, analyzing, and writing about it create a stronger connection among the various nodes.[61] These varied strengths of connectedness account for which ideas come to mind when an individual thinks of a related topic. That is to say, the stronger the connection, the more likely a node will come to mind when an individual thinks about the connected node.

According to associative network theory, a single node activates when a human receives sufficient relevant input to make the idea come to mind.[62] For instance, seeing a red soda can with white script is likely sufficient to trigger the "Coca-Cola" node. Once activated, energy from that node begins to spread to all connected ideas via the associative network.[63] Which exact node activates and how quickly it activates given an input is dependent on the strength of the associate network.[64]

For example, briefly seeing a baseball may make you think of a baseball bat. You have a strong associative connection between a baseball and bat, and therefore the likelihood of a bat being triggered when thinking of a baseball is high. It is, however, unlikely that briefly viewing a baseball will bring to mind a hot dog. The memory connection of a hot dog (although arguably related to baseball) is presumably much weaker than the baseball-bat association.

Showing a person a baseball begins the process of "priming" the baseball/baseball bat association. Priming is the phenomenon of partially activating a related node such that it activates more quickly upon later stimulation.[65] In this case, the baseball bat comes to mind more quickly after being primed by the idea of a baseball. Several classic survey studies depict the effect of priming.

Meyer and Schvaneveldt studied priming and response rates in tests where subjects were contemporaneously exposed to two strings of

---

[61] *See id.* at 237.

[62] *Id.*

[63] *Id.*; Keller, *supra* note 57, at 2 (referring to this phenomenon as "spreading activation").

[64] Chris Pullig, Carolyn J. Simmons & Richard G. Netemeyer, *Brand Dilution: When Do New Brands Hurt Existing Brands?*, 70 J. MARKETING 52, 54 (2006) ("At retrieval, cues activate corresponding nodes in memory, and this activation spreads to related constructs. The speed at which activation spreads is determined by the strength and proximity of linkages among constructs. The closer constructs are encoded in memory, and the stronger the linkages among them, the greater is the likelihood that related constructs will be activated.").

[65] *See* Jane E. Anderson & Phillip J. Holcomb, *Auditory and Visual Semantic Priming Using Different Stimulus Onset Asynchronies: An Event-Related Brain Potential Study*, 32 PSYCHOPHYSIOLOGY 177, 183 (1995).

letters and had to indicate whether *both* strings were words (by hitting a "yes" button) or not (by hitting a "no" button).[66] The letter-strings fell into three categories: two closely related words (e.g., *bread* and *butter*), two unrelated words (e.g., *nurse* and *butter*), or a word and a non-word (e.g., *bread* and *uirdll*).[67] The researchers found subjects were quicker to correctly respond to related pairs of words, relative to the balance of stimuli.[68] They explained this differential response as arising from individuals being quicker to identify the second word in a pair of related words because it is primed by the associated first word.[69]

The mechanism behind priming is explained as such. When presented with two strings of letters, the respondent must initially determine if the first letters are a word. Assuming they make a word — let us use *bread* as an example — this stimulus activates the node for the idea *bread*.[70] That activation then begins excitation of associated nodes.[71] Upon reading the second string, if it is a word, the node representing that word/idea is stimulated to its activation threshold.[72] This activation will, however, be faster if the second word is related to the first because activation of the first word began activation of the second, thus reducing the stimulus necessary to fire the second node.[73] This reduced time of activation for the second word expresses itself through faster responses identifying the words as related — relative to other answers for which the second letter-string was not primed.[74]

It is worth mentioning that the connection between two ideas is not a one-way street. Thinking of Node A primes associated Node B, and thinking of Node B can likewise prime associated Node A. Associative

---

[66] David E. Meyer & Roger W. Schvaneveldt, *Facilitation in Recognizing Pairs of Words: Evidence of a Dependence Between Retrieval Operations*, 90 J. EXPERIMENTAL PSYCHOL. 227, 228 (1971).

[67] *Id.*

[68] *Id.* at 229. *See generally* Allan M. Collins & M. Ross Quillian, *Retrieval Time from Semantic Memory*, 8 J. VERBAL LEARNING & VERBAL BEHAV. 240 (1969) (finding that respondents were quicker to recognize whether a written statement was true if it included closely related ideas, relative to less related ideas). Scientists eventually moved away from some of the underlying theories presented by Collins and Quillian, but their findings are still relevant to the current proposition. *See* REISBERG, *supra* note 55, at 246.

[69] For a discussion of the literature on semantic priming, see James H. Neely, *Semantic Priming Effects in Visual Word Recognition: A Selective Review of Current Findings and Theories*, *in* BASIC PROCESSES IN READING: VISUAL WORD RECOGNITION 264-65 (Derek Besner & Glyn W. Humphreys eds., 1991).

[70] REISBERG, *supra* note 55, at 242-43.

[71] *Id.*

[72] *Id.*

[73] *Id.*

[74] *Id.*

strength may, however, be different depending on which of two terms is doing the priming.[75] For example, a link from *Gatorade* to *workout* might be well developed, such that activation of the idea of *Gatorade* will strongly prime or activate the *workout* node. The converse is not necessarily true (though it may be). Firing of the *workout* node may or may not strongly prime or activate the *Gatorade* node. This observation is germane to the trademark scenario, as thinking of RC Cola may immediately trigger thoughts of a cola, while thinking of a cola may not fully trigger RC Cola due to directional asymmetries in the strength of the connections.[76] We explore this bilateral relationship further in our empirical Part below.

A. Application to Brand Analysis

Romaniuk and Sharp presented a framework for utilizing associative network theory to evaluate brand salience.[77] They argue that traditional metrics' reliance on what brand comes to mind when given a product type is insufficient.[78] Rather, they conceptualize brand salience as the likelihood of a brand to come to mind when making purchases of a given product category, which is a function of "the quantity (how many) and the quality (how fresh and relevant) of the network of brand information in memory."[79] This approach is largely consistent with Pappu, Quester, and Cooksey's empirically-backed segmentation of brand equity into four categories.[80] Their team addressed brand equity as a function of mental associations, including awareness of a brand, characteristics associated with the brand, quality determinations, and values leading to repeat purchasing.[81] Keller likewise conceptualized brand knowledge as being a function of consumer "awareness of the brand (in terms of brand recall and recognition) and the favorability,

[75] *See* Romaniuk & Sharp, *supra* note 58, at 329.

[76] *See id.*

[77] *See id.* at 328-29, 334.

[78] *See id.* at 328-31.

[79] *Id.* at 328, 334. They define salience as correlating with the likelihood that a brand comes to mind, a measurement that combines the traditional "top of the mind" metric with broader evaluations of cognitive associations. *See id.* at 335.

[80] Ravi Pappu, Pascale G. Quester & Ray W. Cooksey, *Consumer-Based Brand Equity: Improving the Measurement — Empirical Evidence*, 14 J. PRODUCT & BRAND MGMT. 143, 145 (2005) (specifically analyzing "consumer-based brand equity"); *see also* DAVID A. AAKER, MANAGING BRAND EQUITY 32 (The Free Press 1991) ("Brand equity assets such as name awareness, perceived quality, associations, and loyalty all have the potential to provide a brand with a price premium.").

[81] Pappu et al., *supra* note 80, at 150.

strength, and uniqueness of the brand associations in consumer memory."[82]

This modern conceptualization of brand value has, however, not found purchase in the courtroom, where traditional surveys that ask consumers to "name producers of product X" remain common.[83] Application of Romaniuk and Sharp's associative network theory-based framework to trademarks requires a more nuanced examination of mental associations. This conclusion is particularly appropriate when studying anti-dilution law and famous trademarks, given that anti-dilution law is meant to protect a mark's value, which modern research assesses as a function of mental associations.

B. The Science Underpinning Dilution

Associative network theory provides a theoretical basis underlying both types of trademark dilution — tarnishment and blurring. While the mechanisms behind each variant are distinct, both forms injure a famous mark by altering mental associations thereto.[84] In both instances, a new connection to a senior mark "harms the reputation of or impairs the distinctiveness of the famous mark."[85]

Blurring injures a trademark owner by inhibiting positive associations to their mark and creating new, non-beneficial associations thereto.[86] As an example of this harm to "distinctiveness,"[87] Beebe, et al. recognize that diluting advertisements for Mercedes or Infiniti-branded toothpaste can injure by interfering with connections between the

[82] Keller, *supra* note 57, at 3.

[83] *See, e.g.*, Nguyen, *The New Wild West*, *supra* note 4, at 219 (detailing a recognition survey conducted by the plaintiff); *see also* Mennen Co. v. Gillette Co., 565 F. Supp. 648, 652-53 (S.D.N.Y. 1983).

[84] Alexander F. Simonson, *How and When Do Trademarks Dilute: A Behavioral Framework to Judge "Likelihood" of Dilution*, 83 TRADEMARK REP. 149, 155-56 (1993); *see* Jacob Jacoby, *The Psychological Foundations of Trademark Law: Secondary Meaning, Genericism, Fame, Confusion and Dilution*, 91 TRADEMARK REP. 1013, 1047 (2001).

[85] TrueNorth Cos., L.C. v. TruNorth Warranty Plans of N. Am., LLC, 292 F. Supp. 3d 864, 871 (N.D. Iowa 2018) (citing Swatch AG v. Beehive Wholesale, LLC, 739 F.3d 150, 163 (4th Cir. 2014); Coach Servs., Inc. v. Triumph Learning LLC, 668 F.3d 1356, 1371-76 (Fed. Cir. 2012); Jada Toys, Inc. v. Mattel, Inc., 518 F.3d 628, 634 (9th Cir. 2008)).

[86] *See* Barton Beebe, Roy Germano, Christopher Jon Sprigman & Joel H. Steckel, *Testing for Trademark Dilution in Court and the Lab*, 86 U. CHI. L. REV. 611, 627 (2019).

[87] Jada Toys, Inc. v. Mattel, Inc., 518 F.3d 628, 635 (9th Cir. 2008); *TrueNorth Cos.*, 292 F. Supp. at 871 (citing Swatch AG v. Beehive Wholesale, LLC, 739 F.3d 150, 163 (4th Cir. 2014)); *see* Coach Servs., Inc. v. Triumph Learning LLC, 668 F.3d 1356, 1371-76 (Fed. Cir. 2012)).

marks and the idea of high-class automobiles.[88] In terms of associative network theory, these injuries occur when new connections to the famous trademark (i.e., the "Mercedes" node) are created that can, in turn, impair firing of existing, positive associations to this node.[89] This impairment is explained by what the literature calls the fan effect.[90]

Research into the fan effect finds mental connections to a particular node are quicker to fire in the presence of relatively fewer connections thereto.[91] Restated, the creation of new associations connected to a famous mark makes it harder for existing associations to activate.[92] As

[88] Beebe et al., *supra* note 86, at 627. The study's results regarding actual dilution in this instance were "far from definitive" regarding whether dilution occurred using these examples in the lab. *Id.* at 630.

[89] *See* Shari Seidman Diamond, *Trademark Dilution: Of Fame, Blurring, and Sealing Wax, with a Touch of Judicial Wisdom*, 24 SANTA CLARA COMPUTER & HIGH TECH. L.J. 521, 535-36 (2007).

[90] For background on the fan effect, see generally John R. Anderson, *Retrieval of Propositional Information from Long-Term Memory*, 6 COGNITIVE PSYCHOL. 451, 451-74 (1974).

[91] Steffen Moritz, Lena Jelinek, Ruth Klinge & Dieter Naber, *Fight Fire with Fireflies! Association Splitting: A Novel Cognitive Technique to Reduce Obsessive Thoughts*, 35 BEHAV. & COGNITIVE PSYCHOTHERAPY 631, 632 (2007).

This finding is interesting with regard to the distinction between fanciful and arbitrary trademarks. A fanciful mark will have no other mental connections because it is a made-up word. In contrast, an arbitrary mark will have other mental connections that are unrelated to the relevant product. This would lead to the conclusion that, all else equal, mental connections to a fanciful mark will fire faster. This may be a topic for future research.

For another perspective, see Jake Linford, *Are Trademarks Ever Fanciful*?, 105 GEO. L.J. 731, 734 (2017) (explaining how even a made-up word may have inherent sound symbolism that can convey information about offered goods or services). For more on presumptions baked in to the famous Abercrombie spectrum of trademarks, see generally Jake Linford, *The False Dichotomy Between Suggestive and Descriptive Trademarks*, 76 OHIO ST. L.J. 1367 (2015) (arguing that consumer process suggestive and descriptive marks in a manner that undermines their disparate legal treatment); Jake Linford, *A Linguistic Justification for Protecting 'Generic' Trademarks*, 17 YALE J.L. & TECH. 110 (2015) (arguing on linguistic grounds that generic terms can acquire trademark distinctiveness that should have legal significance).

