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Dear Readers,

I am Professor Peter A. Carfagna, the Harvard Law School Faculty Advisor to the *Harvard Journal of Sports and Entertainment Law* (JSEL). JSEL had another tremendous year, and I am incredibly proud to write the preface to Volume 10.

In the Winter Issue, JSEL published three articles. Karen Perry and Madison Steenson's article, *A Post-Brexit Impact: A Case Study on the English Premier League*, forecasts the impact of Brexit upon the EPL, its clubs, its players, and its fans. Perry and Steenson also consider the opportunities that may arise for UK players and the EPL from Brexit. Ashford Kneitel examines how casinos are responding to efforts by players to cheat and gain unfair advantages in *Casino Countermeasures: Are Casinos Cheating?* Kneitel argues that casinos have gone too far in their countermeasures and that government regulators must keep close watch to preserve the balance between players and casinos. The final article in our Winter Issue, *Hope and Faith: The Summer of Scott Boras's Discontent*, written by Professor Matthew J. Parlow, focuses on the difficulty MLB players faced in the summer of 2018 in free agency. Professor Parlow explores factors—such as a relatively weak free agency class, conservative spending, data analytics, and "tanking"—that may explain this labor-market shift.

JSEL's Winter Issue also included two notes, each of which was authored by a graduating Harvard Law student. Kike Aluko JD/MBA '19 wrote *Terminating the Struggle over Termination Rights*, which discusses copyright termination rights, the set of rights reserved to authors of copyrighted works used by musicians to reclaim ownership in musical works and sound recordings. Aluko first discusses the historical context surrounding copyright termination rights (which are becoming more relevant with the passage of time, as more artists are eligible to exercise them), then explores the difficulty artists have in exercising these rights, and finally considers steps musicians can take to better exercise them. John Quagliariello JD '19 wrote *Blurring the Lines: The Impact of* Williams v. Gaye *on Music Composition*, which examines the music copyright statutory scheme vis-à-vis *Williams v. Gaye* (2018). Commonly known as the "Blurred Lines" case, *Williams v. Gaye* sent shockwaves through the musical community and Quagliariello examines the context surrounding the case, the case itself, and the likely impact the case will have on the industry.

In the Spring Issue, JSEL published four articles. Ted Tatos' article, *Relevant Market Definition and Multi-Sided Platforms After* Ohio v. American Express*: Evidence from Recent NCAA Antitrust Litigation*, examines the Supreme Court's recent decision in *Ohio v. American Express* and discusses its

implications for current litigation involving the NCAA's amateurism rules. Grant Frazier wrote *Using Your Head: A Different Approach to Tackling the NFL's Concussion Epidemic*, which explains the threat posed by the NFL's high rate of concussions and argues the inadequacy of the League's response. As appropriate safeguards, Frazier proposes the NFL adopt and develop testing to identify concussion susceptibility, concussion occurrence, and concussion-related diseases like CTE. Arya Taghdiri examines the effect that blockchain technology will have on the music industry and the benefits it can offer artists (by circumventing intermediaries) in his article, *How Blockchain Technology Can Revolutionize the Music Industry*. Taghdiri's article also describes the nature of blockchain ledgers, their impact on the relationship between artists and fans, current blockchain startups, and barriers to the widespread adoption of blockchain technology by the music industry. The final article in our Spring Issue, *Cheerleaders in the NFL: Employment Conditions and Legal Claims*, won the 2019 Paul C. Weiler Writing Prize at Harvard Law and was written by Heylee Bernstein JD '19 (who is also the President of JSEL's sister organization, the Harvard Committee on Sports and Entertainment Law). Bernstein's piece tracks invasion of privacy and distress in the Philadelphia Eagles' locker room, unpaid wages, and sexual harassment in the #MeToo era. While Bernstein considers organized-labor movements by various cheerleader groups, she ultimately concludes that the best hope for cheerleaders is the media-driven, renewed public interest in their employment conditions.

JSEL's Spring Issue also included a note, *Applying Copyright Law to Videogames: Litigation Strategies for Lawyers*, written by John Quagliariello JD '19. Quagliariello explores the development of American copyright law and its application to the videogame industry, and ultimately suggests how attorneys can best advise clients in light of these developments.

Moreover, the JSEL Online team worked throughout the academic year to publish dozens of highlights and short articles with updates on the latest legal news in sports and entertainment, covering topics such as the U.S. Women's National Soccer Team's gender discrimination lawsuit; the Music Modernization Act, recently signed into law by President Trump; and the legal implications of Banksy's painting, *Girl with Balloon*, self-destructing immediately after being auctioned off by Sotheby's. The JSEL Online team also published longer-form commentary pieces, including Harvard Law Visiting Professor Stuart N. Brotman's piece, *Convicting Celebrities: How the Morals Clause Continues to Shape American Culture*.

I thank the students involved in JSEL, who worked tirelessly to ensure its success. Specifically, I would like to thank Wonnie Song JD '19 (who was named this year's Paul C. Weiler Scholar), for her dedication and

excellence as Editor-in-Chief, as well as Ross Evans JD '20 and Sarah Edwards JD '20, who did wonderful work as Managing Editors. We are excited for Ross and Sarah to be the Editors-in-Chief of next year's 11th Volume. Finally, I would like to convey my thanks to other members of JSEL's Executive Board: John Quagliariello JD '19 (Executive Editor of Submissions), Prudence Ng JD '19 (Executive Editor of Production), and Libby Pica JD '19 (Executive Editor of Online Content).

With another fantastic year in the books, I look forward to next year's volume!

Peter A. Carfagna

Journal of Sports & Entertainment Law
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Relevant Market Definition and Multi-Sided Platforms After *Ohio v. American Express*: Evidence from Recent NCAA Antitrust Litigation

Ted Tatos

The treatment of multi-sided platforms in antitrust litigation has received increasing attention lately, as evidenced by the *Ohio v. American Express Co.* litigation.[1] The potential implications of the Supreme Court's recent decision have garnered interest from legal scholars, litigators, and economists alike, particularly those actively involved in antitrust issues. Some have cautioned that the ruling represents the gutting of antitrust law,[2] while others have maintained that its scope is limited and unlikely to effect a broad change in antitrust jurisprudence.[3] To illuminate the potential nature of parties' multi-sided platform arguments in future litigation, this article details how the multi-sided platform argument was addressed in *In re National Collegiate Athletic Association Grant-in-Aid Cap Antitrust Litigation*

[1] 138 S. Ct. 2274 (2018).

[2] *See* Lina M. Khan, *The Supreme Court just quietly gutted antitrust law*, Vox, July 3, 2018, https://www.vox.com/the-big-idea/2018/7/3/17530320/antitrust-american-express-amazon-uber-tech-monopoly-monopsony [https://perma.cc/GT25-HF5S] (on file with the Harvard Law School Library); Tim Wu, *The Supreme Court Devastates Antitrust Law*, N.Y. Times, June 26, 2018, https://www.nytimes.com/2018/06/26/opinion/supreme-court-american-express.html [https://perma.cc/T3U5-VXZ4] (on file with the Harvard Law School Library).

[3] For a spirited discussion on the matter, see Washington Bytes, *Will the Supreme Court's Amex Decision Shield Dominant Tech Platforms From Antitrust Scrutiny?*, Forbes, July 18, 2018, https://www.forbes.com/sites/washingtonbytes/2018/07/18/antitrust-enforcement-of-dominant-tech-platforms-in-the-post-american-express-world/#1a1857032f76 [https://perma.cc/86QA-MNKG] (on file with the Harvard Law School Library).

(*NCAA GIA*),[4] and the implications of the argument for future litigation. In *NCAA GIA*, plaintiffs challenge the National Collegiate Athletic Association ("NCAA") cartel's restriction on athlete compensation at cost-of-attendance ("COA") and its prohibition on payment in exchange for athletic participation. The *NCAA GIA* case involves two key issues that lie at the forefront of current antitrust interest in anticompetitive conduct: (1) the use of monopsony power to restrain wages, and (2) the complication of relevant market definition by indirect network externalities that often characterize multi-sided platforms.

This article further argues that the Supreme Court's decision in *American Express* has effectively abrogated in part its previous opinion in *National Collegiate Athletic Association v. Board of Regents of the University of Oklahoma*[5] with regard to claimed cross-platform effects. *American Express* did this by neutering a key procompetitive justification that the NCAA continues to offer for its restraint on athlete compensation, namely its effect on consumer demand for "amateurism." This article investigates whether the presence of claimed indirect network effects sufficiently support the position that colleges and universities that engage in intercollegiate athletics represent multi-sided platforms. The purpose of this article is not to analyze the economic merits of the Supreme Court's decision with respect to relevant market definitions involving multi-sided platforms, but rather, to investigate its interpretation in the NCAA antitrust litigation and its implication for the seminal *Board of Regents* case.

I. The NCAA GIA Litigation

In the *NCAA GIA* litigation, the claimed existence of indirect network effects prompted the NCAA's antitrust expert, Professor Kenneth Elzinga, to conclude that NCAA colleges and universities are multi-sided platforms, opining that:

> "A college or university is a multi-sided platform, similar to [the example offered of the relationship between readers and advertisers in magazine publishing], but in the case of colleges and universities, there are multiple constituencies that include at least student-athletes in each of their respective sports, non-athlete students, alumni, coaches and athletic staff, faculty, other staff, the community in which the school is located, and, if it is a public institution, the state."[6]

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[4] No. 14-md-02541-CW, 2018 WL 4241981 (N.D. Cal. Sept. 3, 2018).

[5] 468 U.S. 85 (1984).

[6] Expert Report of Kenneth G. Elzinga at 33, *NCAA GIA*, No. 4:14-cv-02758 (N.D. Cal. Mar. 21, 2017), ECF No. 374-7.

The apparent confounding of direct and indirect network effects notwithstanding, the NCAA initially did not rely on Professor Elzinga's opinion of colleges and universities as multi-sided platforms, taking the position that the Ninth Circuit's decision in *O'Bannon v. National Collegiate Athletic Association*,[7] which relied on a single-sided market definition, controls.[8] Because the plaintiffs had already moved for summary judgment on the market definition issue, as previously defined in *O'Bannon*, no genuine material issue of fact remained. This resulted in the district court's summary adjudication of the market definition issue in the plaintiffs' favor.[9] The court then excluded Professor Elzinga's testimony regarding the multi-sided market definition on the basis that the testimony had been rendered irrelevant by the court's prior ruling.[10]

Subsequently, the Supreme Court issued its decision in *American Express*, which addressed the effect of multi-sided platforms on relevant market definition in antitrust cases.[11] Based on this precedent, the NCAA argued that "the *American Express* decision validates key aspects of Dr. Elzinga's opinions that this Court excluded and squarely calls into question whether the Court erred in declining to even consider at trial Dr. Elzinga's arguments on the relevant market and anticompetitive effects."[12] The district court then invited both sides to present their arguments on the matter at a pre-trial conference in July 2018.[13]

On the eve of the trial, which commenced on September 4, 2018, the court issued its order concluding that the *American Express* decision had no effect on the court's prior rulings in the *NCAA GIA* litigation and re-affirmed its exclusion of Professor Elzinga's opinion on market definition.[14] The district court found that "Dr. Elzinga's opinions regarding a multi-sided market definition are excluded as irrelevant in light of the Court's

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[7] 802 F.3d 1049 (9th Cir. 2015).

[8] In re Nat'l Collegiate Athletic Ass'n Grant-in-Aid Cap Antitrust Litig. (*NCAA GIA*), Case Nos. 14-md-02541-CW, 14-cv-02758-CW, 2018 WL 1524005, at 7 (N.D. Cal. Mar. 28, 2018).

[9] *Id.* at 8.

[10] *NCAA GIA*, Case Nos. 14-md-02541-CW, 14-cv-02758-CW, 2018 WL 1948593, at 3 (N.D. Cal. Apr. 25, 2018).

[11] *See* Ohio v. American Express Co., 138 S. Ct. 2274, 2285–90 (2018).

[12] Defendants' Response on Admission of Dr. Elzinga's Testimony at 8, *NCAA GIA*, MDL Docket No. 4:14-md-02541-CW (N.D. Cal. July 2, 2018), ECF No. 862.

[13] *See NCAA GIA*, Case No. 14-md-02541-CW (N.D. Cal. July 2, 2018), ECF No. 863.

[14] *NCAA GIA*, Case No. 14-md-02541-CW, 2018 WL 4241981, at 6 (N.D. Cal. Sept. 3, 2018).

summary adjudication of market definition, and as unreliable, under Federal Rule of Evidence 702 and *Daubert*."[15]

In its order, the court offered perhaps the first glimpse into the effect of *American Express* on lower court jurisprudence. Using *American Express* as the lodestar to guide its inquiry into platform multi-sidedness, the court evaluated the economic opinions offered by the NCAA's expert, focusing on three primary characteristics: (1) similarity of transactions, (2) simultaneity of interactions, and (3) the horizontal/vertical nature of the restraint.[16] This article focuses on the first two characteristics. While observing that the expert in *NCAA GIA* opined that the multi-sidedness in that case involved a cross-platform relationship between the pricing to one constituency and the participation volume of the college's various other constituencies, the court pointed to analytical deficiencies that condemned the expert's opinion as unreliable under Rule 702.[17] Specifically, the court found that the NCAA's expert did not:

1. "identify what product the universities offer to each of their constituencies;"[18]
2. explain "how any product is 'priced' to each constituency;"[19]
3. "explain what he means by or how he determines 'participation' and 'volume';"[20]
4. "describe what 'value' he is referring to or indicate how that can be measured;"[21]
5. "identify or describe the relevant economic interactions between the members of the numerous constituencies and the platform;"[22]
6. "identify the timing or relationship of any such interactions to other interactions within the claimed platform;"[23] or
7. "examine any economic data at all to quantify, test, evaluate, or confirm any of the economic relationships upon which his proposed multi-sided relevant market is predicated"[24]

The court's ruling clarifies and perhaps alleviates some concerns regarding the burden of proof imposed upon plaintiffs and defendants in antitrust cases where the market definition involves multi-sided platforms. A

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[15] *Id.* at 6.
[16] *See id.* at 3–5.
[17] *See id.* at 5.
[18] *Id.* at 4.
[19] *Id.*
[20] *Id.*
[21] *Id.*
[22] *Id.*
[23] *Id.*
[24] *Id.* at 5.

significant concern among economists and legal experts has been that defendants would be able to leverage expert testimony to claim the existence of such platforms and impose a Sisyphean burden on plaintiffs, while absolving defendants of any obligation to perform an analysis of the impacts of price changes among various agents.[25] Considering the often-asymmetric access to information facing the parties in such litigation, placing the entire burden of proof on the plaintiffs to define the relevant market in the presence of claimed multi-sidedness would represent a significant hardship that could isolate defendants from antitrust scrutiny. Professor Daniel Rubinfeld, the NCAA's antitrust expert in the previous *O'Bannon* litigation,[26] previously raised this issue, commenting that:

> If the defendant has the data or other information that are necessary for the alternative hypotheses to be well specified, then it may be appropriate to make it easy for the plaintiff to shift the burden of production to the defendant.[27]

The court's order regarding the admissibility of expert evidence proffered by the defendants' antitrust expert in *NCAA GIA* clarified that the party offering an opinion as to the existence of multi-sided platforms and its effects on relevant market definition must perform an economic analysis to support that position beyond mere *ipse dixit* assertions.[28] In doing so, the court referenced the law review articles cited in *American Express* to emphasize that "presence and degree of the economic relationships discussed in that case present an empirical issue."[29] The decision in *NCAA GIA* clarifies that the burden of investigating that empirical issue and the accompanying analysis to illuminate the multi-sided nature of the platform(s) falls upon the party advancing that argument. Simply "throwing stones" at a single-sided relevant market definition without the support of analytical rigor in rebuttal failed to carry that critical burden for the NCAA's expert.

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[25] Michael T. Goldstein, *Ohio et. al. v. American Express Co. et. al.: Antitrust Implications for Healthcare Entities*, A.B.A. HEALTH ESOURCE, Nov. 28, 2018, https://www.americanbar.org/groups/health_law/publications/aba_health_esource/2018-2019/november2018/antitrust/ [https://perma.cc/8XFJ-72UD] (on file with the Harvard Law School Library).

[26] *See* O'Bannon v. Nat'l Collegiate Athletic Ass'n, 7 F. Supp. 3d 955, 972 (N.D. Cal. 2014), *aff'd in part, vacated in part*, 802 F.3d 1049 (9th Cir. 2015).

[27] Daniel L. Rubinfeld, *Econometrics in the Courtroom*, 85 COLUM. L. REV. 1048, 1061 (1985).

[28] *NCAA GIA*, Case No. 14-md-02541-CW, 2018 WL 4241981, at 6 (N.D. Cal. Sept. 3, 2018).

[29] *Id.* (internal quotation marks omitted).

The district court's order deftly navigates the channel between the Supreme Court's *American Express* decision and prior precedent in cases involving empirical analysis, while avoiding any inconsistencies with either. Indeed, the district court's order regarding expert testimony is supported by decisions from the Supreme Court and lower courts. To explain why, I begin with a brief review of the *American Express* case.

II. Relevant Judicial Precedent

A. Ohio v. American Express

In *United States v. American Express*, both sides agreed that credit card networks represent two-sided platforms that serve two distinct sets of consumers, merchants, and cardholders.[30] The district court explained that "[b]y facilitating transactions between merchants and their cardholding consumers, the general purpose credit and charge card [GPCC] systems that are the subject of this litigation function as two-sided platforms."[31] The court agreed with the Government that "this two-sided platform comprises at least two separate, yet deeply interrelated, markets: a market for card issuance . . . and a network services market."[32] American Express did not dispute the two-sided nature of the platform.[33] Rather, it argued that, contrary to the Government's characterization of the relevant product market as general purpose credit and charge card network services, "the market should be defined by reference to 'transactions' so as to account for both sides of the credit card platform."[34] Because neither side disputed the existence of two-sided platforms, the issue before the court was whether the plaintiffs had met their burden of addressing such characteristics in its market definition.[35] In its decision, the district court found that "plaintiffs have appropriately accounted for the two-sided features and competitive realities that affect the four major firms operating in the GPCC card network services market—as distinguished from the card issuance market . . . ."[36]

The Second Circuit reversed, finding that the district court's focus on the network services market "erroneously elevated the interests of merchants

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[30] 88 F. Supp. 3d 143, 154 (E.D.N.Y. 2015), *rev'd*, 838 F.3d 179 (2d Cir. 2016), *aff'd*, 138 S. Ct. 2274 (2018).