[92] For a discussion of association splitting, see REISBERG, *supra* note 55, at 247; Steffen Moritz & Lena Jelinek, *Further Evidence for the Efficacy of Association Splitting as a Self Help Technique for Reducing Obsessive Thoughts*, 28 DEPRESSION & ANXIETY 574 (2011). The mechanism underlying the fan theory is as such. Activation of a single node (e.g., the word "Coca-Cola") begins activation of each associated node (e.g., the "soda" node). Keller, *supra* note 57, at 2-3. The energy dispersed from the activated node is, however, finite and will be distributed to all of the associations to the activated node. REISBERG, *supra* note 55, at 247. Accordingly, the creation of new mental connections to a node (e.g., a famous trademark) decreases the activation energy moving towards the original connections, which in turn inhibits the firing of original associated nodes. Jacoby, *supra* note 84, at 1049.

an example, if one ran television advertisements for "Gucci pencils," new associations to Gucci will be created, including connections to pencils and attributes of pencils. As predicted by the fan effect, the newly increased number of mental connections to the Gucci node hinders firing of pre-existing attributes associated with the brand.[93] This inhibition of the associations cultivated by the mark owner is the exact type of harm anti-dilution statutes are meant to address.[94]

In contrast to blurring's harm to distinctiveness, tarnishment injures by creating "association[s] arising from the similarity between a mark or trade name and a famous mark that harms the reputation of the famous mark."[95] This occurs where dilutive messages create unwholesome associations,[96] which associative network theory describes as new connections to the famous mark's mental node.[97]

To exemplify this point, Reisberg compares "aardvarks" (for which you likely have relatively few mental associations) to "robins" (for which you likely have relatively more mental associations):

> Why should degree of fan matter? Recall that once a node is activated, the activation will spread from there, flowing through all the links radiating out from that node. In addition, it seems plausible that the quantity of activation is limited, so that each of the links only gets its "share" of the whole. (For simplicity's sake, let's assume that all of the links are equal in how effectively they carry the activation; the broad logic is the same if we don't make this assumption.) Therefore, if there are (say) just five links radiating out from AARDVARK, then each link will receive 20% of the total activation. The activation spreading outward from ROBIN, in contrast, will be much more thinly divided, and so each link will receive a smaller share of the total."

REISBERG, *supra* note 55, at 246.

[93] *See* Pullig et al., *supra* note 64, at 53 (citing Jacoby, *supra* note 84; J. Thomas McCarthy, *Dilution of a Trademark: European and United States Law Compared*, 94 TRADEMARK REP. 1163 (2004)) ("[L]egal scholars and public policy researchers suggest that dilution by blurring involves the formation of a shared brand knowledge network, in which knowledge about the senior and junior brands may compete for activation when a consumer thinks about the senior brand.").

[94] *See* Moseley v. V Secret Catalogue, Inc., 537 U.S. 418, 431 (2003); Louis Vuitton Malletier, S.A. v. My Other Bag, Inc., 156 F. Supp. 3d 425, 432 (S.D.N.Y.), *aff'd*, 674 F. App'x 16 (2d Cir. 2016).

[95] Wellnext LLC v. OVM LLC, No. 17-CV-62107, 2018 WL 7048129, at *4 (S.D. Fla. Feb. 16, 2018) (citing 15 U.S.C. § 1125(c)(2)(C)).

[96] Viacom Int'l Inc. v. Baca, No. CV 18-112 JCH/KRS, 2018 WL 6003539, at *4 (D.N.M. Nov. 15, 2018).

[97] *See* REISBERG, *supra* note 55, at 235-237. *See generally* Suneal Bedi & David Reibstein, *Measuring Trademark Dilution by Tarnishment*, 95 INDIANA L.J. 683 (2020) [hereinafter *Measuring Trademark Dilution*] (empirically showing how existing trademarks can become associated with new deviant nodes, thereby harming the senior mark's associations).

Recognition of the famous mark (i.e., activation of its node) begins activation of all associated nodes,[98] including the new connections to unsavory ideas. Sufficient activation of the famous trademark will thus trigger the original brand-enhancing attributes *plus the new negative associations*. Activation of the latter category undermines some of the value in the famous mark by decreasing a consumer's willingness to buy associated products. The following subparts describe the prior literature and its attempts to measure these harms experimentally.

C. Research on Mental Associations and Trademark

Future Parts describe our objective means of measuring trademark fame as a function of the strength of mental connections thereto. In order to situate our work in the literature, we review past research on the intersection of neuroscience, mental associations, and trademark law. On this point, the literature — both legal and marketing — describes several means of analyzing whether dilution harms valuable consumer associations to a mark.

In response to the Supreme Court's call for empirical evidence of actual dilution in a FTDA lawsuit,[99] Magid, et al. created an empirical framework.[100] Their methodology presented consumers of a senior brand with dilutive advertisements from a junior brand.[101] For example, users of Toyota cars would be shown advertisements for Toyota coffee mugs. Consistent with the above, creation of new connections between the trademark and the junior brand should impair activation of positive attributes associated with the senior car mark.[102] Their methodology proposed to test this theory by comparing the perceptions of the senior brand (e.g., positive or negative image) among groups viewing dilutive advertisements and a control group that viewed unrelated (non-dilutive) advertisements.[103] This approach facilitates identification of

[98] *See* Keller, *supra* note 57, at 2-3.

[99] *Moseley*, 537 U.S. at 434.

[100] Julie Manning Magid, Anthody D. Cox & Dena S. Cox, *Quantifying Brand Image: Empirical Evidence of Trademark Dilution*, 43 AM. BUS. L.J. 1, 35 (2006); *see also* Bedi & Reibstein, *Measuring Trademark Dilution*, *supra* note 97, at 706-21 (running empirical studies drawing upon the Magid et al. framework to actually test for potential tarnishing).

[101] *See* Magid et al., *supra* note 100, at 35.

[102] *See supra* Part II.B (discussing "fan theory" and how creating new associations make it harder for existing associations to fire).

[103] Magid et al., *supra* note 100, at 35-36.

actual dilution through variance in "perceptions of [subjects'] overall image" of the senior mark.[104]

Morrin and Jacoby employed an associative network theory-based approach in one of the few papers to conduct human experiments relating to dilution.[105] Their "product/recall" survey study exposed subjects to blurring or tarnishing media for three famous brands: Heineiken, Godiva, and Hyatt.[106] Participants were then subjected to computer testing to identify whether they were less accurate and slower to recognize connections between the senior mark and its primary subject matter.[107] Their hypothesis was that dilutive advertisement would inhibit the connection (and thus the recall) between the mark and product type.[108] The study found "recognition accuracy was significantly lower among subjects exposed to diluting advertisements," relative to those viewing non-dilutive or non-related advertisements.[109] They likewise observed a delay in identifying the connection between the mark and product for those viewing dilutive advertisements.[110] Both observations support the conclusion that dilutive advertising inhibited firing of previously existing associations to the famous mark, as discussed in Part II.C.[111]

In 2019, Beebe, et al. argued that Morrin and Jacoby's product/recall survey study included flaws associated with their control group.[112] Similar to Morrin and Jacoby, Beebe, et al. began by comparing two groups: one that viewed diluting advertisements for a luxury car brand (e.g., Mercedes) and one that saw non-diluting control advertisements.[113] These groups were then exposed to thirty pairs of words (e.g., "MERCEDES-cars"), and had to identify whether the pair

104 *Id.* at 35.

105 Maureen Morrin & Jacob Jacoby, *Trademark Dilution: Empirical Measures for an Elusive Concept*, 19 J. PUB. POL'Y & MARKETING 265, 267-68 (2000). Other studies within this general category include Hannelie Kruger & Christo Boshoff, *The Influence of Trademark Dilution on Brand Attitude: An Empirical Investigation*, 24 MGMT. DYNAMICS 50 (2015); Maureen Morrin, Jonathan Lee & Greg M. Allenby, *Determinants of Trademark Dilution*, 33 J. CONSUMER RES. 248 (2006).

106 Morrin & Jacoby, *supra* note 105, at 268.

107 *Id.* at 268-69.

108 *Id.* at 268.

109 *Id.* at 269.

110 *Id.* at 269-70. This difference was not, however, present relative to those receiving non-related advertisements. *Id.*

111 This research was furthered by Pullig et al., who studied dilution effects as a function of the relatedness of the senior and junior brands and associated products. Pullig et al., *supra* note 64, at 53-54.

112 Beebe et al., *supra* note 86, at 618.

113 *Id.* at 644.

matched (i.e., were associated with each other) or not.[114] Consistent with prior work using a product/recall approach, they observed evidence that response times for pairs including the subject brand were delayed for respondents who saw the diluting advertisement.[115]

Their research, however, found something unexpected: the response time for many *non-diluted* brand-attribute pairs was likewise elevated within the group seeing the diluting advertisements.[116] As expected, recognition of the diluted pair "MERCEDES-cars" was delayed within the group seeing the diluting ads.[117] Surprisingly, recognition of non-diluted brand pairs (e.g., "MCDONALD'S-hamburgers") was also inhibited within this group.[118] Dilution of one product's famous mark (e.g., MERCEDES) caused recall (i.e., recognition) delay for both the diluted pairs and non-diluted control pairs.

From this unexpected result, they hypothesized that the dilutive ads "distracted or surprised" respondents to the extent that their reactions to all brand pairs was delayed.[119] This would not be evidence of dilution.[120] Follow up experiments supported their conclusion that it was the surprise — not the dilutive nature of the advertisement — that increased response rates associated with the putatively diluted brand.[121] The researchers suggested that future measures of dilution using response-time data employ a control group who used surprising advertisements as a control.[122]

The current study expands upon the theory espoused in the above studies by using the product/recall survey approach in a distinct manner that avoids the criticisms presented by Beebe, et al. Instead of evaluating the effects of exposure to dilutive media, this study utilizes the underlying idea — stronger mental associations create faster and more

---

114 *Id.*

115 *Id.* Their tests found a delay in response (putatively indicating dilution) for Mercedes, but not for Infiniti. *Id.*

116 *Id.* at 644-45.

117 *Id.*

118 *Id.* at 645.

119 *Id.*

120 *See id.*

121 *See id.* at 654. In fact, the follow up experiment found no evidence of dilution within the variable group. *See id.* at 651. Alternatively, the researchers present the idea of "super-dilution", wherein the dilutive advertisement impairs recognition of *all* marks. *Id.* at 658. Under this interpretation, it would be "super-dilution", not merely an artifact of the surprise associated with a putatively dilutive advertisement that caused the delayed response. This issue need not be addressed in this Article, which focuses on the threshold issue of fame, as opposed to evidence associated with dilution itself.

122 *Id.* at 654.

accurate product/mark recognition — to identify marks with stronger associative qualities. This information is then utilized to objectively identify famous marks for purposes of anti-dilution's fame analysis. The following Part further sets the stage for this work by establishing why fame should be understood as a function of mental associations in the mind of the consuming public.

III. FAME AS A FUNCTION OF MENTAL ASSOCIATIONS

Analysis of anti-dilution statutes and relevant case law establishes that famous trademarks enjoy strong associations in the minds of consumers. Review of the Lanham Act through the lens of associative network theory finds the existence and strength of these associations to be primary to the fame determination. Beyond this statutory analysis, our conceptualization of fame is reinforced by fame's gatekeeping function for anti-dilution protection. Relevant law is intended to only protect particularly valuable (famous) trademarks,[123] and the marketing literature finds valuable marks to be those with strong mental connections in the mind of consumers. Accordingly, the threshold issue of fame should be assessed as a function of mental associations.

A. Statutory Analysis and Relevant Caselaw

The Lanham Act recognizes a trademark as famous if "it is widely recognized by the general consuming public of the United States as a designation of source of the goods."[124] According to associative network theory, consumer recognition requires a mental connection that is sufficiently well developed, such that exposure to the mark (i.e., activation of the mark's node) will likewise activate the trademark owner or product manufacturer's identity (associated nodes).[125] This statutory characterization of fame therefore presents it as a function of associations between the mark and the source of related goods.[126]

[123] The mark must also satisfy all other requirements to be a trademark (e.g., be source identifying).

[124] 15 U.S.C. § 1125(c)(2)(A) (2018).

[125] *See* Jacoby, *supra* note 84, at 1025-26; Hui Ju Wang & Shun Ching Horng, *Exploring Green Brand Associations Through a Network Analysis Approach*, 33 PSYCHOL. & MARKETING 20, 20-22 (2016) ("In the research on brand association management, the actors of the network usually represent brand names or brand associations (constructs), and the ties represent the existence of associations/relationships among them.").

[126] Trademark rights can exist if the consumer has a mental connection to a singular source/producer of particular goods, even if they are not aware of the name of that party. *See* Warner Bros, Inc. v. Gay Toys, Inc., 553 F. Supp. 1018, 1019 n.4 (S.D.N.Y. 1983);

Recognition of the associative nature of fame does not, however, stop with the statute's general description of the standard.

The law additionally provides a non-exclusive list of four factors meant to serve as proxies for fame.[127] Per the Lanham act, courts should consider "[t]he duration, extent, and geographic reach of advertising and publicity of the mark."[128] Advertising is, at its core, an attempt to create or alter associations to a brand or mark in the consumer's mind.[129] Each exposure to an advertisement "can contribute to brand associations through its ability to create, modify or reinforce associations."[130] Accordingly, the more money spent on advertisements, "the stronger and more numerous will be the associations in the consumer's mind."[131]

A second consideration is "[t]he amount, volume, and geographic extent of sales of goods or services offered under the mark."[132] This metric is again probative of mental associations to a subject mark in the mind of consumers.[133] Marketers attempt to bring about "changes in the nature and strength of brand associations [which in turn effect] changes in consumer behavior," including increased sales.[134] High sales will thus largely correlate with positive associations in consumers' minds. Again,

Alexandra J. Roberts, *Trademark Failure to Function*, 104 IOWA L. REV. 1977, 1995 (2019).

[127] *See* Leah Chan Grinvald, *Contracting Trademark Fame?*, 47 LOY. U. CHI. L.J. 1291, 1296 (2015) (citations omitted).

[128] 15 U.S.C. § 1125(c)(2)(A)(i).

[129] *See* Zatarains, Inc. v. Oak Grove Smokehouse, Inc., 698 F.2d 786, 795 (5th Cir. 1983), *abrogated on other grounds*, KP Permanent Make-Up, Inc. v. Lasting Impression I, Inc., 543 U.S. 111 (2004) (speaking to the related doctrine of secondary meaning in trademark law); James Robert Hughes, *The Federal Trademark Dilution Act of 1995 and the Evolution of the Dilution Doctrine–Is It Truly A Rational Basis for the Protection of Trademarks?*, 1998 DET. C.L. REV. 759, 775 (1998); *see, e.g.*, Milwaukee Elec. Tool Corp. v. Robert Bosch Tool Corp., No. 05 C 1171, 2007 WL 2875232, at *1 (N.D. Ill. Sept. 28, 2007) (providing an example of a brand that has attempted to create positive associations with its brand through advertising).