[31] *Id.* (internal quotation marks omitted).

[32] *Id.* at 151.

[33] *See id.* at 155.

[34] *Id.* at 174.

[35] *See id.* at 168–69.

[36] *Id.* at 171.

above those of cardholders."[37] Holding that the Government bore the burden to show that Amex's non-discrimination provisions adversely affect competition as a whole in the relevant market, the Second Circuit held that the effects on both sides of the platform, cardholders and merchants, should be considered.[38]

The Supreme Court affirmed the Second Circuit's decision, finding that American Express's antisteering provisions do not violate antitrust law because the two-sided market for credit-card transactions should be analyzed as a whole.[39] The question before the Court in *American Express* was:

> "Under the 'rule of reason,' did the Government's showing that Amex's anti-steering provisions stifled price competition on the merchant side of the credit-card platform suffice to prove anticompetitive effects and thereby shift to Amex the burden of establishing any procompetitive benefits from the provisions?"[40]

In other words, in a case where no dispute exists among the parties regarding the existence of multi-sidedness in defining the relevant market, is the demonstration of anticompetitive effects on one side sufficient, or must the analysis consider the net effect on all sides? The Supreme Court largely opted for the latter, holding that it "will analyze the two-sided market for credit card transactions as a whole to determine whether the plaintiffs have shown that Amex's antisteering provisions have anticompetitive effects."[41]

The *NCAA GIA* litigation represents an altogether different situation. There, only defendants' expert offered the multi-sided platform argument and did so without performing any economic analysis to support that theory. In excluding that opinion, the district court recognized that the burden lies with the party proffering the argument to support it with evidence beyond mere assertion.[42] Simply proposing a hypothesis without adequate evidence does not shift the burden onto the challenging party to disprove it by attempting to prove the negative.

The district court's expectations in *NCAA GIA* with respect to the type of evidence of multi-sidedness that suffices to shift the burden onto the

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[37] United States v. American Express Co., 838 F.3d 179, 204 (2d Cir. 2016), *aff'd*, 138 S. Ct. 2274 (2018).

[38] *Id.* at 205.

[39] Ohio v. American Express Co., 138 S. Ct. 2274, 2287 (2018).

[40] Brief for the Petitioners and Respondents Nebraska, Tennessee, and Texas at ii, Ohio v. American Express, 138 S. Ct. 2274 (2018) (No. 16-1454).

[41] *American Express*, 138 S. Ct. at 2287.

[42] In re Nat'l Collegiate Athletic Ass'n Grant-in-Aid Cap Antitrust Litig. (*NCAA GIA*), Case No. 14-md-02541-CW, 2018 WL 4241981, at 2 (N.D. Cal. Sept. 3, 2018).

opposing side finds strong support in judicial precedent regarding the use of empirical analysis. Courts have applied a burden-shifting framework, much as courts do when analyzing an anticompetitive restraint under the rule of reason,[43] to adjudicate the reliability of expert analysis that relies on quantitative methodology. Once the analysis proffered by one side's expert has met initial standards of admissibility, the burden shifts to the opposing expert to demonstrate the initial analysis' shortcomings.[44] For example, an oft-used refrain used by experts critiquing a regression model is that one or more key variables were excluded, rendering the analysis unreliable.[45] Indeed, we observe the same logic in multi-sided platform arguments offered in the NCAA GIA litigation, where one expert can argue that, because one or more platform agents were not included in the analysis, the relevant market definition is flawed.[46] However, both the Supreme Court and lower courts have held that the burden lies with the party claiming a variable has been "left out" to include it and demonstrate its effects on the analysis.[47]

B. Judicial Precedent Where Empirical Analysis is Used

In *Bazemore v. Friday*,[48] petitioners, who included employees of the North Carolina Agricultural Extension Service (NCAES), filed suit against various state and local officials alleging racial discrimination by the NCAES in violation of the Constitution and federal statutes that included Title VII of the Civil Rights Act of 1964. Applying regression analysis, the petitioners offered statistical evidence of racial disparities in salary.[49] The Fourth Circuit upheld the district court's refusal to accept petitioners' statistical analysis as proof of discrimination, reasoning that "factors, other than those included in petitioners' multiple regression analyses, affected salary, and

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[43] *See* Michael A. Carrier, *The Rule of Reason: An Empirical Update for the 21st Century*, 16 GEO. MASON L. REV. 827, 834 (2009); *see also* O'Bannon v. Nat'l Collegiate Athletic Ass'n, 7 F. Supp. 3d 955, 985 (N.D. Cal. 2014), *aff'd in part, vacated in part*, 802 F.3d 1049 (9th Cir. 2015) (stating that "[c]ourts typically rely on a burden shifting framework to conduct th[e] balancing" of anti-competitive and pro-competitive effects).

[44] *See O'Bannon*, 7 F. Supp. 3d at 985.

[45] *See* Daniel L. Rubinfeld, *Reference Guide on Multiple Regression*, *in* THE NATIONALS ACADEMIES PRESS, REFERENCE MANUAL ON SCIENTIFIC EVIDENCE 305–06 (3d ed., 2011).

[46] *See NCAA GIA*, 2018 WL 4241981, at 2; *see also* Expert Report of Kenneth Elzinga, *supra* note 6, at 10.

[47] *See infra* Section II.B.

[48] 478 U.S. 385 (1986).

[49] *See id.* at 401–02.

that therefore those regression analyses were incapable of sustaining a finding in favor of petitioners."[50] The Fourth Circuit stated that "[a]n appropriate regression analysis of salary should . . . include all measurable variables thought to have an effect on salary level."[51]

The Supreme Court unanimously reversed, finding that "it is clear that a regression analysis that includes less than all measurable variables may serve to prove a plaintiff's case."[52] Critically, the *Bazemore* Court emphasized defendants' burden in responding to plaintiffs' evidence:

> "Respondents' strategy at trial was to declare simply that many factors go into making up an individual employee's salary; they made no attempt that we are aware of—statistical or otherwise—to demonstrate that when these factors were properly organized and accounted for there was no significant disparity between the salaries of blacks and whites."[53]

The Court thus clarified that mere declaration without analytical rigor does not serve as adequate rebuttal. Following this precedent, the Second Circuit explained that:

> "We read *Bazemore* to require a defendant challenging the validity of a multiple regression analysis to make a showing that the factors it contends ought to have been included would weaken the showing of a salary disparity made by the analysis."[54]

Simply put, once plaintiffs' initial burden has been met, if the defendant's expert contends that a regression analysis has omitted a key variable, the defendant's expert must also show how including that variable in the regression affects the analysis with respect to the key outcome of interest.[55] If defendants hypothesize that the inclusion of a variable that reflects the employee experience would explain, at least in part, a salary disparity otherwise attributed to race or gender, they bear the burden of demonstrating the effect empirically.

Likewise, the D.C. Circuit held that:

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[50] *See id.* at 394 (describing the Fourth Circuit's reasoning).

[51] Bazemore v. Friday, 751 F.2d 662, 672 (4th Cir. 1984), *aff'd in part, vacated in part*, 478 U.S. 385 (1986).

[52] *Bazemore*, 478 U.S. at 400 (internal quotation marks omitted).

[53] *Id.* at 403 n.14.

[54] Sobel v. Yeshiva Univ., 839 F.2d 18, 34 (2d Cir. 1988).

[55] This assumes, of course, the existence of available data. This observation is not meant to suggest that Plaintiffs may withhold available data then criticize the opposing party for failing to make use of that same data Plaintiffs have withheld. It also certainly does not suggest that

> "Implicit in the *Bazemore* holding is the principle that a mere conjecture or assertion on the defendant's part that some missing factor would explain the existing disparities between men and women generally cannot defeat the inference of discrimination created by plaintiffs' statistics. . . . The logic of *Bazemore*, however, dictates that in most cases a defendant cannot rebut statistical evidence by mere conjectures or assertions, without introducing evidence to support the contention that the missing factor can explain the disparities as a product of a legitimate nondiscriminatory selection criterion."[56]

These arguments are also consistent with the D.C. Circuit's earlier holding that "when a defendant claims that a specific factor was sufficiently objective to permit quantification, the defendant's failure to present alternative statistics incorporating the factor will severely undermine its rebuttal."[57]

These cases illustrate that the court's order in *NCAA GIA* referenced above is well-grounded in legal precedent. Mere *ipse dixit* arguments do not carry the day where empirical analysis is required. Once the claimant has presented a one-sided relevant market definition, a rebuttal expert for the defense bears the burden of showing that a multi-sided platform exists and that both sides should be included in the market. This mirrors the burden of proof when a rebuttal expert challenges a regression model on the basis that a relevant variable has been excluded. Assuming the initial analysis has met the standards of admissibility, the rebuttal, the court explained, must not only identify the missing variable, but also present the relevant analysis including that variable.[58]

The district court's order in NCAA GIA with respect to multi-sided platforms should at the very least assuage some concerns that courts will levy the entire burden on plaintiffs and absolve defendants of presenting analytical evidence in rebuttal. I now examine the specific issues that the court raised.

III. Multi-sided Platform Analysis in *NCAA GIA* Litigation

In *American Express*, the Supreme Court explained that the credit card companies represent two-sided platforms that offer different products to two different groups "who both depend on the platform to intermediate between

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[56] Palmer v. Shultz, 815 F.2d 84, 101 (D.C. Cir. 1987).

[57] Seger v. Smith, 738 F.2d 1249, 1287 n.33 (D.C. Cir. 1984).

[58] In re Nat'l Collegiate Athletic Ass'n Grant-in-Aid Cap Antitrust Litig. (*NCAA GIA*), Case No. 14-md-02541-CW, 2018 WL 4241981, at 5 (N.D. Cal. Sept. 3, 2018).

them."[59] "For credit cards that interaction is a transaction."[60] While the NCAA's expert left the number of platform sides undefined, the focus of the NCAA's argument in the *NCAA GIA* litigation has been the effect on end-consumer demand from abolishing the cap on athlete compensation collusively set by NCAA cartel members.[61] In other words, the claimed cross-platform interaction occurs between athletes and fans, whose demand, the NCAA claims, would be affected by this cap's removal.[62] The ostensible reason given is that fans prefer "amateurism"[63] and, though actual prices may not change if it were removed, fan demand would decrease in its absence.

As the district court correctly observed in *NCAA GIA*: "[i]n this litigation, the market participants and their interactions are nothing like what the Supreme Court observed in the context of credit-card transactions in *American Express*. There is no simultaneous interaction or proportional consumption through a platform by different market participants of what essentially constitutes 'only one product.'"[64] This observation is noteworthy for at least two reasons. First, it illuminates the court's reluctance to stray beyond the limits of the Supreme Court's opinion in *American Express* by generalizing multi-sidedness to platforms that do not meet the criteria definitive of credit card networks. Second, it identifies two *sine qua non* characteristics that multi-sided platforms must demonstrate, in the district court's view, to align themselves to the precedent in *American Express*: simultaneous transactions and proportional consumption. I address these seriatim.

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[59] 138 S. Ct. 2274, 2280 (2018) (citation omitted).

[60] *Id.*

[61] *NCAA GIA*, 2018 WL 4241981, at 5; *see also* Defendants' Motion for Summary Judgment and Exclusion of Expert Testimony, and Opposition to Plaintiffs' Motion for Summary Judgment at 40, *NCAA GIA*, No. 4:14-cv-02541 (N.D. Cal. Sept. 29, 2017), ECF No. 704.

[62] *See NCAA GIA*, 2018 WL 4241981, at 5; *see also* Rebuttal Report of Kenneth G. Elzinga at 13–14, *NCAA GIA*, No. 4:14-cv-02758 (N.D. Cal. May 16, 2017), ECF No. 327-13.

[63] *See* 2018–19 NCAA Division I Manual § 12.02.14 (2018), https://web3.ncaa.org/lsdbi/reports/getReport/90008 [https://perma.cc/YQA4-QXQ4] (defining "student-athlete" as "a student whose enrollment was solicited by a member of the athletics staff or other representative of athletics interests with a view toward the student's ultimate participation in the intercollegiate athletics program"); *id.* § 12.1.2 (describing different events that can lead to a student-athlete losing her amateur status).

[64] *NCAA GIA*, 2018 WL 4241981, at 4.

A. Nature of Transactions

In *American Express*, the Court explicitly defined credit card networks as a special case of two-sided platforms known as "transaction platforms" whose key feature is that "they cannot make a sale to one side of the platform without simultaneously making a sale to the other."[65] In other words, a credit card sale cannot occur without a simultaneous interaction between a consumer, the intermediary platform (e.g., Visa, Mastercard, American Express), and the merchant. This cross-platform relationship between agents fundamentally differs from the relationships among market participants in the NCAA collegiate model. As American Express observed in its brief opposing the petition for certiorari:

> "[N]o conflict exists with *NCAA v. Board of Regents of the University of Oklahoma*, 468 U.S. 5 (1984), which analyzed a rule limiting the number of football games colleges could license for television broadcast. *NCAA* is not on point—neither the NCAA, which imposed the rule, nor the product at issue (intercollegiate football games) is two-sided. Rather, the case involved conventional one-sided vertical distribution— the colleges (upstream) selling rights to broadcast football games to the television networks (downstream), which broadcast those games to viewers (the end-consumer)."[66]

Certainly, athletic contests do not require the simultaneous participation of both competitors and fans to occur. While paying fans affect the revenues generated by universities, contests can occur in the absence of fan participation. A further distinction is that the NCAA's own bylaws prohibiting athletes from benefiting from their own name, image, and likeness ("NIL") rights[67] and receiving compensation above COA[68] obviate the multi-sided platform argument in intercollegiate athletics. These NIL rights accrue to the NCAA organization and its member institutions. For example, if a consumer purchases a licensed product such as an Alabama Crimson Tide football jersey, the platform (university), or the NCAA obtain the licensing revenue, not the athlete. As American Express correctly observed in its opposition brief, this transaction reflects a one-sided vertical distribution.[69] The athlete, whose compensation is capped at the COA and who has

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[65] 138 S. Ct. at 2280.

[66] Brief for American Express in Opposition at 19, Ohio v. American Express Co., 138 S. Ct. 2274 (2018) (No. 16-1454).

[67] *See* 2018–19 NCAA DIVISION I MANUAL, *supra* note 63, § 12.5.2.2.

[68] *Id.* § 2.13.

[69] Brief for American Express in Opposition, *supra* note 66, at 19.

rescinded NIL rights in exchange for athletic eligibility, does not participate directly in that sale.

Unlike in *American Express*, where the Court noted that a credit card network "cannot sell transaction services to either cardholders or merchants individually,"[70] universities can do so freely. An athletic scholarship extended to a prospective student recruit does not hinge on a simultaneous individual transaction with any downstream fan(s). Likewise, when a university sells tickets, concessions, or box seats to fans, the transactions do not require the simultaneous participation of athletes in the sale.

In *American Express*, the Court also stated that "the value of the services that a two-sided platform provides increases as the number of participants on both sides of the platform increases. A credit card, for example, is more valuable to cardholders when more merchants accept it and is more valuable to merchants when more cardholders use it."[71] This is also clearly not the case in intercollegiate athletics. On the athlete side, NCAA regulations on head-count sports (e.g., football and basketball) cap the number of scholarships that can be offered, and hence effectively the roster sizes. In equivalence sports, the number of scholarships offered, which are generally partial, is limited by the funds available for that sport. Thus, just as in the academic market, unmet demand exists for the university-"platform" on the student side. While athletic programs benefit from more athletes and demand for those positions exists, the cross-platform benefit to the fans from increased numerosity on the athlete side is weak at best. Fans and donors desire successful athletic programs, with little, if any, focus on roster size beyond that required to field a successful team.[72]

Likewise, the benefits to athletes from increasing the number of athletic program fans or the size of the student body are limited at best. If athletes benefited from large fan bases, schools like Duke University, which has a student body of approximately 6,000 undergraduates and a basketball facility, Cameron Indoor Stadium, that is among the smallest among Power 5 conference members,[73] would likely not achieve the basketball recruiting

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[70] 138 S. Ct. at 2286.

[71] *Id.* at 2281.

[72] *See, e.g.*, Megan Gambino, *The Science of Being a Sports Fan*, SMITHSONIAN.COM, Mar. 25, 2013, https://www.smithsonianmag.com/innovation/the-science-of-being-a-sports-fan-9227430/ [https://perma.cc/D4BX-MY4W] (on file with the Harvard Law School Library).

[73] *See* Mike Waters, *Five facts about Cameron Indoor Stadium as Syracuse basketball prepares to face Duke*, SYRACUSE.COM, Feb. 21, 2014, https://www.syracuse.com/orangebasketball/2014/02/five_facts_about_cameron_indoor_stadium_as_syracuse_basketball_prepares_to_face.html [https://perma.cc/W6PH-6VW3] (on file with the Harvard Law School Library).

success it does. Just as with newspapers, the indirect effects, defined as existing "where the value of the two-sided platform to one group of participants depends on how many members of a different group participate,"[74] from one side are weak, if existent at all. Athletes, particularly highly-recruited ones, have expressed their preferences for programs that offer them the highest likelihood of achieving success, not necessarily for programs that have the largest number of fans.[75] Such weak indirect network effects not only support the district court's order in *NCAA GIA*, but also indicate that, even if universities that participate in intercollegiate athletics were multi-sided platforms, both sides need not be considered. As the Supreme Court observed in *American Express*, "it is not always necessary to consider both sides of a two-sided platform. A market should be treated as one sided when the impacts of indirect network effects and relative pricing in that market are minor."[76]

The Supreme Court's rejection of the newspaper advertising market as a platform subject to multi-sided analysis bears particular relevance to the NCAA antitrust litigation. In *NCAA GIA*, the NCAA's expert proposed that it is helpful to consider magazine publishing to describe the general principles of two-sided markets because "[t]he magazine is the platform that serves both readers and advertisers."[77] The expert then used the magazine market as an analogy for his claim that a university's athletic teams are multi-sided platforms, opining that:

> "Public fans of the university's athletic teams are also a relevant constituency, as are broadcasters, who in a fashion analogous [to] the description of magazines, operate a two-sided platform, themselves, serving viewers (including public fans of the university's teams) and the broadcaster's advertisers."[78]

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[74] *American Express*, 138 S. Ct. at 2280.