[130] Isabel Buil, Leslie de Chernatony & Eva Martínez, *Examining the Role of Advertising and Sales Promotions in Brand Equity Creation*, 66 J. BUS. RES. 115, 117 (2013) (citing Rafael Bravo Gil, Elena Fraj Andrés & Eva Martínez Salinas, *Family as a Source of Consumer-Based Brand Equity*, 16 J. PRODUCT & BRAND MGMT. 188 (2007)).

[131] *Id.* (citing Rafael Bravo Gil, Elena Fraj Andrés & Eva Martínez Salinas, *Family as a Source of Consumer-Based Brand Equity*, 16 J. PRODUCT & BRAND MGMT. 188 (2007)).

[132] 15 U.S.C. § 1125(c)(2)(A)(ii).

[133] *See* Jeremy N. Sheff, *The (Boundedly) Rational Basis of Trademark Liability*, 15 TEX. INTELL. PROP. L.J. 331, 354-55 (2007).

[134] Jenni Romaniuk & Magda Nenycz-Thiel, *Behavioral Brand Loyalty and Consumer Brand Associations*, 66 J. BUS. RES. 67, 68 (2013).

this consideration presents a proxy for the strength of mental associations within the consuming public.

Third, the "extent of actual recognition of the mark" analyzes the pervasiveness and strength of mental connections between the mark and associated goods.[135] In addressing this consideration, courts initially look to what percent of the population associates the mark with the relevant firm or goods.[136] Beyond this obvious quantitative analysis of brand recognition, they also review the pervasiveness of consumer exposure to a mark,[137] which serves as a proxy for the *strength* of mental associations.

On this point, one district court analyzed recognition of the Jack Daniel's mark.[138] Its inquiry began by simply looking to the percentage of consumers that recognized the mark.[139] The judge then evaluated how long the mark was used in commerce, its presence in media, and the mark's online footprint.[140] These factors speak to repeated exposures, which facilitates mark recognition and strengthens mental connections between the mark and firm.[141] This analysis therefore embodies a two-pronged evaluation of mental connections to a mark comprising: (1) whether associations exists between the mark and the firm, and (2) how strong are associations to the mark. This consideration again serves as a proxy for mental associations in the consumer's mind.

The final factor asks if the mark was registered on the Trademark Office's principal register.[142] This consideration evaluates whether "the inherent and acquired distinctiveness criteria for registration" have been satisfied.[143] The distinctiveness requirement for registration mandates that a trademark be source-identifying, meaning that the

---

[135] *See* 15 U.S.C. § 1125(c)(2)(A) ("[A] mark is famous if it is widely recognized by the general consuming public of the United States as a designation of source of the goods or services of the mark's owner.").

[136] For instance, Jack Daniels enjoys approximately 98% recognition, as shown through "[a]ided brand awareness [which] measures the number of people who express knowledge of a brand or product when prompted." VIP Prods., LLC v. Jack Daniel's Props., Inc., 291 F. Supp. 3d 891, 901 n.1 (D. Ariz. 2018).

[137] *See id.* at 900-01.

[138] *Id.*

[139] *See id.* at 901.

[140] *Id.* at 900-01.

[141] Romaniuk & Sharp, *supra* note 58, at 329.

[142] 15 U.S.C. § 1125(c)(2)(a)(iv) (2018).

[143] Sheff, *supra* note 133, at 355; *see* 15 U.S.C. § 1052(e)-(f) (2018).

consuming public must associate the mark with a particular producer.[144] Again, fame is a function of mental associations.

Building from this, courts recognize substantial associations in the mind of consumers as the hallmark of fame.[145] On this point, the Southern District of New York recently noted anti-dilution laws are intended to protect "association[s] between a product or service and its corresponding quality, brand reputation, or origin."[146] The Western District of Texas directly tied mental associations to the fame threshold, stating that only marks with "powerful consumer associations" are famous.[147] The Northern District of California echoed this sentiment, holding that: "In order to qualify as 'famous,' the asserted mark must have such powerful consumer associations that even non-competing uses can impinge on their value."[148]

The Ninth Circuit reached similar conclusions. In *Thane International v. Trek Bicycle*, it analyzed the goals of anti-dilution protection, concluding that it is intended to protect the accrued "goodwill and positive associations that a famous mark has developed over the years."[149] The appellate court directly connected this value to the fame threshold, noting that "[w]here there has been no successful, long-term development of goodwill . . . , asserting fame . . . is simply inconsistent with the purpose of the antidilution protection."[150] Restated, the court

---

144 Eldon Indus., Inc. v. Rubbermaid, Inc., 735 F. Supp. 786, 815-16 (N.D. Ill. 1990).

145 *See* Louis Vuitton Malletier, S.A. v. My Other Bag, Inc., 156 F. Supp. 3d 425, 433 (S.D.N.Y.), *aff'd*, 674 F. App'x 16 (2d Cir. 2016); Avery Dennison Corp. v. Sumpton, 189 F.3d 868, 874 (9th Cir. 1999); Ameritech, Inc. v. Am. Info. Techs. Corp., 811 F.2d 960, 965 (6th Cir. 1987); Reed Elsevier, Inc. v. TheLaw.net Corp., 269 F. Supp. 2d 942, 952 (S.D. Ohio 2003); Abbott Labs. v. NutraMax Prods., Inc., 844 F. Supp. 443, 445-46 (N.D. Ill. 1994); Wedgwood Homes, Inc. v. Lund, 294 Or. 493, 503 (1983) (describing "favorable associational value" as a requirement to state anti-dilution protection).

146 *Louis Vuitton Malletier*, 156 F. Supp. 3d at 432 (citing 1A LINDEY ON ENTERTAINMENT, PUBLISHING AND THE ARTS § 2:52.50 (3d ed. 2016)).

147 Icon Health & Fitness, Inc. v. Kelley, No. 1:17-CV-356, 2017 WL 6610085, at *3 (W.D. Tex. Dec. 27, 2017), *report and recommendation adopted*, No. 1:17-CV-356-LY, 2018 WL 1203465 (W.D. Tex. Jan. 11, 2018) (citing Bd. of Regents, Univ. of Tex. Sys. v. KST Elec., Ltd., 550 F. Supp. 2d 657, 674 (W.D. Tex. 2008)); *see also Avery Dennison Corp.*, 189 F.3d at 875; Pinterest, Inc. v. Pintrips, Inc., 140 F. Supp. 3d 997, 1033 (N.D. Cal. 2015); Firefly Digital Inc. v. Google Inc., 817 F. Supp. 2d 846, 866-67 (W.D. La. 2011).

148 *Pinterest*, 140 F. Supp. 3d at 1033 (internal quotation marks omitted) (quoting *Avery Dennison Corp.*, 189 F.3d at 875).

149 Thane Int'l, Inc. v. Trek Bicycle Corp., 305 F.3d 894, 909 (9th Cir. 2002).

150 *Id.* (omissions made to remove now-superfluous language associated with "niche fame").

found fame to be a function of goodwill and the mental associations that comprise goodwill.

Pre-FTDA state law cases are consistent. Addressing potential dilution of the *Toys 'R' Us* brand, the Eastern District of New York recognized that the toy store's trademark had "become so associated in the public mind with its stores and goods" that anti-dilution protection was appropriate.[151] The court accordingly acknowledged the necessity of precluding dilution of the brand's favorable associations (e.g., the store's style, reasonable pricing, and variety of toys for sale), even in the absence of confusion.[152]

B. Fame and Sufficient Value to Recognize a Legal Injury

Evaluation of fame's threshold[153] position in the anti-dilution analysis reinforces the characterization of fame as a function of consumer mental associations. Anti-dilution laws are intended to prevent damage to the value of a famous mark — in contrast to consumer efficiency rationales associated with standard infringement.[154] Recognizing this goal, fame's threshold is best understood as ascertaining whether a particular mark is sufficiently valuable to suffer a legally cognizable injury via dilution.[155] A non-famous and not valuable trademark need not fall

---

[151] Toys "R" Us, Inc. v. Canarsie Kiddie Shop, Inc., 559 F. Supp. 1189, 1207 (E.D.N.Y. 1983) (quoting Truck Equip. Serv. Co. v. Fruehauf Corp., 536 F.2d 1210, 1219 (8th Cir. 1976)).

[152] *Id.*

[153] *See* Paleteria La Michoacana, Inc. v. Productos Lacteos Tocumbo S.A. De C.V., 69 F. Supp. 3d 175, 220 (D.D.C. 2014); Navajo Nation v. Urban Outfitters, Inc., No. 12-195 BB/LAM, 2016 WL 3475342, at *3 (D.N.M. May 13, 2016); Int'l Info. Sys. Sec. Certification Consortium, Inc. v. Sec. Univ., LLC, No. 3:10-CV-01238, 2014 WL 3891287, at *9 (D. Conn. Aug. 7, 2014), *aff'd in part*, *vacated in part*, *remanded*, 823 F.3d 153 (2d Cir. 2016) (citing Starbucks Corp. v. Wolfe's Borough Coffee, Inc., 588 F.3d 97, 105 (2d Cir. 2009)) ("The fame of a plaintiff's mark is a threshold requirement for finding dilution under either a blurring or tarnishment theory.").

[154] M. Christopher Bolen, Richard J. Caira, Jr. & Jason S. Wood, *When Scandal Becomes Vogue: The Registrability of Sexual References in Trademarks and Protection of Trademarks from Tarnishment in Sexual Contexts*, 39 IDEA 435, 453 (1999) (citing 3 J. THOMAS MCCARTHY, MCCARTHY ON TRADEMARKS AND UNFAIR COMPETITION § 24:70, at 24-117 (rel. no. 8, Dec. 1998)). *See generally* Chrysler Corp. v. Vanzant, No. 93-56219, 1997 U.S. App. LEXIS 22860 (9th Cir. Aug. 28, 1997) (speaking to a state anti-dilution statute); Eastman Kodak Co. v. D.B. Rakow, 739 F. Supp. 116 (W.D.N.Y. 1989) (providing background on state anti-dilution statutes).

[155] *See* Michael Handler, *What Can Harm the Reputation of a Trademark? A Critical Re-Evaluation of Dilution by Tarnishment*, 106 TRADEMARK REP. 639, 664-68 (2016) (noting that in the United States, courts "have tended to apply a highly reductive notion of 'reputation' that is ultimately closer to one of 'positive brand identity[.'] Such an

under the purview of anti-dilution laws, which are meant to protect only particularly valuable marks. Indeed, Handler recently argued that the fame threshold is a simple proxy for brand identity and value.[156]

The question then turns on how to identify marks that are sufficiently valuable to warrant anti-dilution protection. As discussed below, trademark value originates from consumers' mental associations.[157] These associations facilitate the triggering of consumer responses,[158] which in turn influence commercial behavior and create value.[159] Both the marketing and legal literature are instructive on how brand equity and trademark value are established and maintained.

Keller describes brand equity as comprising both "awareness of the brand (in terms of brand recall and recognition) and the favorability, strength, and uniqueness of the brand associations in consumer memory."[160] Restated, trademark and brand equity are a function of mark recognition (associations between a mark and a firm) and the attributes consumers relate to the brand (associations between a mark and non-source identifying characteristics). These attributes fall into three categories of mental associations: characteristics of products sold, benefits to the consumer from product use, and overall attitudes towards the brand.[161] The literature expounds upon these categories of valuable mental associations.

Magid, et al. initially provide specific examples of associations with positive attributes that bring about brand equity.[162] For instance, if a mark is mentally connected with positive utilitarian attributes — such

approach has arguably been fortified by the existence of the 'fame' threshold, which allows certain assumptions to be made about the value of those marks").

156 *Id.* at 668-71. It should be noted that Handler argues the harm via tarnishment evaluation should look to the broader concept of "reputation," and not solely to brand identity.

157 *See* Keller, *supra* note 57, at 1 ("Customer-based brand equity occurs when the consumer is familiar with the brand and holds some favorable, strong, and unique brand associations in memory.").

158 *See* AAKER, *supra* note 80, at 15-16; Magid et al., *supra* note 100, at 30-31.

159 Keller, *supra* note 57, at 1; *see also* Pullig et al., *supra* note 64, at 53.

160 Keller, *supra* note 57, at 3; *see also* Steve Hartman, *Brand Equity Impairment - The Meaning of Dilution*, 87 TRADEMARK REP. 418, 428 (1997) [hereinafter *Brand Equity Impairment*] ("A trademark comes to identify and distinguish a product or service when the trademark has been imbued with a set of marketing values, associations and imagery — i.e., a commercial identity, or brand equity.").

161 Keller, *supra* note 57, at 4. Keller explains how these associations are cognitively linked to the brand in the mind of the consumer using associative network theory, see *id.* at 3-4, a topic fully discussed in Part II *supra*.

162 Magid et al., *supra* note 100, at 30 (citing DAVID A. AAKER, BUILDING STRONG BRANDS 7-8 (1996)).

as being "high-quality" — brand value increases.[163] These beneficial associations effect brand loyalty, which minimizes the need to engage in advertising to maintain sales and charge elevated rates for its goods.[164]

The same paper likewise addresses benefits to consumers engaging in conspicuous use of a particular brand.[165] For example, particular segments of the consuming public (e.g., adolescents) associate a particular brand of clothing with desirable social attributes and therefore are willing to pay a premium to wear that clothing.[166] This competitive advantage for popular or trendy brands is distinct from value created by positive associations about the *actual* attributes of products sold under a particular mark.

Lastly, Hartman discusses how firms cultivate individualized identities in the eyes of consumers — similar to a human's personality.[167] These distinct personas differentiate the company and its products from competitors.[168] Hartman cites Marlboro as a perceived "masculine" trademark and firm, which implies that its consumers enjoy the putatively positive attribute of being particularly masculine smokers.[169] This is an example of how overall attitudes towards a brand can differentiate it and create a competitive advantage.