[75] This can be observed from the fact that Duke University, for example, has a small alumni and fan base relative to much larger state universities yet routinely garners among the top basketball recruits. *See, e.g.*, Eric Boynton, *Zion Williamson says choosing Duke was a 'business decision,'* GoUpstate.com, Jan. 22, 2018, https://www.goupstate.com/news/20180121/zion-williamson-says-choosing-duke-was-business-decision [https://perma.cc/6ZQ9-57N5] (on file with the Harvard Law School Library); Donnovan Bennett, *Inside the real reasons why R.J. Barrett chose Duke*, Sportsnet, Nov. 23, 2017, https://www.sportsnet.ca/basketball/nba/r-j-barrett-ncaa-duke-2019-nba-draft-top-prospects/ [https://perma.cc/LHP5-K43D] (on file with the Harvard Law School Library).

[76] *American Express*, 138 S. Ct. at 2286.

[77] Expert Report of Kenneth G. Elzinga, *supra* note 6, at 30–31.

[78] *Id.* at 28 n.87.

But because the reader-advertiser relationship in magazines is effectively the same as that in newspapers,[79] the NCAA's expert's argument represents an analogy that that the Supreme Court expressly rejected when it found that such a market should be analyzed as one-sided:

> "[I]n the newspaper-advertisement market, the indirect networks effects operate in only one direction; newspaper readers are largely indifferent to the amount of advertising that a newspaper contains. Because of these weak indirect network effects, the market for newspaper advertising behaves much like a one-sided market and should be analyzed as such."[80]

The logical dependencies are clear: Magazine platforms and newspaper platforms exhibit the same relationships between readers and advertisers.[81] University platforms are analogous to magazine platforms which serve readers and advertisers.[82] Newspaper advertising should be analyzed as a one-sided market.[83] Thus, it follows that university platforms should be analyzed as one-sided. Far from offering support for the NCAA expert's claim that universities are multi-sided platforms, the *American Express* decision expressly rejects it.

B. Proportional Consumption

In *American Express*, the Court observed that the proportional nature of the exchange in credit card networks requires that "whenever a credit-card network sells one transaction's worth of card-acceptance services to a merchant it also must sell one transaction's worth of card-payment services to a cardholder."[84] The Court cited an article on payment card interchange fees, which explained that "[b]ecause cardholders and merchants jointly consume a single product, payment card transactions, their consumption of payment card transactions must be directly proportional."[85] Simply put, the proportionality condition requires the transubstantiation of multi-sided par-

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[79] *See* Simon P. Anderson & Jean J. Gabszewicz, *The Media and Advertising: A Tale of Two-Sided Markets*, (Handbook of the Economics of Art and Culture, Elsevier, Core Discussion Paper 88, 2005) ("Magazines and newspapers are founded on a similar business model and derive much of their revenue from the advertisements they carry.").

[80] *American Express*, 138 S. Ct. at 2286 (citation omitted).

[81] *See* Anderson & Gabszewicz, *supra* note 79.

[82] *See* Expert Report of Kenneth G. Elzinga, *supra* note 6, at 30–31.

[83] *See American Express*, 138 S. Ct. at 2286.

[84] *Id.*

[85] *Id.* (citing Benjamin Klein et al., *Competition in Two-Sided Markets: The Antitrust Economics of Payment Card Interchange Fees*, 73 ANTITRUST L.J. 571, 583 (2006)).

ticipation into a single transaction. Each transaction represents a one-to-one match between cross-platform agents, hence the reference to multi-sided platforms as "matchmakers."[86]

In *NCAA GIA*, this condition fails. With respect to intercollegiate athletics, the *NCAA GIA* litigation focuses on two team sports: football and basketball.[87] In these cases, each game may represent a single transaction. Because of the cooperative nature of team competition, the consumption is far from proportional. Indeed, the extent of spectator participation is indeterminate. On the athlete side, multiple agents, i.e. players, are required to consummate the transaction. On the spectator side, the number of agents, i.e. the fans who attend, could be zero. Regardless of participation levels from either athletes or fans, the price athletes must pay remains the same: they must forego NIL rights and direct compensation to participate in intercollegiate games.[88]

The divergence of intercollegiate athletics from the proportional consumption mechanism that characterizes credit card networks as the multi-sided platforms can be observed through downstream consumers' homing behavior. Fans, particularly alumni of institutions with successful teams in their sport of interest, generally single-home to a significant degree,[89] meaning that they commit resources primarily to one program.[90] That is, they

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[86] DAVID S. EVANS & RICHARD SCHMALENSEE, MATCHMAKERS: THE NEW ECONOMICS OF MULTISIDED PLATFORMS (2016).

[87] In re Nat'l Collegiate Athletic Ass'n Grant-in-Aid Cap Antitrust Litig. (*NCAA GIA*), Case No. 14-md-02541-CW, 2018 WL 4241981, at 1 (N.D. Cal. Sept. 3, 2018).

[88] Certainly, one may observe that fans drive revenues and such revenues are often used as indirect compensation to athletes in the form of more luxurious facilities. A discussion of the substitution of indirect for direct compensation is beyond the scope of this Article.

[89] *See* David S. Evans & Richard Schmalensee, *The Antitrust Analysis of Multi-Sided Platform Businesses, in* OXFORD HANDBOOK ON INTERNATIONAL ANTITRUST ECONOMICS 15 (Roger Blair & Daniel Sokol, eds. 2015) ("An economic agent single-homes if she uses only one platform in a particular industry and multi-homes if she uses several.").

[90] *See* Judith Aquino & Mila D'Antonio, *There's No One More Loyal Than a Sports Fan*, CONSUMER STRATEGIST, Apr. 2015, https://www.ttec.com/articles/theres-no-one-more-loyal-sports-fan [https://perma.cc/53T4-MZMR] (on file with the Harvard Law School Library). Single-homing on other platforms that have been characterized as multi-sided can be observed, for example, when consumers purchase and play on one video gaming platform, such as Microsoft Xbox, to the exclusion of others, or from the seller side, where developers only create games for a particular platform (such as Halo for Xbox or Zelda for Nintendo). With respect to college sports, fans of the University of Alabama are unlikely to also be fans of rival schools such as Louisiana State University, Auburn University, or the University of Florida.

likely do not apportion allegiance among various universities except to the degree required by the adversarial nature of a sport, because watching one's favorite team play a football game requires simultaneously watching the opposing team. Such allegiance can be observed through consumption decisions: season-ticket purchases, paid memberships on individual fan message boards, the purchase of sporting goods with a university logo, and so on. On the other side of the platform, college athletes exclusively single-home among university-platforms, and the NCAA erects barriers to platform-switching through its transfer restrictions. Athletes can only play for one school, and the NCAA imposes significant transfer restrictions, such as the one year in residence requirement, where an undergraduate athlete must sit out of competition for one year after transferring.[91] In some cases, coaches explicitly prohibited transfers to in-conference institutions by refusing to sign transfer releases.[92]

However, as Professors David S. Evans & Richard Schmalensee observe in regard to credit card networks, "[i]n the cases of payments, consumers and merchants both generally use several payment platforms and therefore multi-home in this sense."[93] This important distinction underscores the differences between universities and multi-sided credit card networks. In the latter category, merchants seek out consumers for their goods. In that sense, they are motivated to multi-home, that is, accept more credit card platforms

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Unlike the video game platform scenario, the adversarial nature of competitive sports requires that some multi-homing occur as fans who watch their team play must also watch the opposing team. However, although fans' demand may vary when their team plays against a rival school or a strong opponent versus a weaker one, the favorite team remains the demand driver. With respect to purchases of apparel, the single-homing becomes even more apparent.

[91] *See* 2018–19 NCAA DIVISION I MANUAL, *supra* note 63, § 14.5.