The above examples exemplify *types* of beneficial associations which may comprise value and fame. The following describes potential *mechanisms* underlying dilutive injury to a famous mark. Analysis of association-harming mechanisms is consistent with Beebe et al., who assert that dilutive harm occurs where a junior mark undermines "the strength of preexisting associations between the senior mark and the qualities or attributes to which it is linked."[170]

Associations that are inconsistent with a cultivated brand can be harmful. Marlboro presents a potential mechanism for this type of dilutive injury — even absent consumer confusion. Recognizing the cultivated masculine identity of the Marlboro mark, source confusion is unlikely if an unrelated junior firm used the mark to sell feminine goods

163 *Id.*

164 *Id.* at 31 (citing Frederick F. Reichheld, *Loyalty-Based Management*, 71 HARV. BUS. REV. 64 (1993)).

165 *Id.* at 9 (citing Subodh Bhat & Srinivas Reddy, *Symbolic and Functional Positioning of Brands*, 15 J. CONSUMER MARKETING 33, 33-34 (1998)).

166 *Id.* at 9, 30.

167 Hartman, *Brand Equity Impairment*, *supra* note 160, at 420, 428.

168 *See id.* at 428.

169 *Id.* at 421.

170 Beebe et al., *supra* note 86, at 617 (emphasis omitted).

such as stockings or purses.[171] Accordingly, no cause of action for infringement would accrue. The junior use would, however, create feminine associations to Marlboro. This in turn would diminish the valuable, masculine identity cultivated by the tobacco company, which dilutes the value of mark.[172]

Staffin presents a second distinct mechanism for dilutive harm.[173] He recognizes that valuable "unconscious associations" exist for famous marks and describes how negative experiences with a junior brand can undermine the senior mark's positive associations.[174] In the presence of unauthorized, non-confusing uses of a famous mark, consumers may unconsciously attribute the senior mark's positive associations to the unrelated goods.[175] These misplaced positive associations may bring about purchases of the junior good.[176] Should the consumer be disappointed by these purchases, the positive associations with the senior mark may be joined or eclipsed by new negative associations caused by the unauthorized junior use.[177]

As an example of this mechanism, positive associations with Heineken beer might subconsciously influence someone to purchase an

---

171 *See* Hartman, *Brand Equity Impairment*, *supra* note 160, at 421.

172 Notably, the devaluation to the brand is undercutting the cultivated brand identity. There is, of course, no inherent devaluation associated with a feminine product identity.

173 *See* Elliot B. Staffin, *The Dilution Doctrine: Towards a Reconciliation with the Lanham Act*, 6 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 105, 157 (1995).

174 *See id.* at 157-58.

175 *Id.* at 157; *see also* Steven H. Hartman, *Subliminal Confusion: The Misappropriation of Advertising Value*, 78 TRADEMARK REP. 506, 508-10 (1988) [hereinafter *Subliminal Confusion*]; Wallace, *supra* note 28, at 975-76 ("A consumer may purchase a Kodax bicycle because he consciously believes that Kodak is affiliated with the bicycle (which would give rise to an infringement claim) or a consumer may purchase the bike because he unconsciously associates the mark with superior quality (which implicates dilution).").

176 Staffin, *supra* note 173, at 157; *see also* Hartman, *Subliminal Confusion*, *supra* note 175, at 508-10; Wallace, *supra* note 28, at 975-76.

177 Hormel Foods Corp. v. Jim Henson Prods., Inc., 73 F.3d 497, 507 (2d Cir. 1996) ("A trademark may be tarnished when it is 'linked to products of shoddy quality, or is portrayed in an unwholesome or unsavory context,' with the result that 'the public will associate the lack of quality or lack of prestige in the defendant's goods with the plaintiff's unrelated goods.'" (quoting Deere & Co. v. MTD Prods., Inc., 41 F.3d 39, 43 (2d Cir. 1994))); Staffin, *supra* note 173, at 157-58 ("If a consumer continues to have negative experiences with non-competing goods bearing the senior holder's mark, it is plausible that the negative associations, conscious or unconscious, which the mark now triggers with residual positive ones, could well preclude the consumer from purchasing a consumer electronics product from [the senior party.]"); *see* RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 25 cmt. f (AM. LAW INST. 1995); Wallace, *supra* note 28, at 975-76.

unrelated Heineken piano, despite knowing they are distinct companies. Should they find the piano be of low quality, they may create negative associations to the word Heineken. These new negative associations will now activate alongside the prior positive associations (e.g., high-quality) when the individual thinks of Heineken. This is another example of how a senior mark is harmed despite the absence of consumer confusion.

These dilutive mechanisms can only occur where the senior mark enjoys sufficient value (i.e., mental association) to suffer a cognizable legal harm. Absent a requisite level of value, there is nothing to be harmed via dilution. That minimum value is embodied in the fame requirement. Threshold inquires of this nature have, by analogy, been recognized elsewhere in trademark law.

Initial protection under the Lanham Act can be secured if a mark has *secondary meaning*.[178] That doctrine — also called acquired distinctiveness — necessitates a mark's owner establish that the consuming public associate the mark with a particular producer.[179] Absent this association, no harm could befall that party (e.g., lost sales or harm to reputation) through the unauthorized use of its mark, because there is no goodwill that could be injured.[180] To this point,

[178] Protection can likewise be secured by establishing that the mark is inherently distinctive, which is evidence of some value, similar to secondary meaning. *See* Diana Elzey Pinover, *Aesthetic Functionality: The Need for a Foreclosure of Competition*, 83 TRADEMARK REP. 571, 604 n.145 (1993).

[179] *See* Eldon Indus., Inc. v. Rubbermaid, Inc., 735 F. Supp. 786, 815 (N.D. Ill. 1990).

[180] *See* Rebecca Tushnet, *Registering Disagreement: Registration in Modern American Trademark Law*, 130 HARV. L. REV. 867, 936-37 (2017). While the analogy is clear, fame's divergence from the doctrine of acquired distinctiveness is worth noting. Acquired distinctiveness is a function of the mark's secondary meaning — consumer recognition that the mark is indicative of production by a particular firm. Abercrombie & Fitch Stores, Inc. v. Am. Eagle Outfitters, Inc., 280 F.3d 619, 635 (6th Cir. 2002). As such, the association at issue is exclusively between the mark and the manufacturer. In contrast, fame is a function of *all* associations connected to the mark. At minimum, the facts necessary to establish acquired distinctiveness are a subset of those that could prove a mark to be famous. *See* RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 25 cmt. e (AM. LAW INST. 1995) (recognizing that a showing of acquired distinctiveness is germane to establishing fame). Even recognizing this distinction, fame and acquired distinctiveness can both be characterized as presenting an associative threshold that must be satisfied for a legally recognizable harm to occur. Restated, absent significant cognitive associations with a mark, no injury can take place via dilution (or via standard trademark infringement, apropos acquired distinctiveness), and no cause of action will accrue.

courts recognize secondary meaning as being analogous to "[c]ommercial strength."[181]

With this in mind, fame is properly understood as a function of mental associations to a mark, which are indicative of brand equity and trademark value. The next Part presents evidence that neuroscience and associative network theory can be used to quantify mental connections to a trademark. That evidence will, in turn, be used to support our proposal for an objective method of identifying famous trademarks.

IV. EMPIRICAL STUDIES

A. Overview of Studies

As described above, we provide a psychological definition of trademark fame rooted in both marketing and neuroscience theories. Once a settled definition is agreed upon, it is important to show that there exist methods to directly measure the construct "trademark fame." Thankfully, marketing scholarship and, to some degree, legal research have validated the product/recall survey method as a reliable manner to measure the speed at which consumers match brands (trademarks) and their respective products/services.

The method is quite simple and largely follows the above-discussed Meyer and Schvaneveldt study.[182] It measures how quickly respondents can accurately correlate a brand (trademark) and the products or services that brand produces. For example, how quickly can consumers accurately recognize that Budweiser produces beer? Remember, as argued above, this speed is a direct measure of how strong the connection between Budweiser and beer is. The stronger the association, the more quickly individuals should be able to make the match. Therefore, the more quickly consumers correctly match the trademark to the product, the more famous (readily accessible) the trademark is in their minds.

More specifically, the survey method shows respondents various sets of brands and products and has consumers press either a "match" button or a "mismatch" button on a keyboard or computer screen. A computer program then keeps track of the time it takes for a respondent to press the match or mismatch button. This allows researchers to see not only whether consumers matched a trademark and a product

[181] Hornady Mfg. Co. v. Doubletap, Inc., 746 F.3d 995, 1007-08 (10th Cir. 2014) (citing Water Pik, Inc. v. Med-Sys., Inc., 726 F.3d 1136, 1154 (10th Cir. 2013); King of the Mountain Sports, Inc. v. Chrysler Corp., 185 F.3d 1084, 1093 (10th Cir. 1999)).

[182] *See supra* notes 66–68 and accompanying text.

correctly but also how quickly they did so. We explain the details of how we employed the method and the kinds of stimuli we used further below.

A number of marketing works employed the product/brand recall method.[183] We discuss a subset of those articles that implicate trademark jurisprudence here. Several articles used brand recall methods to better understand trademark dilution by blurring.[184] These studies utilized experimental surveys to explore how consumers matched famous brands with their products in the presence of diluting marks.[185]

As discussed above, Morrin and Jacoby exposed subjects to diluting media for three famous brands and then measured response time and accuracy in associating a mark and its field.[186] Pullig et al. likewise used product/recall surveys to show that consumers were slower in matching existing marks with their respective products after being shown the same marks with new (unanticipated) products.[187] For example, the paper showed that consumers were slower to match the brand "Big Red" to "chewing gum" when they saw an advertisement for a "Big Red Snack Bar" in comparison to not seeing the advertisement.[188]

We found only one law review article that used the method prescribed here. The previously discussed Beebe et al. attempted to replicate the findings of both Pullig et al. and Morrin with regard to dilution by blurring.[189] Their results questioned whether the product/recall task —

[183] *See, e.g.*, J. Wesley Hutchinson, Kalyan Raman & Murali K. Mantrala, *Finding Choice Alternatives in Memory: Probability Models of Brand Name Recall*, 31 J. MARKETING RES. 441, 441 (1994) (delineating a probabilistic model of how consumers recall brand names and testing it); Ruth Rettie, Ursula Grandcolas & Bethan Deakins, *Text Message Advertising: Response Rates and Branding Effects*, 13 J. TARGETING MEASUREMENT & ANALYSIS FOR MARKETING 304, 307 (2005) (showing that product/brand recall is surprisingly good in text message advertising); Eric Van Steenburg, *Consumer Recall of Brand Versus Product Banner Ads*, 21 J. PRODUCT & BRAND MGMT. 452 (2012) (showing that online banner ads provide for good product/brand recall).

[184] *E.g.*, Morrin et al., *supra* note 105, at 251; Morrin & Jacoby, *supra* note 105, at 268; Pullig et al., *supra* note 64, at 52.

[185] *See supra* note 184.

[186] *See* Morrin & Jacoby, *supra* note 105, at 268-69.

[187] Pullig et al. presented respondents with advertisements of diluting marks and then had respondents match the famous mark with its product. Those respondents who saw diluting advertisements were slower to match the famous mark with its product. *See* Pullig et al., *supra* note 64, at 60. This presumably occurred because the associative network for the famous mark had changed as another product was introduced as a connecting node to the trademark.

[188] *See id.* at 57-58.

[189] *See* Beebe et al., *supra* note 86, at 641-42.

as commonly employed — is a good measure of trademark dilution by blurring. While this raises some concerns about the use of product/recall studies for measuring dilution, it does not necessarily indicate that method cannot measure fame.[190] This conclusion is warranted in light of differences between the prior work and our research.

All of the earlier studies use what is called a "*between subjects*"[191] experimental design.[192] That is, one group of respondents sees diluting marks/advertising and another separate group receives non-diluting input. Both groups then partake in the product/recall task. The speed of their recalls are compared to see if they differ. The comparison occurs between each group's responses to one or a few focal brands at issue. Beebe et al. argued that the dilutive stimuli influenced *all* responses from the variable group, such that it could not be compared to control subjects.[193] The current work avoids this problem.

Our studies similarly employ the product/recall method, but we do not use a between-subjects experimental design. Instead, all respondents are given the same exact survey, and we simply compare the recall times across individuals, a within-subjects comparison, for several famous and non-famous brands. We do not have more than one condition because our goal is not to measure dilution in this context.

That is, we have only one condition of respondents who see various pairs of brands and products and then are asked whether each presented brand produces or is associated with the products next to it. This is done over several brands/product pairs and across many respondents. We then aggregate these responses and report the mean and median of each of the brand/products. This final aggregation is a measure of fame,

---

[190] First, their study had at least one problem. While the study did not find statistically significant changes in product recall, this does not mean that dilution by blurring does not happen — only that they were not able to find it. Interestingly, they only used one exposure of a diluting mark. Had they used many exposures, they may have seen a larger effect on the target trademark. Second, it may be that speed of recall is a good measure of fame, but it is simply not capturing what is happening when trademarks get diluted (e.g., it is not quite fame that is being weakened, but some other construct). Even if fame is being weakened, it may be that decreases in product recall is the right method to measure dilution, but the stimuli used just do not effectively produce dilution.

[191] This is opposed to a "within subject" experimental design. For a discussion of the pros/cons of using these different designs, see Gary Charness, Uri Gneezy & Michael A. Kuhn, *Experimental Methods: Between-Subject and Within-Subject Design*, 81 J. ECON. BEHAV. & ORG. 1 (2011).

[192] *See generally* Beebe et al., *supra* note 86; Morrin et al., *supra* note 105; Morrin & Jacoby, *supra* note 105.

[193] *See* Beebe et al., *supra* note 86, at 618.

because it measures the speed of which consumers, writ large, can correctly match a brand (trademark) and its products.