[92] *See, e.g.*, Kellis Robinett, *Receiver Corey Sutton fighting Kansas State for his scholarship release*, THE WICHITA EAGLE, June 1, 2017, https://www.kansas.com/sports/college/big-12/kansas-state/article153670459.html [https://perma.cc/3RSH-VMHQ] (on file with the Harvard Law School Library). However, in June 2018, the NCAA changed the transfer rule to eliminate the "permission-to-contact" process. *See* Michelle Brutlag Hosick, *New transfer rule eliminates permission-to-contact process*, NCAA, June 13, 2018, http://www.ncaa.org/about/resources/media-center/news/new-transfer-rule-eliminates-permission-contact-process?DB_OEM_ID=27900 [https://perma.cc/ZD2G-J5TH] (on file with the Harvard Law School Library). Once an athlete has indicated an intent to transfer, the university's compliance office has two days to enter their name into the "transfer portal." *See id.* Other schools may contact an athlete in the portal, and the athlete may transfer without obtaining a release from her/his current university. *See id.* However, the athlete is still subject to the conference's transfer rules. *See id.*

[93] *See* Evans & Schmalensee, *supra* note 89, at 34.

to ensure the sale. Consumers also multi-home because different cards may offer benefits with regard to purchases from certain merchants (e.g., US Bank's REI Visa card or American Express' Delta Airlines card).[94]

Nonetheless, despite these differences and the district court's summary adjudication under Rule 702 excluding the NCAA expert's opinion that colleges and universities represent multi-sided platforms, the multi-sided argument has apparently survived. It has done so through legal disguise as a procompetitive justification, thus advancing to step two of the rule of reason. As I discuss in the next section, its survival has been predicated upon several factors, including the Supreme Court's *Board of Regents* decision. I argue, however, that this precedent has been abrogated in part by the *American Express* decision, specifically with respect to the use of consumer demand for amateurism as a procompetitive justification.

IV. Multi-sidedness Reborn as a Procompetitive Justification

The multi-sided platform argument's survival through re-branding has benefited from a general lack of clarity in antitrust law regarding what constitutes a procompetitive justification, as evidenced by the variety and surfeit of such arguments in litigation.[95] Both in *O'Bannon*[96] and, at least initially, in *NCAA GIA*,[97] defendants offered a series of claimed procompetitive justifications for collusive restraint that prohibits direct compensation to athletes beyond the COA. While these justifications received significant

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[94] *See* Chris Kissell, *Do I Have Too Many Credit Cards?*, U.S. News, Apr. 17, 2018, https://creditcards.usnews.com/articles/do-i-have-too-many-credit-cards.

[95] *See, e.g.*, John M. Newman, *Procompetitive Justifications in Antitrust Law*, 94 Ind. L.J. (forthcoming 2019) ("In recent years, defendants have attempted to avoid liability by arguing variously that their restraints of trade created a 'healthier market' by facilitating the launch of an online ebook platform, preserved "amateurism" and promoted 'competitive balance' in college sports, promoted the "health and welfare" of horses, helped pay for 'uniforms and newly painted trucks,' integrated college academics and athletic programs, responded to an 'inherently anticompetitive' government-agency action, increased access to Ivy League colleges for financially needy students, promoted student-body diversity, enhanced the defendant's 'market penetration,' helped to limit conflicts of interest among employees, ensured the 'undivided loyalty' of National Football League team owners, helped to fund cemeteries' task of resetting grave memorials that 'have settled or shifted,' and many more.").

[96] O'Bannon v. Nat'l Collegiate Athletic Ass'n, 802 F.3d 1049, 1072 (9th Cir. 2015).

[97] In re Nat'l Collegiate Athletic Ass'n Grant-in-Aid Cap Antitrust Litig. (*NCAA GIA*), Case No. 14-md-02541-CW, 2018 WL 4241981, at 2 (N.D. Cal. Sept. 3, 2018).

attention in the previous *O'Bannon* case, including trial testimony, they were largely abandoned during *NCAA GIA*. In its March 2018 order on cross-motions for summary judgment, the district court addressed the nine procompetitive justifications offered by the Defendants.[98] Of these nine, the only two that survived summary judgment were whether the challenged NCAA rules serve Defendants' asserted procompetitive purposes of (1) integrating academics with athletics, and (2) preserving the popularity of the NCAA's product by promoting its current understanding of amateurism.[99]

Judge Wilken granted summary judgment on six claimed procompetitive justifications, finding that defendants did not attempt to meet the burden of providing "specific evidence, through affidavits or admissible discovery material, to show that the dispute exists."[100] Defendants also presented another, namely that "colleges must price participation in activities, including athletics, to provide an 'optimal balance' for different constituents."[101] The court also granted summary judgment on this issue, observing that defendants had attempted to characterize their expert's opinion on multi-sided platforms as representing a procompetitive justification.[102] Importantly, the court noted that "this purportedly new justification seems largely to overlap with Defendants' two remaining *O'Bannon* justifications of integrating academics with athletics."[103] This observation highlights the court's acknowledgement of the superficial metamorphosis of the multi-sided platform argument, excluded in summary judgment, into the claimed procompetitive justification of preserving consumer demand for amateurism that has survived to trial. The argument's form has indeed changed, but the substance remained the same. As the Ninth Circuit observed in *O'Bannon*, substance is what matters, and antitrust laws are not to be avoided by "clever manipulation of words."[104]

In rejecting the parties' cross-motions for summary adjudication of the question whether the NCAA's challenged restraint enhances the popularity of its product by promoting amateurism, the District Court in the *NCAA*

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[98] In re Nat'l Collegiate Athletic Ass'n Grant-in-Aid Cap Antitrust Litig. (*NCAA GIA*), Case No. 14-md-02541-CW, 2018 WL 1524005, at 10 (N.D. Cal. Mar. 28, 2018).

[99] *Id.* at 11.

[100] *Id.* at 10 (quoting Bhan v. NME Hosps., Inc., 929 F.2d 1404, 1409 (9th Cir. 1991)).

[101] *Id.* at 11 (citation omitted).

[102] *Id.*

[103] *Id.*

[104] O'Bannon v. Nat'l Collegiate Athletic Ass'n, 802 F.3d 1049, 1065 (9th Cir. 2015) (quoting Simpson v. Union Oil Co. of Cal., 377 U.S. 13, 21–22 (1964)).

GIA, citing to the deposition of NCAA survey expert Dr. Bruce Isaacson, ruled that:

> "Defendants have presented sufficient evidence in support of the two procompetitive effects found in O'Bannon to create a factual issue for trial. This includes a survey of consumer preferences, which led Defendants' expert Dr. Bruce Isaacson to conclude that fans are drawn to college football and basketball in part due to their perception of amateurism."[105]

Dr. Isaacson's explained his opinion in his rebuttal report to plaintiffs' expert Dr. Hal Poret, opining that:

> "The results of my survey are also counter to the conclusion that permitting additional compensation to student-athletes would not impact consumer demand for college sports. On the contrary, the results of my survey indicate that various forms of compensation and benefits provided to student-athletes (particularly unlimited payments) are opposed by a substantial percentage of fans, and that amateurism is an important reason why fans are drawn to college football and college basketball."[106]

This opinion simply reflects the repackaged doppelganger of the NCAA's multi-sided platform theory that the Court rejected in summary judgment. Indeed, Professor Elzinga, who proffered the subsequently-excluded "university as a multi-sided platform" theory, offered a virtually identical opinion to Dr. Isaacson in claiming that removing the collusive restraint that caps athlete compensation at COA would reduce a university's cross-platform demand for the athletic product:

> "[I]f a college or university were to change the "price" on the side of the platform that represents student-athletes such that they are no longer amateurs, that will exert a negative effect on demand for participation in the platform by other constituencies (i.e., other sides of the multisided platform) including students, alumni, and non-university affiliated fans, and reduce the value of the college athletics model to all participants, including student-athletes."[107]

Echoing the arguments above, another NCAA expert, Professor James Heckman, also offered an additional variation on effectively the same multi-sided platform argument by opining on the nature of indirect network effects:

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[105] *NCAA GIA*, 2018 WL 1524005, at 9.

[106] Rebuttal Report of Dr. Bruce Isaacson at 75, *NCAA GIA*, No. 4:14-cv-02758 (N.D. Cal. May 16, 2017), ECF No. 303-2 (emphasis added).

[107] Expert Report of Kenneth G. Elzinga, *supra* note 61 at 14 (emphasis added).

> "The effects of athletes receiving significant increases in compensation could entail further *feedback effects* until a new equilibrium is achieved . . . For example, *a decrease in viewership* will further decrease athletic budgets, which in turn will further decrease spending on tutoring, which in turn will further erode the student component of the student-athlete connection, which in turn would further erode the amateurism nature of college athletics, leading to additional *decrease in viewership*, etc."[108]

The language used by the NCAA's experts to claim a pro-competitive justification to the NCAA's restraint reflects the common description of interactions among agents in multi-sided platforms where "[t]here exists a *feedback loop* between the two sides."[109] Simply put, the argument advanced by the NCAA and its experts is that some consumers will cease to watch college sports, not because of any tangible price increases—indeed, Professor Elzinga offers the term "price" in quotation marks—but rather because their preference for NCAA amateurism, despite its shifting definitions, would cause the product to have less "value" to them if athletes were directly compensated beyond COA.