What follows is a detailed description of each of the product/recall surveys we ran and our results. Study 1 and Study 2 are meant to be pretests and indicators of reliability of the method. Study 3 is our main contribution which uses brands from previous court cases and discusses how our method shows that courts employing the present, largely subject standard have sometimes gotten the fame designation incorrect.

B. Study 1A

Stimuli - In our first study, we tested the product/recall method on a set of very common trademarks (beers). We note that beer brands have been the subject of much litigation, particularly around whether or not a beer brand is famous for trademark protection purposes.[194] As such, it was recognized as a reasonable first category to study.

We chose six target beers brands (Budweiser, Busch, Heavyweight, Heineken, Abita, and Michelob). These six were utilized as they represent a wide range of awareness (a spectrum on which fame lies). We hypothesized that based upon revenue, distribution, and marketing spend,[195] Budweiser and Heineken were famous (and therefore would likely have quick recall times), while Abita and Heavyweight were less famous (and therefore would likely have slower recall times). Michelob and Busch were expected to be moderately well-known with recall times falling in the middle.

To create the stimuli, we used Qualtrics — an online survey platform that allows researchers to quickly and easily design surveys.[196]

---

[194] *See, e.g.*, Alamo Brewing Co., LLC v. Old 300 Brewing, LLC, No. SA-14-CA-285, 2014 WL 12876370, at *2 (W.D. Tex. May 21, 2014) (demonstrating trademark litigation involving a beer brand); Anheuser-Busch, Inc. v. VIP Prods., LLC, No. 4:08cv0358, 2008 WL 4717058, at *1 (E.D. Mo. Oct. 22, 2008) (same); Anheuser-Busch, Inc. v. Caught-on-Bleu, Inc., 288 F. Supp. 2d 105, 123 (D.N.H. 2003), *aff'd*, No. 03-2549, 2004 WL 1718357 (1st Cir. Aug. 2, 2004) (same); Bavarian Brewing Co. v. Anheuser-Busch, Inc., 150 F. Supp. 210, 213 (S.D. Ohio 1957), *aff'd*, 264 F.2d 88 (6th Cir. 1959) (same).

[195] We researched each company's revenues and distributions based upon publicly available financial documents. Each public company's Form 10-Ks are available at the SEC's Edgar database. *See Company and Person Lookup*, U.S. SEC. & EXCHANGE COMMISSION (last visited July 7, 2020), https://www.sec.gov/edgar/searchedgar/companysearch.html [https://perma.cc/EW69-ZZSC].

[196] For a discussion of how the Qualtrics software can be used for timing questions, see generally Jonathan S. Barnhoorn, Erwin Haasnoot, Bruno R. Bocanegra & Henk van Steenbergen, *QRTEngine: An Easy Solution for Running Online Reaction Time Experiments Using Qualtrics*, 47 BEHAV. RES. 918 (2015).

Respondents were presented with forty brands and products. Each question displayed a brand/product pair that had to be identified as "related" or "not related." We simply wrote in block format both the brand name and the product. Below is a sample of what our stimuli looked like for each brand/product relationship.

For the six beer brands that we were interested in studying, we always correctly matched the beer to the brand. For example, "Budweiser" always appeared next to "Beer". For the other thirty-six questions we varied the accuracy of the product to the brand. Some were correctly matched, and others were incorrectly matched.[197]

It is important to note that our stimuli took the form of "Brand — Product" rather than "Product — Brand." In Study 1B below we replicate our Study 1A except use the "Product — Brand" format. The differences in our results are discussed below.

After creating the stimuli, we asked our respondents whether or not the brand produced the product that appeared next to it. Below we described in further detail the procedure of the survey instrument.

Procedure - When respondents began the survey, they were asked to read a summary of their task and to provide consent.[198] The participants were told that they would see forty brand/product pairs and would be asked to indicate whether or not the brand produced the type of product that appeared to next it. In order to indicate a "yes" or "no" for the pair,

[197] We included several other non-target brand/products because we wanted to see how quickly people matched beer brands with the product category beer. Therefore, in our stimuli for each of the beer brands, the match we created was "true" — the beer brand appeared next to the word "beer." In order to prevent respondents from quickly saying that every matched pair was "true," we had to include some clearly false matches and some difficult matches. These false and more obscure matched pairs made up the remaining thirty-six remaining brands.

[198] Receiving consent is an important part of any human behavior survey. We thank the Institutional Review Board of Oklahoma State University for feedback in appropriately crafting our consent and summary.

we asked the respondents to press one of two letters on their keyboards: "F" for "Yes" and "J" for "No."[199]

Before we showed respondents the forty pairs, we created three practice problems where they could get a better sense of the task. These preliminaries were not included in our results and had a mix of "yes" and "no" responses so that respondents could practice pressing both the "F" and "J" keys. All respondents were required to go through the three introductory pairs and respond to them.

Once they completed their practice exercises, we presented respondents with forty brand/product pairs. Remember six of the forty were beer brands (trademarks) that we were interested in studying. We randomized the forty pairs to prevent any order effects in our results. After respondents completed the forty pairs, they were asked some demographic questions including their age, gender, income bracket, and location.[200]

Sample - For all studies we used participants on Amazon Mechanical Turk. This is an online platform that allows researchers to launch surveys quickly and easily. Participants on the platform are compensated for completing surveys; we paid each respondent a market-rate of $1 for our ten-minute survey. Although Amazon Mechanical Turk has received some criticism, hundreds of peer-

[199] These are the keys upon which the index fingers rest in common typing. Before the survey we made sure that respondents only used a computer with a keyboard, rather than a phone, or tablet, so that the response format was consistent across our studies and our respondents. It might be argued that having a "yes" being pressed by a left finger and a "no" being pressed by a right finger may biased our results. This, however, is not the case. Although those who are left handed may be more quick at pressing the left "yes" than those that are right handed, and those that are right handed may be more quick at pressing the right "no," across respondents and across the forty brand/products, this should make no difference in our results. This is because first, a small percentage of the population is left-handed; therefore, it is likely that a small percentage of our sample was left-handed. Second, even if we had several left-handed respondents, we note that their responses may be quicker than right-handed respondents. However, because we are averaging across all respondents, we have no reason to think that heterogeneity in reflexes has any bearing on our results. Another way to put this is that unless those with quicker reflexes (e.g., those left-handed respondents pressing "yes") systematically knew more/fewer brands than those with slower reflexes, there should be no problem with variances in reflexes.

[200] When we broke down our results via demographic factors, we did not see much heterogeneity. For example, for some beers, males were on average quicker to correctly identify the brand with the product category while for others, women were quicker. These speeds were not significantly different from each other; as such, we do not break our results down by gender.

reviewed empirical studies used the platform[201] and established it to be reliable.[202]

In recruiting our sample, we limited our demographics to those over the age of twenty-one (given that we were asking about beer brands) and living in the United States.

We recruited 719 respondents for this study.[203] The average age was between thirty-five and forty, and the sample was 46% female.

Results - Once we collected the data from our respondents, we cleaned it to calculate important metrics. This process required several decisions. First, we did not include incorrect responses in our recall-times records. The product/recall measure should represent how quickly respondents correctly match a brand with its products. Therefore, we discarded incorrect responses.[204]

Second, we removed observations where it seemed that respondents simply clicked through the study, or accidentally clicked too quickly,

[201] The list of papers that has used Amazon Mechanical Turk is quite large and have been published in psychology, management, marketing, ethics, political science, and many other fields. For a sampling of law review articles that have utilized the platform, see Shyamkrishna Balganesh, Irina D. Manta & Tess Wilkinson-Ryan, *Judging Similarity*, 100 IOWA L. REV. 267, 278-79 (2014); Bedi & Reibstein, *Measuring Trademark Dilution*, *supra* note 97, at 707; Beebe et al., *supra* note 86, at 662-65; Christopher Buccafusco, Paul J. Heald & Wen Bu, *Testing Tarnishment in Trademark and Copyright Law: The Effect of Pornographic Versions of Protected Marks and Works*, 94 WASH. U. L. REV. 341, 373, 382 (2016).

[202] *See* Frank R. Bentley, Nediyana Daskalova & Brooke White, *Comparing the Reliability of Amazon Mechanical Turk and Survey Monkey to Traditional Market Research Surveys*, *in* CHI'17 EXTENDED ABSTRACTS 1092, 1092 (2017) (finding that traditional marketplace research methods are similar in reliability to Amazon Mechanical Turk); Michael Buhrmester, Tracy Kwang & Samuel D. Gosling, *Amazon's Mechanical Turk: A New Source of Inexpensive, Yet High-Quality, Data?*, 6 PERSP. ON PSYCHOL. SCI. 3, 3 (2011) (showing that the database of respondents and the data obtained from it are as reliable as more traditional methods).

[203] In each of the studies, the *n* we report is the number of respondents we used in the full study. We report the percentage of those respondents in the study who correctly identified each product with its brand in our results. The response rates are calculated based upon the number of people who correctly identified the product and brand. Therefore, to calculate each *individual n* one should multiply the report *n* by the percentage of the respondents who answered the stimuli correctly. Through Amazon Mechanical Turk we drew a sample that was representative of the United States broadly.

[204] In order to compare response times, we have to look only at correctly identified trademarks. Incorrect marks would not help us map the associative network. Of course, this data of which respondents correctly identified is still important, because there should be some threshold requirement before a mark is deemed famous according to the Lanham Act. However, what this exact threshold is or should be is not clear. We do not attempt to opine on such a threshold requirement. We only remark that we can do more than just measure how many people correctly identified a trademark — we can measure how quickly they did as well.

without actually looking at the matched pairs. To do this we deleted observations that clocked in at under 0.1 seconds. We did this because responding under or at 0.1 seconds is indicative of simply clicking without actually evaluating the stimuli. Normal human reflexes and processing do not support product/recall response rates under 0.1 seconds.[205]

Third, we removed observations where it seemed the respondent either left the computer or their attention was drawn elsewhere while the timer was still running.[206] To do this, we removed observations that showed recall rates longer than ten seconds.

For the remaining observations, we calculated the mean, median, and standard deviations (in seconds) of recall rate conditional on correctness. Remember, we hypothesized that those brands that were more famous in terms of amount of money spent on marketing and distribution would have quicker recall times.[207]

We present the results of our first study in Table 1A below.

[205] *See* Kaoru Amano, Naokazu Goda, Shin'ya Nishida, Yoshimichi Ejima, Tsunehiro Takeda & Yoshio Ohtani, *Estimation of the Timing of Human Visual Perception from Magnetoencephalography*, 26 J. NEUROSCIENCE 3981, 3981 (2006).

[206] This is a common strategy in timing studies run on Qualtrics. Often, a study cannot control for respondents that simply did not take the task seriously or walked away from the task. As such, strategies for deleting certain responses that clearly go beyond the normal time response are common.

[207] For further discussion, see *supra* notes 195–204 and accompanying text.

Table 1A: Study 1A Results				
Beer	Percentage Correct	Mean Time (seconds)	Median Time (seconds)	Standard Deviation
Heineken	93%	0.885	0.629	0.975
Michelob	80%	0.905	0.698	0.741
Abita	24%	1.39	1.108	1.113
Busch	84%	0.849	0.65	0.879
Heavyweight	17%	1.69	1.294	1.386
Budweiser	92%	0.839	0.584	1.020

As we expected, those brands that were famous on traditional court-accepted metrics (marketing spend, distribution, etc.) showed a larger percentage correct and a quicker response time. Respondents knew Budweiser and Heineken more than they did Michelob and Busch, but the response times showed that Michelob and Busch are similarly top of mind relative to Budweiser and Heineken.[208]

In addition, Abita and Heavyweight (more craft localized beers) showed both lower recall response rates and lower percentage correct rates. This is indicative of a lesser known brand — that is, the connection between Abita and "beer" are weak in the associative network of consumers. We also note that median times are all lower than the mean times. This means that each of the recall response rate distributions were likely skewed a little to the left. This is not problematic given that all of medians showed the same relationship.

[208] We present both mean and median times because of the lack of normality of our data. The mean of a continuous variable does a good job representing the middle of the distribution when the distribution is normal. Many of our distributions, however, were not normal but rather skewed or bimodal. Therefore, in order to present the most accurate descriptive metrics that represent the centrality of the distribution, we present the median and mean. We also present the standard deviation of the distribution. This metric is a measure of how spread out the data are. For example, the Heavyweight beer sample standard deviation in our Study 1 was the largest. This means that spread of those that identified the mark quickly and identified it slowly was the widest. We explain how the standard deviation of product recall measure can be used to better understand trademark fame below in Study 3.

This study was simply meant to test the method to see if it did actually map onto court conceptions of fame. We found those trademarks that are likely to be deemed famous showed quicker recall rates in comparison to lesser known marks. In subsequent studies we vary the stimuli in terms of how they are presented and in terms of which marks we use.

C. Study 1B

While Study 1A above focused on using a trademark as a stimuli and having respondents match the trademark with the respective products the trademark creates, Study 1B focuses on the reverse. In this version we primed respondents with a product category (e.g., beer) and then had them match whether or not the trademark fit within the product category.

Trademark fame, as we have defined it here, is simply the strength of the connection between a product category and a trademark. Which prime comes first in the matching task should not matter with respect to the designation of fame.[209] That is, our results from Study 1A and Study 1B should be the same. We recognize that the actual absolute recall times will not necessarily be the same. First, a different sample may produce slightly different times, and priming a product category rather than a trademark might slow down the process. But the relative recall times should be the same across both studies. This means that the rank of speed at which consumers match beers and their trademarks should be the same across both studies.

Stimuli & Procedure - Study 1B proceeded in the same manner as Study 1A except that we changed the order of the pairings in our stimuli. In Study 1A we presented a brand followed by a product category. Therefore, our Study 1A captured a means of accessing the associative network by brand rather than by product. For example, when a respondent saw "Budweiser" they searched through their associative network for potential connections to Budweiser and likely triggered "beer" making the connection easy. In Study 1B we attempt to measure recall rates using the product first. Respondents saw the same forty matched pairs, but we presented the product first ("beer") and then the brand ("Budweiser"). A sample stimuli (a non-matching pair) for Study 1B is shown below.

[209] Which is more important depends on context. If a shopper is thinking that they need toilet paper, then the product-brand response is probably more important. However, if a shopper is already looking at brands of toilet paper, then the reverse is probably more important.

We hypothesized that respondents should be equally good at correctly identifying the matched pairs when presented in product-brand order.

Sample - Our sample was again recruited via Amazon Mechanical Turk. We had 769 respondents, average age between thirty-five and forty, and 44% female.

Results - The data was cleaned and organized in the same way as in Study 1A above. We present the results of our Study 1B below in Table 1B.

Table 1B: Study 1B Results

Beer	Percentage Correct	Mean Time (Seconds)	Median Time (Seconds)	Standard Deviation
Heineken	95%	0.822	0.652	0.737
Michelob	81%	0.835	0.688	0.638
Abita	18%	1.34	1.014	1.347
Busch	86%	0.81	0.656	0.659
Heavyweight	19%	1.21	0.893	0.902
Budweiser	95%	0.758	0.600	0.642

Comparing Table 1A and Table 1B, our hypothesis is confirmed. When we present the stimuli in terms of "product-brand" rather than "brand-product" respondents are equally good at matching the products to the given brand (the percentage of those that knew the brands were the same across both studies) and the relative speed of recall was similar to that found in Study 1A (the speed rankings of all the beers was the same across both studies).

This shows that our method is tapping into the associative network that we described above in Part II.[210] This is an important takeaway as it further confirms that the product/recall method is a reliable way to measure strength of the connection between trademarks and their products. In turn, this establishes the method as a reliable measure of trademark fame.

D. Study 2

In reviewing comments from respondents in Study 1,[211] we found that respondents' answers to our product/recall questions were in some cases not representative of their true knowledge/reaction to our stimuli. This occurred for two reasons. First, respondents indicated that in some cases, holding the response button down on the keyboard (either an F or a J) for too long ended up answering two questions in a row. This was of course problematic because the second question was not being truly answered, but instead was duplicating the answer of the previous question. Second, respondents indicated that for many of the pairs that they answered, they guessed whether or not the association was appropriate. That is, they were not sure of several of their answers.

These are both problematic for our results as we want to measure the connection between a trademark and a product in consumers' mind. If it turns out that a participant indicated that there was a connection (via a quick accurate reply), this could have been a false positive of sort. Where a respondent wasn't aware of the correct answer, they may have simply guessed right (a 50% chance). There is, however, no *ex post* way to not include these correct guesses in our analysis.

Hence, it was important to get a better measure of whether or not the consumer actually knew the association or just got lucky. Furthermore, it was important to make sure that each question was answered intentionally rather than inadvertently.

To address these concerns, we asked a further question after each matched pair we presented. After they pressed (F or J) for a matched pair, respondents were asked whether they were certain about the answer they pressed. We instructed that they should answer "no" to the surety question when they (1) either were truly unsure, (2) they just guessed the answer, or (3) they accidentally answered the previous question in some way. This ensured we could analyze only those

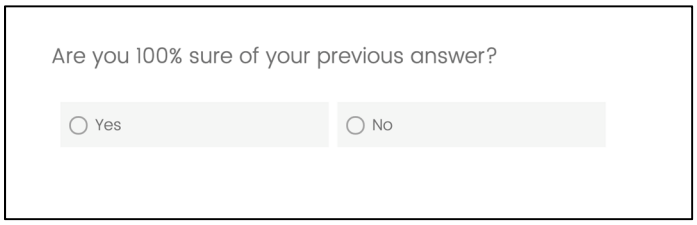
[210] For discussion of associative network theory, see *supra* Part II.

[211] At the end of our studies, we asked for optional open-ended comments. This is an important part of any well-crafted survey as it allows for diagnoses of various potential problems.

responses where participants really meant to answer "yes" and actually believed the relationship between the mark and the product.

We ran Study 2 so as to make sure this extra question would not create an undue burden on respondents and to correct for possible problems in our initial two studies.

Stimuli & Procedure - The stimuli for Study 2 were the same as Study 1A, except after each matched pair we included a surety question. We present that extra question below here:



Sample - We again used an Amazon Mechanical Turk sample of 381 respondents from the United States with an average age of between thirty-five and forty. 42% of the sample were female.

Results - We cleaned and analyzed our data in the same way as previous studies. However, we also took into consideration how sure respondents were about their answers. In calculating our response rates, we only included those respondents who correctly answered the matched pairs at issue and indicated that they were sure of the answer. The results from Study 2 are presented in Table 3 below. We present omnibus results without deleting those answers where respondents were "unsure" of their answers, and then present results conditional on surety.

Table 2A: Study 2 Results — Not Conditional on Surety				
Beer	Percentage Correct	Mean Time (Seconds)	Median Time (Seconds)	Standard Deviation
Heineken	95%	1.47	1.181	1.047
Michelob	80%	1.54	1.271	0.995
Abita	27%	2.34	1.899	1.717
Busch	87%	1.59	1.224	1.242
Heavyweight	13%	2.66	2.459	1.965
Budweiser	94%	1.49	1.101	1.263

Table 2B: Study 2 Results — Conditional on Surety				
Beer	Percentage Correct	Mean Time (Seconds)	Median Time (Seconds)	Standard Deviation
Heineken	95%	1.47	1.181	1.047
Michelob	80%	1.54	1.271	0.995
Abita	19%	2.21	1.596	1.786
Busch	87%	1.51	1.224	1.242
Heavyweight	7%	2.68	2.459	1.965
Budweiser	94%	1.49	1.101	1.263

What we find is that conditioning our results on surety does not affect major well-known brands very much. The brands with high correctness do not show large changes in median response times. This makes sense as most respondents know that Budweiser makes beer. It is rare that a respondent simply guessed that Budweiser makes beer. However, for the lesser known beer brands in our survey, we do see a difference. For example, for Abita, the correctly answered questions went down from 27% to 19%, indicating that about 8% of the sample guessed that Abita made beer rather than knew it. Similarly, the correctly answered questions for Heavyweight beer dropped from 13% to 7%.

Interestingly, when conditioning on surety, most of the mean and median response rates did not change, indicating that the problem we diagnosed in Studies 1A and 1B was likely not significant. However, Abita showed a decrease in response times when conditioning on surety. In this case, the product/recall measure produced with surety

was more accurate than without surety. That is, those that were weeded out with our surety question were not only unsure about Abita, but took longer to answer the question.

As such, even though most of our results did not change with the surety question, in our final Study 3 we use the surety question on the chance that less known brands may show higher or lower response times when deleting lucky guesses in our data set.

We note that the response times in Study 2 were longer across the board than in Studies 1A and 1B. We suspect this is because when we indicated to respondents that they would have to answer if they were sure after each matched pair, they were likely more careful in answering the questions in the first place. This cautious behavior likely inflated all response times for each of the brands. Therefore, although we cannot compare the absolute results of Studies 1A and 1B with the results of Study 2, we can compare the relative results of each of the studies and, when doing this, our results are consistent across all of the studies.

E. Study 3

Having tested our survey and debugging the issues we had through Studies 1-2, we present the culmination of our work in Study 3. We argued above that the better method of determining fame for trademarks is utilizing brand/product recall response rates.

To show this, we tested eighteen trademarks that have been previously litigated.[212] We show in Study 3 that — compared to our method (which draws upon prevailing psychology and marketing theories) — courts likely got fame determinations wrong in some cases. They either found a mark famous that in reality should not have been famous when looked at via brand/product response rates, or did not find a mark famous that should have been famous because its quick brand/product response rate — evidencing strong connections between the mark and its products.

Stimuli and Procedure - Our stimuli for Study 3 were presented in the same way as Study 2. We included a surety question as we saw that this helped decrease the false positive response rate. In addition, we tested eighteen new trademarks. We included several other non-target matched pairs as well holding the total number of matched pair questions at forty. The respondents proceeded through the survey in the same manner as our previous studies.

[212] The trademarks we use and their respective cases are listed in Appendix A.

Sample - Once again, we used an Amazon Mechanical Turk sample of 383 respondents from the United States. The average age was between forty and forty-five and the sample was 47% female.

Results - We cleaned the data and analyzed it in the same manner in Study 2. We calculated response rates both conditioning on surety and also simply using the raw data. For ease of processing we present here the results of Study 3 conditional on surety as we think this is the best method to accurately calculate response rates.

Table 3: Study 3 Results — Conditional on Surety					
Brand	Percentage Correct	Mean Time (Seconds)	Median Time (Seconds)	Standard Deviation	Court Famous
Harley	97%	1.46	1.205	0.939	Y
Jack Daniels	97%	1.52	1.326	0.811	Y
Mary Kay	96%	1.48	1.285	0.746	Y
Vera Wang	92%	1.59	2.385	0.742	Y
Versace	91%	1.72	1.490	0.908	Y
V-Ray	21%	2.35	1.798	1.607	Y
Kason	13.10%	2.68	2.203	1.885	N
AAA	98%	1.53	1.340	0.845	Y
Poison	6.50%	2.86	2.384	2.122	N
XOXO	48%	1.80	1.599	0.950	N
Digitalb	29%	2.19	1.768	1.535	N
Home Campus	12%	2.22	2.095	1.452	N
Timberstone	14%	2.55	2.219	1.818	N
Private Selection	40%	1.97	1.777	0.910	N
The Villages	65%	2.11	1.880	1.015	Y
Rainbow	20%	2.28	2.145	1.248	N
Crossfit	94%	2.02	1.700	1.070	Y
Mastermind	19%	2.49	2.039	1.465	N

The above table shows the mean, median, and standard deviation of the correctly identified trademark/product pairs. It also shows whether a court previously determined the mark to be famous.[213]

There are several issues worth addressing before we compare our fame designations to actual court decisions. We recognize that it may seem as if simple measure of "did a consumer know the mark and its product" may be enough to determine fame. For example, in our Study 3, 91% of the respondents correctly identified Versace as a manufacturer of clothing. Why then do we even need product/recall rates?

First, for marks that are incredibly famous (Versace, Jack Daniels, Budweiser, etc.), there is usually no real debate of whether the mark is famous. It is quite obvious that if in a random sample over 95% of people correctly identify a trademark, it is famous. So, for incredibly famous brands, product/recall times are likely not very useful. However, with those brands that are lesser known (i.e., the percentage of consumers who could correctly identify it), the product/recall measure becomes more important. It is in those marginal cases where we argue courts should prefer introduction of recall data.

In addition, it may seem that our percentage correct measure and the product/recall times are perfectly correlated. If this were the case, the recall times would not provide any more information than the percentage correct measure. This, however, is not the case. The correlation of the median times[214] and the percentage correct is -0.7.[215] This means that although the recall response rates move in the opposite direction as the percentage correct measure (i.e., the more people in the sample know the brand, the quicker the sample median response rate is), the response rate is giving us additional information and therefore is a useful measure.

---

[213] We note that some of these brands have gained more fame in between a court's determination and our survey. This is not something we can correct for, although we do not think it affects our ultimate results.

[214] Median times are more representative here of the centrality of the distributions because the sample distributions are often skewed and are not normal.

[215] We used the Pearson correlation measure which is calculated in the following manner:

$$.r_{xy} = (\sum_{i=1}^{n}(x_i - \bar{x}) * \frac{(y_i - \bar{y}))}{(\sqrt{\sum_{i=1}^{n}(x_i - \bar{x})^2} * \sqrt{\sum_{i=1}^{n}(y_i - \bar{y})^2})}$$

For purposes of our discussion, the correlation measure determines to what extent two sets of numbers move exactly in the same manner. If the correlation was one, this would mean that the two measures (percentage correct and recall response time) move in exactly the same way in the same direction. This would mean that we would not need a recall response rate, and that to compare trademark fame, only the percentage of correctly identified trademarks would be necessary.

In our discussion in Part II above, we discuss how the connections between a mark and its products strengthen over time. The stronger the association, the more quickly a consumer matches a trademark and its products. It is only natural that nodes that create quick responses are likely going to be more accurate, leading to higher percentage correct measures. However, the product/recall measure provides more nuance into the cognitive mapping of fame than just whether or not a consumer knows the brand.

Moving to the specific results in this study, data supports that the court interpreted fame designations incorrectly in at least two of the eighteen trademarks tested. The trademark XOXO was deemed not famous by the Southern District of New York as a matter of law.[216] This holding was largely due to plaintiff's failure to allege sufficient facts underlying its claim of fame[217] — a shortcoming that our approach would remedy. For instance, the court notes plaintiff's failure to establish the strength of associations to the mark among the general population.[218] Our proposed methodology addresses associative strength and provides data from a nationally representative set of respondents.

Plaintiff's evidence that it "made efforts toward creating 'consumer recognition'" was deemed insufficient; the court wanted evidence of actual recognition and associative strength.[219] The results from Study 3 provide such a snapshot of the mental associations that consumers actually have with XOXO (i.e., our method provides a better measure of fame).[220] From Table 3 above, we can conclude although only 48% of respondents in the sample correctly identified the brand, they did it quite quickly. A median response rate of about 1.6 seconds was similar to that of Crossfit (found famous) and even faster than both The Villages (conceded as famous) and Vera Wang (found famous). Moreover, based upon our sample size and standard deviation, the response rate of XOXO was not statistically significantly different from Crossfit, V-Ray, and Private Selection. However, the response rate was significantly better (faster) than Vera Wang and The Villages — two trademarks that were deemed famous. Therefore, based upon the theory that connections are indicative of fame, we think the court would have

216 Glob. Brand Holdings, LLC v. Church & Dwight Co., No. 17-cv-6571, 2017 WL 6515419, at *5 (S.D.N.Y. Dec. 19, 2017).

217 *See id.*

218 *Id.*

219 *Id.*

220 Note that, in the case above, our methodology would have needed to be employed near the time that the junior user adopted the mark.

reached a different conclusion if presented with our data collected in Study 3.[221]

The court findings associated with Private Selection (found not famous[222]) and V-Ray (found famous[223]) also seem inconsistent. Private Selection had a median response rate of 1.77 while V-Ray had a median response rate of 1.79. Even though Private Selection was identified more quickly, it was found not famous, while V-Ray was found famous. In addition, the percentage of respondents who correctly identified Private Selection is higher than V-Ray. Both of these factors lend us the conclusion that either both of these marks are famous, or neither is. The inconsistency here is problematic.[224] The point this data makes is that there is no good reason to think that Private Selection and V-Ray are different in terms of fame. Product/recall studies like the one here give us insight in consistently designating trademark fame.