Defendants' multi-sided market theory of intercollegiate athletics has apparently survived summary adjudication and been re-branded as a pro-competitive justification that the NCAA supported through the Isaacson survey and additional expert testimony. By masking the multi-sided argument as a pro-competitive justification, the NCAA has preserved the ability defend its restraint by offering qualitatively the same argument in step two of the rule of reason analysis despite its rejection by the court in step one. This ability of the multi-sided argument to escape summary adjudication has been aided the breadth of arguments permitted as procompetitive justifications, as evidenced by the opacity of the term "value." As described subsequently, the concept of value has a clear meaning in the context of multi-sided platforms. That meaning is no less clear in the context of the

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[108] Expert Direct Examination Declaration of Professor James J. Heckman at 14, *NCAA GIA*, No. 4:14-cv-02758 (N.D. Cal. July 11, 2018), ECF No. 986-2 (first emphasis added).

[109] David S. Evans & Richard Schmalensee, *The Industrial Organization of Markets with Two-Sided Platforms*, *in* PLATFORM ECONOMICS: ESSAYS ON MULTI-SIDED BUSINESSES 2, 10 (David S. Evans ed., 2011) (emphasis added); *see also id.* at 24 ("The link between the customers on the two-sides affects the price elasticity of demand and thus the extent to which a price increase on either side is profitable . . . These positive feedback effects may take some time to work themselves out . . . ."); Evans & Schmalensee, *supra* note 88, at 44 ("There is a membership externality when the value received by agents on one side increases with the number of agents—or some related measure of their aggregate value—participating on the other side . . . This phenomenon results in the well-known positive feedback loop.").

consumer welfare standard according to which courts currently adjudicate alleged anticompetitive conduct.

A. The Consumer Value Concept

In multi-sided platforms of the type analyzed in *American Express*, the proportional nature of the transaction informs the network effects that influence the pricing mechanism.[110] If a credit card system lowers the price (e.g., by increasing benefits or decreasing annual fees) to cardholders, their usage of the platform will increase. This, in turn, increases the number of transactions on the merchant side, and, as result, their value of that same payment platform. It is important to note that, in this context, the term value has a specific meaning. In their example of network effects in two-sided newspaper platforms, Professor Benjamin Klein et al. explained that:

> "∂PA/∂QR and ∂PR/∂QA are the cross (network) effects, or how much the value of advertising to advertisers increases with increasing quantities of readers and how much the value of the newspaper to readers increases with increasing quantities of advertising."[111]

The change in value is translated as the *change in the transaction price that agents on one side of the platform are willing to pay for an increase in the number of agents on the other side*. In payment card systems, "[t]he value of the payment system to merchants depends on the volume of transactions made by cardholders."[112] That is, merchants would be willing to pay a higher fee to use a card system that results in a greater number of transactions by cardholders. Likewise, other things equal, cardholders would be willing to pay a higher price (e.g., higher annual fee) or accept fewer cardholder benefits) if more merchants accepted the card. In other words, value is defined as the price that platform agents are willing to pay to participate in it.

With this definition of value in mind, it becomes immediately apparent that the purported multi-sided platform theory offered by the NCAA's experts predicts the exact opposite of what we would expect to occur in such platforms. Given the downward-sloping demand curve that characterizes normal goods, we expect demand to increase as price falls, all other things equal. If that price is lowered to negative levels, i.e., athletes receive compensation beyond the cost of attendance, we would expect the fall in price to yield increased athlete demand. We should then observe that increased de-

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[110] Ohio v. American Express Co., 138 S. Ct. 2274, 2286 (2018).

[111] Benjamin Klein et al., *Competition in Two-Sided Markets: The Antitrust Economics of Payment Card Interchange Fees*, 73 ANTITRUST L.J. 571, 578 (2006)).

[112] *Id.* at 584.

mand on one side of the platform results in increased demand on the other side, i.e., more fans. Yet, the NCAA's experts predict that increasing the price to college athletes by reducing their compensation increases the quantity of college sports sold to downstream fans. But increasing the price to athletes by collusively restricting their pay results in less demand, as observed by the stream of players declaring early for professional drafts. A court has rejected a similar argument to the one offered by the NCAA's experts on the basis that it violates "perhaps the most fundamental principle in economics," finding that:

> "Increasing the price of one HRB DDIY product in the simulation, TaxCut Online Basic, appears to increase the quantity of the product sold, holding other variables constant. This anomaly violates the fundamental economic principle that 'demand curves almost always slope downward,' which holds that, all other things being equal, consumers buy less of a product when the price goes up."[113]

Indeed, it should be readily obvious that, if NCAA members truly believed that directly compensating athletes for play would result in decreased fan demand that made schools worse off, schools that behave rationally would decide not to engage in such compensation.

For example, suppose that additional pay beyond COA entices high-profile athletes, who would have declared for the National Basketball Association draft before exhausting their eligibility, to play in the NCAA or to extend their NCAA career. In market characterized by multi-sided platform(s), the athletes' increased demand would draw additional fans. This, of course, is consistent with the fact that universities compete on compensation for coaches[114], who are then expected to recruit top athletes to the university. Certainly, it is well documented and recognized that universities seek to attract athlete demand to their platform by providing recruiting incentives including facilities, dorms with enhanced amenities, and the like.[115] The argument the NCAA proffers is that such indirect compensation does

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[113] United States v. H & R Block, Inc., 833 F. Supp. 2d 36, 68 (D.D.C. 2011).

[114] *See* Jim Baumbach, *Special report: College football coaches' salaries and perks are soaring*, NEWSDAY, Oct. 4, 2014, https://www.newsday.com/sports/college/college-football/fbs-college-football-coaches-salaries-are-perks-are-soaring-newsday-special-report-1.9461669 [https://perma.cc/F2L3-Q4E7] (noting that Andrew Zimbalist, an economics professor at Smith College who specializes in sports, said that "[s]chools justify these salaries on the grounds that it's a competitive marketplace, that they have to pay to get a good coach") (on file with the Harvard Law School Library).

[115] *See, e.g.*, Will Hobson & Steven Rich, *Colleges spend fortunes on lavish athletic facilities*, CHICAGO TRIBUNE, Dec. 23, 2015, https://www.chicagotribune.com/

not reduce fan demand, yet directly compensating athletes would do so. Paradoxically, the NCAA's position appears to be that direct compensation to athletes, which would increase athlete demand, would actually *lower* fan demand. This is despite the fact that increased compensation to coaches is justified on the basis that it increases athlete demand for a university and thus *increases* fan demand.

B. Implications for NCAA v. Board of Regents

The Supreme Court's decision in *American Express* and its subsequent interpretation in *NCAA GIA* have significant implications on current and potential future antitrust litigation regarding the NCAA's model of amateurism. In the seminal *Board of Regents* case, the Supreme Court found that

> "to preserve the character and quality of the "product," athletes must not be paid, must be required to attend class, and the like . . . {T]he NCAA plays a vital role in enabling college football to preserve its character, and as a result enables a product to be marketed which might otherwise be unavailable. In performing this role, its actions widen consumer choice—not only the choices available to sports fans but also those available to athletes . . . ."[116]

As evidenced by the observation that the prohibition on athlete payment contributes to the fan-enhancing character of college sports, the Supreme Court's opinion is predicated upon the existence of a relationship between athletes and downstream consumers (sports fans). In the Court's description, this relationship represents a network effect such that the price paid by athletes on one side affects not only their own demand but also the cross-platform demand of consumers. Indeed, what the *Board of Regents* Court assumed to hold is that, if athletes receive payment such that the price they pay for participation in intercollegiate athletics is lower or negative (i.e. they receive a net payment), the demand of sports fans for the product, intercollegiate competition, will decline.

Though not expressly stated, as the concept of multi-sidedness is relatively new, the *Board of Regents* Court's assumption relies on an implied multi-sided theory of the market for intercollegiate athletics. That is, the Court's underlying assumption was that the universities act as platforms that, through horizontal agreement, allow the product to exist, and that

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sports/college/ct-athletic-facilities-expenses-20151222-story.html [https://perma.cc/C4XD-2CSE?type=image] (on file with the Harvard Law School Library).

[116] Nat'l Collegiate Athletic Ass'n v. Bd. of Regents of the Univ. of Okla., 468 U.S. 85, 102 (1984).

product exists because of participation by both athletes and fans. But, for this position to remain consistent with the *American Express*, the products' existence requires simultaneous participation and simultaneous consumption by both athletes and fans. As discussed previously, neither condition holds in intercollegiate athletics. Further, it is clear that if a product were to exist even in the absence of substantial fan demand, as it does in many sports, then the relevant market definition is one-sided. As the court explained in *American Express*, if indirect network effects are weak or non-existent, then the market should be analyzed as one-sided.[117] Thus, claimed cross-platform effects should not be used either in the relevant market definition or as a procompetitive justification because the such a justification does not affect the relevant market in question. Procompetitive justifications are analyzed with respect to the relevant market where the restraint is imposed, not on some other market subject to a separate analysis.