The point of Study 3 is to show that measuring the actual connections in consumer minds and using them for trademark fame designations rather than the antecedents of those connections will provide more transparency, consistency, and fairness in the process. Having an objective measurable metric with which to measure fame will facilitate parties' efforts to prove (or disprove) fame and will prevent judges from using intuition rather than data to make their judgements.[225]

The remainder of the Article elucidates how this commonly used method that draws upon psychology and marketing theory should be

---

221 The percentage of respondents who correctly identified a trademark is certainly relevant to the fame designation. We do not in this paper attempt to determine what that threshold percentage is. XOXO in our sample had a 48% correct identification rate. It is unlikely that this would be below any threshold that a court would require, as it is unclear what percentage identification rate the "widely recognized" requirement in the Lanham Act refers to. Some of the trademarks that have been identified as famous, in our survey, show lower than 48% correct identification. For example, V-Ray was held to be famous and our sample showed only a 21% correct identification. Future work should seek to identify what a correct threshold for fame should be. We only acknowledge that there is another measure available to courts.

222 *See* Kroger Co. v. Lidl US, LLC, No. 3:17-cv-480, 2017 WL 3262253, at *6 (E.D. Va. July 31, 2017).

223 Visual Dynamics, LLC v. Chaos Software Ltd., 309 F. Supp. 3d 609, 624 (W.D. Ark. 2018).

224 In fact, one treatise recognized that the V-Ray court may have ruled incorrectly. 2 ANNE GILSON LALONDE & JEROME GILSON, GILSON ON TRADEMARKS § 5A.01 (2020). An objective metric of fame would have helped the court avoid this potential error.

225 Bedi & Reibstein make a similar argument in their article — the idea being that if there is a way to measure the effect that a court is concerned with, it is better to measure the effect and use the data to adjudicate rather than simply opine intuitively on what are clearly empirical issues. *See* Bedi & Reibstein, *Measuring Trademark Dilution*, *supra* note 97, at 723-25.

applied to trademark fame designations. As it turns out, the method is easy to implement, inexpensive, and reliable.

V. IMPLEMENTING THE METHOD

We argued above that the product/recall method more aptly measures trademark fame as it is captured by the associative network. Further, we showed how the method can and should be carried out and in turn identified judicial fame designations that were likely mistaken. It is only when measuring fame directly — rather than via indirect proxies like advertising expenditure — can a court have a high degree of confidence that its fame designations are accurate and fair.

In this Part, we specifically articulate how the method can be used in jurisprudence, why it is better than other metrics at measuring fame, and why courts should use the survey method in legal cases.

A. How to Use the Product/Recall Method

We now detail how trademark fame litigation can benefit from the use of our product/recall method. At the outset, it is important to recognize that mark-specific results of the method change over time. As a mark becomes more famous in a given area, the recall response rates drop (become quicker), and vice versa as the mark becomes less famous. As such, the response rates we have shown above represent a snapshot of a particular point in time; this date-specific analysis is valuable to mark owners.[226]

Firms must establish that a mark was famous *at the time the junior user adopted it*,[227] and therefore we recommend that companies routinely collect this kind of data. Companies commonly engage in brand protection, measurement, and development activities,[228] and measuring fame should be a part of the business's brand strategy. In fact, it seems appropriate that a court would prefer more than just a single

[226] While fame-specific data is of obvious value to brand owners, it may likewise be valuable to junior users who want to prove that a mark is *not* famous at the time of adoption.

[227] *See* 15 U.S.C. § 1125(c)(1) (2018).

[228] Marketing scholarship routinely helps companies better understand how to measure and manage their brand awareness and value. *E.g.*, James C. Crimmins, *Better Measurement and Management of Brand Value,* J. ADVERT. RES., Nov.–Dec. 2000, at 136, 143-44; Walfried Lassar, Banwari Mittal & Arun Sharma, *Measuring Customer Based Brand Equity*, 12 J. CONSUMER MARKETING 11, 15-17 (1995); Donald R. Lehmann, Kevin Lane Keller & John U. Farley, *The Structure of Survey-Based Brand Metrics*, 16 J. INT'L MARKETING 29, 29 (2008); Pappu et al., *supra* note 82, at 143-44.

snapshot of our fame measurement to establish a continued pattern of fame, as well as to establish exactly when a mark became famous.

The method should be used by parties and courts during trademark dilution (blurring or tarnishing) cases that require a showing of fame. A significant evidentiary preference — from both the litigants and the judge — should be established towards objective product/recall evidence as direct proof of fame. During litigation of this type, companies can and should introduce business records of product/recall surveys over time and show exactly when their trademark became famous.[229] This will make adjudicating these cases more consistent and accurate. It is likewise utility enhancing for all parties because companies will be able to reliably predict whether a plaintiff can satisfy this primary element of a trademark dilution lawsuit.

Of course, courts will have to set a standard for what response rates count as fame and what do not. We recommend setting response rate benchmarks on clearly famous brands.[230] For example, in our studies above we measured response rates for Budweiser. Under all accounts, Budweiser is a famous trademark, and not surprisingly it has one of the quickest response rates. Courts could compare response rates in order to determine whether firms' marks are famous.[231] Given that many firms already conduct brand assessment surveys, firms may eventually create a positive data externality, making the court's decisions easier. This only reinforces the argument that courts should explicitly prefer this kind of evidence in dilution lawsuits.

---

[229] *See* Bedi & Reibstein, *Measuring Trademark Dilution*, *supra* note 97, at 723-24 (arguing that measuring consumer perceptions of a trademark over time can assist companies in enforcing dilution causes of action).

[230] Note that a threshold for correctly identifying a trademark is also at play here. We do not opine on what a correct identification threshold should be. For further discussion, see *supra* note 219.

[231] We recognize that there is still a lot of work to be done in determining what a similarly situated company is, and which benchmarks are most appropriate in a given case. However, the current method of fame designation, at least implicitly if not explicitly, also benchmarks against existing brands. For example, how is one to determine what amount of advertising expenditure means a mark is famous? One must compare the expenditure with expenditures of already famous brands. This comparison, however, is often not a good one. When marks become famous, they often change or shift their activities to product development, consumer retention, and decrease activities around traditional marketing. Therefore, comparing marketing spend or advertising exposure is often not a good metric to determine fame because it changes as companies gain recognition in the marketplace. Product response rates, however, are stable in terms of fame. As fame goes up, response rates go down and vice versa. There is no deviation in that relationship, making benchmark comparisons easier in the response recall case.

One may argue that the product/recall method does not work for multiproduct brands.[232] For example, brands like Proctor & Gamble have several different products (toothpaste, laundry detergent, toilet paper, etc.) that are associated in consumer minds with its mark. Other examples include The Walt Disney Company, which owns various media outlets and theme parks, and Unilever, which owns various food, drink, and household products.

These marks will invariably have slower recall response rates because several products are triggered in the minds of consumers.[233] This may seem to mean that the fame of these umbrella brands cannot be measured with our method. We have three responses here. First, we note that our method works when we prime consumers with both a brand and its product. Therefore, even if a brand has multiple products, if we were to simply prime with a product rather than a brand, then recall response rates of one product marks and multi-product marks should be comparable. [234] Second, even if brands like Proctor & Gamble or Unilever do have slower recall rates for their products, this does not invalidate our method. Instead, we can simply have different standards of what response time counts as "fame" depending on the number of products/services a mark actually represents.[235] That is, our method can easily be expanded to include these kinds of brands. Lastly, we note that abstraction of the product category has a large impact on whether or not we identify a brand as having multiple products/services. For example, Gap Inc. has multiple products and sub-brands including Gap, Banana Republic, Athleta, Intermix, Old Navy, etc. If we were to define product categories narrowly (say "athletic leggings") in our product recall studies, this may increase the product recall response rate a consumer has of Gap Inc. This is because when Gap Inc. is primed, various products come to mind (t-shirts, pants, leggings, suits, etc.). The response rate, in turn, will depend on how broadly we choose the product category. We would predict (for Gap. Inc.) that if we chose the category broadly (e.g., "clothing"), then consumers would be quicker to identify Gap as a producer of clothing than they would be to identify

[232] We thank Barton Beebe for raising this objection and consideration.

[233] This can be thought of as self-dilution by blurring. When companies extend their brands via multiple distinct products, the recall of each individual product will likely be slower according to the associative network model.

[234] We effectively show as much with Study 1B.

[235] For example, once we set the lower limit on a "fame" response time, we could simply multiply by some constant for every different major product category a company produces. So Proctor & Gamble may be allowed a slower response time based upon the extent to which it has many brand extensions.

Gap as a producer of "athletic leggings." Therefore, before we can even determine whether a brand has multiple products, a court must determine how broadly to construe the product category.

Once evidence of recall response rates is introduced, it should be reviewable by an expert. Experts who focus on survey methodologies can be used to evaluate the survey and make sure that it meets good scientific standards.[236] These experts can either criticize an existing survey and data that a litigant has introduced or actually generate the response recall rates in a similar way to what we have done. In particular, if a company has lagged in its response rate measurement over time, an expert can update the company's data. Experts can also be used to correlate changes in product response rates with other more traditional measures of fame (advertising expenditure, revenue, exposure, etc.). Often experts are criticized for rigging survey evidence in favor of the hiring litigant.[237] We think this method is quite simple in comparison to other survey methods that have been routinely used in court cases.[238] The simplicity of the method, and its long standing use in marketing and brand strategy lends us to believe that its use by experts will be potentially less controversial than other survey methods already widely used.[239]

When implementing the method or even reviewing it, the question of sample is a critical one. Depending on what sample the surveyor uses, the results can end up being quite different. For example, Budweiser response rates are likely much quicker for the United States than Iran, where drinking alcohol is not as prevalent. Therefore, choosing the right sample is an important decision. We recommend that the sample is a nationally representative one. That is, the sample is pulled from the United States (as national fame is a necessary statutory condition) and

[236] Experts are routinely used in trademark cases to run surveys, interpret survey evidence, and criticize opposing surveys.

[237] *See* Peter J. Goss, Debra L. Worthington, Merrie Jo Stallard & Joseph M. Price, *Clearing Away the Junk: Court-Appointed Experts, Scientifically Marginal Evidence, and the Silicone Gel Breast Implant Litigation*, 56 FOOD & DRUG L.J. 227, 227-28 (2001) (discussing the trend of experts using junk science in litigation). *See generally* James E. Daniels, *Managing Litigation Experts*, ABA J., Dec. 1984, at 64 (providing background information on the role of experts and their relationship to litigants and their attorneys).

[238] Conjoint analysis is a method that is quite complicated and can be manipulated easily for a given case. *See* Suneal Bedi & David Reibstein, *Damaged Damages: Errors in Patent and False Advertising Litigation* 1 (Kelley Sch. of Bus., Working Paper No. 19-40, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3440817 [https://perma.cc/X75P-YJ27] [hereinafter *Damaged Damages*].

[239] We discuss the reliability of surveys in legal jurisprudence further below. *See infra* Part V.C.

the sample as close as possible matches the demographics of the United States. Most survey platforms have panels that are representative of a given locale (age, gender, education, income, level, etc.).[240]

B. Why the Method Is Better than the Status Quo

Currently, courts attempt to use various metrics to proxy for trademark fame.[241] This is problematic for several reasons. First, theoretically if there is a more direct measure of fame, it should be the preferred method. After all, proxies by their very nature are imperfect. They attempt to create a causal chain between fame and the purported inputs to fame. This relationship, however, is indirect. Therefore, how these various proxies (marketing spend, advertising exposure, sales, etc.) map onto fame is often unclear. The theme across most of the proxies is the mark is famous if the owner put a lot of time, money, and effort into making it famous, which does not even attempt to measure consumer perception. However, fame, by its very nature, is dependent consumer perceptions. This creates both inconsistencies in fame designations and also causes fame designations to be wrong in many instances.[242]

For example, there are many theories of how best to spend marketing dollars to create product/brand awareness.[243] These theories often come to different conclusions on how exactly advertising creates brand awareness and how much to advertise. When a court uses marketing expenditure to determine fame, it implicitly must accept at least one of these various theories. The S-curve theory predicts that fame actually

---

[240] Amazon Mechanical Turk and Cloud Research are just two survey platforms that easily allow researchers to draw from a nationally representative sample. When launching the survey, these platforms ask researchers to choose exactly the kinds of individuals that are sampled with simple boxes to click.

[241] For a detailed discussion of current metrics used for determining trademark fame, see *supra* Part I.B.

[242] For instances of incorrect fame designations based upon proxies, see *supra* Part IV.E.

[243] The marketing scholarship tying marketing spend to brand awareness is vast. *See, e.g.*, C. Robert Clark, Ulrich Doraszelski & Michaela Draganska, *The Effect of Advertising on Brand Awareness and Perceived Quality: An Empirical Investigation Using Panel Data*, 7 QUANTITATIVE MARKETING & ECON. 207, 207 (2009) (finding that advertising is associated with "a significant positive effect on brand awareness"); Rong Huang & Emine Sarigöllü, *How Brand Awareness Relates to Market Outcome, Brand Equity, and the Marketing Mix*, 65 J. BUS. RES. 92, 92 (2012) (demonstrating the significance of distribution and price promotion in building brand awareness); Larry Percy & John R. Rossiter, *A Model of Brand Awareness and Brand Attitude Advertising Strategies*, 9 PSYCHOL. & MARKETING 263, 263 (1992) (describing a model "that helps guide advertising strategy, based upon careful attention to brand awareness").

tapers off at some point in the product life cycle.[244] If this is the case, this theory predicts that companies will decrease their marketing expenditure when they start to become famous. In fact, companies that have famous brands will be spending much less on advertising and marketing than those that are not famous. However, when the level of marketing spend is a proxy for fame, it is usually in terms of higher marketing spend equals more fame, when in reality, the reverse relationship could be true. This only reinforces that the relationship between these so-called proxies for fame and fame itself is not always clear and not always consistent across cases.

In addition, courts use arbitrarily determined proxies to determine fame. However, the most important antecedents of how consumers become aware are not often always clear. In fact, research often finds the opposite.[245] Many factors contribute to trademark awareness and these factors are often idiosyncratic to a geographic location, a specific industry, and even a specific product. As such, attempting to narrow down all the antecedents of trademark fame to just a few is an unnecessarily difficult endeavor, particularly when there exists a clear more direct measure.

Instead of using proxies, we argue that directly measuring fame, as understood and measured by psychologist and marketing experts, creates for more consistency, fairness, and predictability — all things that a good legal rule should facilitate. Measuring the speed at which a consumer matches a product and a trademark is a direct measure of fame rather than an indirect one. Therefore, it is a better method than that which is currently used.[246] Lastly, it is notable that our technique

---

[244] *See, e.g.*, Clark et al., *supra* note 243 (finding that advertising does have a consistent effect on brand awareness when controlling for various other factors); Huang & Sarigöllü, *supra* note 243 (arguing that more than just advertising spend, including experience, distribution, and price promotion, seem to effect brand awareness and equity writ large); Robert J. Lavidge & Gary A. Steiner, *A Model for Predictive Measurements of Advertising Effectiveness*, 25 J. MARKETING 59, 59 (1961) (arguing that loyalty and experience also play large roles in creating brand awareness in addition to advertising exposure); Boonghee Yoo, Naveen Donthu & Sungho Lee, *An Examination of Selected Marketing Mix Elements and Brand Equity*, 28 J. ACAD. MARKETING SCI. 195, 204-06 (2000) (creating a complicated structural model that links various kinds of marketing activities to brand awareness and equity).

[245] *See supra* note 244. The above articles conclude that various factors are at play in creating brand awareness and they differ by the type of consumer (heterogeneous preferences), the type of industry, and the type of product.

[246] Note that there are other more complicated methods that could also get directly at fame. Conjoint analysis is one such method where consumers make choices based upon various products and then a logit regression is used to determine what brands are preferred and what the value of those trademarks are. There is a long-standing history

of measuring fame is not specific to trademark law (though it is likely to be used primarily in that area), but can be employed anywhere fame must be established.[247]

C. Reliability of Survey Methods in Trademark Litigation

Survey methodologies like the one we use are ever-present in social science. Business, consumer psychology, and (more recently) legal scholars have all relied upon results from surveys. However, we note that surveys have often been received with skepticism by courts. In this subpart, we briefly discuss how well-crafted surveys can be reliable ways to gain information for trademark fame designations.

Patent and trademarks lawsuits often employ surveys.[248] Conjoint analysis is a survey method that is commonly used in patent infringement lawsuits.[249] In addition, trademark lawsuits seem to routinely contemplate the use of survey methodology.[250]

"They have been used traditionally to help courts and litigants understand whether a mark is famous in this first instance, whether two marks are similar enough, and whether a junior mark is likely to confuse consumers as to the source of a good. In a sample of ninety-six cases, Diamond and Franklyn found that eighty-one percent of surveys used in trademark litigation cases were used to determine a likelihood

of the use of conjoint analysis in marketing and business endeavors, in particular for measuring trademark value. For a good summary of the method and its uses, see generally Paul E. Green & V. Srinivasan, *Conjoint Analysis in Consumer Research: Issues and Outlook*, 5 J. CONSUMER RES. 103 (1978). For how the method is being used in the legal realm, see Bedi & Reibstein, *Damaged Damages*, *supra* note 238, at 12.

247 Including potentially distinctiveness for protectability and strength for infringement analysis.

248 *See generally* Bird & Steckel, *supra* note 32, 1016-17 (discussing the widespread acceptance and influence of consumer surveys in trademark infringement cases); Shari Seidman Diamond & Jerre B. Swann, *Editors' Introduction: Surveys in Modern Litigation Involving Trademarks and Deceptive Advertising*, *in* TRADEMARK AND DECEPTIVE ADVERTISING SURVEYS: LAW, SCIENCE, AND DESIGN (2012) (discussing the design and development of surveys in trademark cases); Shari Seidman Diamond & David J. Franklyn, *Trademark Surveys: An Undulating Path*, 92 TEXAS L. REV. 2029, 2031-40 (2014) (providing a thorough background on how surveys are used in trademark cases).

249 *See generally* Bedi & Reibstein, *Damaged Damages*, *supra* note 238 (discussing the use of conjoint analysis as the "prevailing methodology" in patent litigation).

250 Over the course of the past fifty years, survey use has rapidly increased. According to one account, only eighteen surveys were offered in reported cases in the years between 1946 and 1960. Between 1976 to 1990, 442 surveys were presented in reported cases (twenty-nine per year); between 1991 and 2005, 742 surveys were offered; and between 2006 and 2012, about 315 surveys appeared in reported cases. Diamond & Franklyn, *supra* note 248, at 2040.

of confusion, thirty-three percent were used to establish secondary meaning, and twenty percent were used for deceptive meaning."[251]

Surveys have been used to establish whether there was a likelihood of confusion[252] by either showing consumers are confused through data collection or by having the similar consumers testify.[253] These surveys generally take the form of showing various trademarks to consumers and inquiring whether they think the marks come from the same source. In addition to confusion, recently surveys have attempted to prove trademark dilution,[254] specifically dilution by blurring[255] and dilution by tarnishment.[256]

Legal scholars have been critical of survey and empirical work in litigation, arguing that it is unreliable and costly.[257] We respond to those criticisms here briefly.

Surveys are the bread and butter of consumer behavior research.[258] Consumer behavior research by its very nature must use surveys to understand how consumers behave in the marketplace.[259] Trademarks

[251] Bedi & Reibstein, *Measuring Trademark Dilution*, *supra* note 97, at 722.

[252] In a trademark infringement action, a senior mark must simply show that the junior mark "is likely to cause confusion, or to cause mistake, or to deceive." 15 U.S.C. § 1114 (2018).

[253] Diamond & Franklyn, *supra* note 248, at 2036 (citing 4 J. THOMAS MCCARTHY, MCCARTHY ON TRADEMARKS AND UNFAIR COMPETITION § 23:63 (4th ed. 2014)).

[254] *Id.* at 2039-40.

[255] *See* Beebe et al., *supra* note 86, at 625; Morrin & Jacoby, *supra* note 105, at 266; Pullig et al., *supra* note 64, at 55; *see also* Shari Seidman Diamond, *Surveys in Dilution Cases II*, *in* TRADEMARK AND DECEPTIVE ADVERTISING SURVEYS: LAW, SCIENCE, AND DESIGN, *supra* note 248, at 155, 157-62 (arguing that it is difficult to produce surveys that show a decrease in distinctiveness). *But see* Jerre B. Swann, *Swann's Rebuttal to Diamond*, *in* TRADEMARK AND DECEPTIVE ADVERTISING SURVEYS: LAW, SCIENCE, AND DESIGN, *supra* note 248, at 163, 163-65 (arguing against Diamond that impaired distinctiveness can be established empirically). Cases are also seeing more use of dilution surveys. *E.g.*, Nike, Inc. v. Nikepal Int'l, Inc., No. 2:05-cv-1468, 2007 WL 2782030, at *4 (E.D. Cal. Sept. 18, 2007).

[256] *See* Bedi & Reibstein, *Measuring Trademark Dilution*, *supra* note 97, at 684.

[257] *See* Tushnet, *Gone in Sixty Milliseconds*, *supra* note 30, at 510 (criticizing surveys because they do not mimic real world purchasing decisions and hence are unreliable); *see also* Beebe et al., *supra* note 86, at 657 (showing that when dilution by blurring measurements are put in a realistic context, dilution effects go away).

[258] Business academics routinely uses survey methodology, and companies themselves also use surveys to gain insights into consumer behaviors. For discussion of how survey methods in marketing research are reliable and readily used, see generally J. Paul Peter, *Reliability: A Review of Psychometric Basics and Recent Marketing Practices*, 16 J. MARKETING RES. 6 (1979).

[259] *See* James G. Helgeson, E. Alan Kluge, John Mager & Cheri Taylor, *Trends In Consumer Behavior Literature: A Content Analysis*, 10 J. CONSUMER RES. 449, 450 (1984) (consumer behavior is the "acts of individuals directly involved in obtaining and using

are inextricably linked to consumers.[260] As such, in order to better understand consumers, surveys are the exact right type of evidence useful for trademark litigation.[261] Marketing, management, and psychology scholars have continued to refine their survey methods to make them more reliable.[262] Surveys are also relatively inexpensive given the large cost of litigation. The studies we presented in this Article only cost a few thousand dollars.[263]

Surveys need not necessarily be used when litigation ensues. Brand managers are consistently collecting data on how consumers view, interact with, and prefer their brand over others.[264] In fact, being a good brand manager means understanding exactly how a trademark is utilized in the decision-making process by consumers. As such, experts called into court can utilized existing survey data that companies are already collecting. This can increase the reliability and decrease the cost of surveys in trademark disputes.

CONCLUSION

Determining whether a trademark is famous is an important step in trademark litigation. Currently, courts employ imprecise proxies for fame (e.g., how much money did a brand spend on advertising or distribution). These imprecise proxies have led to inconsistent and unpredictable designations of fame. In this Article we provide a standardized empirical method to measure the fame of a trademark.

economic goods and services, including the decision processes that precede and determine these acts" (citation omitted)).

260 *See* Jacoby, *supra* note 84, at 1025 (arguing that trademarks are part and parcel to consumer marketplace behavior).

261 *See, e.g.*, Schering Corp. v. Pfizer Inc., 189 F.3d 218, 225 (2d Cir. 1999) ("Surveys are . . . routinely admitted in trademark and false advertising cases to show actual confusion, genericness of a name or secondary meaning[.]"); Kate Spade LLC v. Saturdays Surf LLC, 950 F. Supp. 2d 639, 647 (S.D.N.Y. 2013) ("It has become routine in Lanham Act cases to submit [confusion] surveys[.]").

262 Reliability has been tested via replications. If a survey can replicate its finding, this is evidence that the survey is reliable. For a discussion of replications, see generally Robert A. Peterson & Dwight R. Merunka, *Convenience Samples of College Students and Research Reproducibility*, 67 J. BUS. RES. 1035 (2014).

263 We thank the Oklahoma State University Business School for funds.

264 Companies sometimes collect such good granular weekly data that scholars can use this data in their empirical studies. *See* Shuba Srinivasan, Marc Vanhuele & Koen Pauwels, *Mind-Set Metrics in Market Response Models: An Integrative Approach*, 47 J. MARKETING RES. 672, 672 (2010) (using data from brands on brand perceptions, attitudes, associations, and purchase likelihood measured across hundreds of consumers on a weekly basis).

Our method is borrowed from extant marketing scholarship and relies upon consumers' perceptions to measure fame rather than proxies. Using the associative network and other neuroscience theories, we argue that trademark fame is the speed at which a consumer recognizes a product linked to its brand (or vice versa). We then, using the product/recall method, empirically showed how courts can utilize the method to more consistently designate trademarks as famous.

We argue that our standard (both theoretically and empirically) is a better one than that which is currently used in federal court proceedings. By developing a method that produces consistent and reliable fame designation results, we hope that courts become more predictable and consistent in their rulings.

Appendix A - Recent Cases Regarding Trademark Fame (2017–18)				
Brand	Case Citation	Industry	Holding	Famous?
Harley	311 F. Supp. 3d 1000	Motorcycles	famous as a matter of law	Y
Jack Daniels	291 F. Supp. 3d 891	Whiskey	famous bench trial	Y
Mary Kay	2018 WL 2230623	Cosmetics	default finding of fame	Y
Vera Wang	277 F. Supp. 3d 425	Fashion	held "no real dispute"	Y
Versace	2018 WL 3548970	Apparel	MSJ of fame	Y
V-Ray	309 F. Supp. 3d 609	Software	MSJ of fame	Y
Kason	2018 WL 1980370	Restaurant equipment	not famous FRCP 12(b)(6)	N
AAA	2018 WL 4693854	Auto service	default finding of fame	Y
Poison	2018 WL 836364	Bicycles	MSJ of no fame	N
XOXO	2017 WL 6515419	Clothes	not famous FRCP 12(b)(6)	N
Digitalb	284 F. Supp. 3d 547	Television	not famous FRCP 12(b)(6)	N
Home Campus	2017 WL 7201873	Software	not famous FRCP 12(b)(6)	N

Timberstone	2017 WL 3531481	Golf	not famous FRCP 59	N
Private Selection	2017 WL 3262253	Food	unlikely to establish fame	N
The Villages	2017 U.S. Dist. LEXIS 57040	Real estate	accepting concession of fame	Y
Rainbow	2017 U.S. Dist. LEXIS 218128	Supplements	not famous FRCP 12(b)(6)	N
Crossfit	232 F. Supp. 3d 1295	Exercise services	default finding of fame	Y
Mastermind	224 F. Supp. 3d 944	Music	MSJ of no fame	N