It is useful, then, to revisit the relevant market definition adopted by the district court in *NCAA GIA*, which reflected the previous market definition from *O'Bannon*. The *O'Bannon* trial court found that:

> "[T]he evidence presented at trial established that [Football Bowl Subdivision ("FBS")] football and Division I men's basketball schools compete to recruit the best high school football and men's basketball players in a relevant market for a college education combined with athletics. In exchange for educational and athletic opportunities, the FBS and Division I schools compete 'to sell unique bundles of goods and services to elite football and basketball recruits.' . . . [T]his market, alternatively, could be understood as a monopsony, in which the NCAA member schools, acting collectively, are the only buyers of the athletic services and NIL licensing rights of elite student-athletes."[118]

It is clear from the court's definition that the relevant market involves the interaction between football and basketball athletes and FBS and NCAA Division I schools. Consistent with this market definition and the observation that the claimed interaction between athletes and downstream consumers does not meet the standards for multi-sidedness established by the Supreme Court in *American Express*, the *NCAA GIA* court rejected expert testimony that the relevant market definition should encompass the plat-

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[117] Ohio v. American Express Co., 138 S. Ct. 2274, 2286 (2018).

[118] In re Nat'l Collegiate Athletic Ass'n Grant-in-Aid Cap Antitrust Litig. (*NCAA GIA*), Case No. 14-md-02541-CW, 2018 WL 1524005, at 1 (N.D. Cal. Mar. 28, 2018) (citing O'Bannon v. Nat'l Collegiate Athletic Ass'n, 7 F. Supp. 3d 955, 965–68, 973, 986–88, 993 (N.D. Cal. 2014)).

form-fan interaction.[119] As such, the district court's ruling indicates that the commercial relationships between NCAA members and fans occur in an entirely separate market, which is subject to its own analysis. There is no basis to conclude that an anticompetitive restraint in one market can be offset by a claimed procompetitive justification in an entirely different market. Accordingly, the NCAA's claimed justification that amateurism fosters consumer demand is irrelevant for the purpose of assessing the anticompetitive effects on its members' horizontal restraint on competition.[120]

V. Conclusion

It seems clear, then, that if the relevant market is properly limited to the one-sided exchange between athletes and the university-platform for the former's athletic labor, the restraint on compensation is no longer affected by any claimed procompetitive justification of preserving downstream consumer demand. As such, after *American Express*, the claim that the restraint on athlete compensation under the NCAA's collegiate model can be justified as preserving the popularity of the product has been rendered moot and should not be considered as a procompetitive justification.

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[119] In re Nat'l Collegiate Athletic Ass'n Grant-in-Aid Cap Antitrust Litig. (*NCAA GIA*), Case No. 14-md-02541-CW, 2018 WL 4241981, at 6 (N.D. Cal. Sept. 3, 2018).

[120] Indeed, this point also affects the distributive effects that the NCAA claims result from its restriction on athlete compensation. One defense of NCAA amateurism has been that the profits from "revenue" sports of football and basketball are used to fund athletic scholarships in other sports, thereby increasing output. Whether this is true is irrelevant to the antitrust argument and does not serve as a procompetitive justification. This is because, as the NCAA has agreed, the relevant market in both *O'Bannon* and *NCAA GIA* has been limited to football and men's and women's basketball. As such, in these cases, both the restraint and any claimed procompetitive justifications should be analyzed *in only this market*. Positing that output may be increased in some other as-yet-undefined market that has not been analyzed offers no justification for an anticompetitive restraint in the relevant market at issue.

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How Blockchain Technology Can Revolutionize the Music Industry

Arya Taghdiri*

I. Introduction

The music industry is driven on smoke and mirrors – distributors and record labels are not usually willing to disclose who owns the rights to what music in what territory and for what type of use.[1] Meanwhile, an underlying information access asymmetry compromises the relationship between content creators[2] and intermediaries (i.e. labels, publishers and streaming services).[3] In this archaic system, intermediaries take transactional fees without any reasonable present day justification, and royalty payments are often delayed and/or distributed to the wrong persons.[4] Yet, Paul McCartney's recent lawsuit against Sony,[5] Duran Duran's lost lawsuit with Sony/ATV,[6]

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[1] *See* George Howard, Everything In Its Right Place: How Blockchain Technology Will Lead To A More Transparent Music Industry 7–9 (2017).

[2] This paper will use the term "content creator" to reference artists, musicians, songwriters, or anyone else responsible for the contribution of any music-related media content.

[3] *See* Imogen Heap, *Blockchain Could Help Musicians Make Money Again*, Harvard Business Review, June 5, 2017, *available at* https://hbr.org/2017/06/blockchain-could-help-musicians-make-money-again, [https://perma.cc/D9XF-HPJK].

[4] *Id.*

[5] *See* Jonathan Stempel, *Paul McCartney Settles with Sony/ATV Over Beatles Music Rights*, Reuters (June 30, 2017, 9:34 AM), https://www.reuters.com/article/us-

and Dr. Dre's lawsuit against Death Row Records[7] demonstrate that content creators are now, more than ever, pushing for fairness and transparency within the boundaries of the music industry.[8] In this context, the blockchain ledger, a completely transparent and secure peer-to-peer sharing platform, offers a solution.

The widespread implementation of blockchain technology within the music industry equates to (a) increased royalty payouts for content creators; (b) increased overall transparency; (c) automation of payments; and (d) the removal of unwanted third-party intermediaries.[9] The blockchain ledger introduces a music ecosystem more suitably adapted to the technological advances in our society; advances unaccounted for in the current, antiquated system in place.[10] The inherent transparency of the blockchain ledger itself, combined with the use of smart contracts, and an all-encompassing global copyright database resurrects the excitement of peer-to-peer sharing that faded with the once popular music-sharing platform, Napster,[11] and all but ensures an improved relationship between content creators and fans. This new music ecosystem - a completely open platform, free of any prior restrains - presents content creators with a unique opportunity to shape their own financial futures.

This paper will examine how blockchain technology can effectively remedy various ongoing issues in the music industry. This paper proceeds as follows: Part II will provide a brief introduction and explanation of the blockchain ledger, cryptocurrencies, and smart contracts; comprehension of the arguments made in favor of blockchain's widespread adoption in the music industry requires a fundamental understanding of the blockchain

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people-paulmccartney/paul-mccartney-settles-with-sony-atv-over-beatles-music-rights-idUSKBN19L2ET, [https://perma.cc/F5UM-SQZH].

[6] *See Duran Duran 'Shocked' After Losing Legal Copyright Battle*, BBC NEWS (Dec. 2, 2016), https://www.bbc.com/news/entertainment-arts-38182418, [https://perma.cc/AG42-F9N9].

[7] *See* Young v. Wideawake Death Row Entm't LLC, No. CV 10-1019 CAS (JEMx), 2011 U.S. Distr. LEXIS 158553, 2011 WL 12565250 (C.D. Cal. 2011).

[8] Heap, *supra* note 3.

[9] *See id.*

[10] *See* Jared S. Welsh, Comment, *Pay What You Like - No, Really: Why Copyright Law Should Make Digital Music Free for Noncommercial Uses*, 58 EMORY L.J. 1495, 1522 (2009) ("[N]ew technologies have actually helped to increase the demand for recorded music by making its consumption more convenient and reducing search costs[,] . . . [yet] the industry continues to lose profits . . . protecting its entrenched capital [and] defending its outdated methods in court rather than updating them").

[11] *See* H. Michael Drumm, Note, *Life After Napster: Will its Successors Share its Fate?*, 5 TEX. REV. ENT. & SPORTS L. 157 (2003) (discussing the demise of Napster).

technology itself. Subsequently, in Part III, this paper examines blockchain technology's ability to transform the music industry and strengthen the overall relationship between content creators and fans. In particular, it will analyze how the separation between content creators and fans will subside instantaneously, owing to the use of (1) Smart Contracts; (2) the implementation of a uniform, decentralized global copyright database; and (3) the blockchain ledgers' ability to accurately track and encrypt data. Part IV introduces several blockchain-based startups (such as Grammy-award-winning recording artist's Imogen Heap's Mycelia) that utilize the blockchain ledger in a variety of different ways, presenting innovative and sophisticated solutions to some of the music industry's on-going issues.[12] Finally, Part V assesses barriers to the widespread adoption and usage of blockchain technology within music industry, followed by predictions regarding how likely, and when, if ever, a blockchain-based paradigm shift in the music industry will result.

II. Introduction to Blockchain Technology

A. Introduction

Blockchain technology proffers a revolutionary framework that may one day completely restructure today's outdated and unbalanced music industry. Understanding the mechanisms by which this transformation may eventually materialize requires a basic understanding of several blockchain technologies. The following section simplifies the principle characteristics of the blockchain ledger, cryptocurrencies, and smart contracts.

B. Introduction to the Blockchain Ledger

Blockchain, the technology at the heart of Bitcoin and other digital currencies, is an open, distributed ledger with the ability to record transactions between two parties efficiently, and in a verifiable, permanent manner.[13] The blockchain ledger stores information in a fashion that makes it virtually impossible to add, remove, or change data without detection from other users; to that end, experts consider the blockchain ledger virtually impossible to corrupt.[14] The specific mechanism making this network so

[12] *See* Heap, *supra* note 3.

[13] *See* Heap, *supra* note 3.

[14] *Blockchain – The New Technology of Trust*, Goldman Sachs, https://www.goldmansachs.com/insights/pages/blockchain/, [https://perma.cc/QV5V-83YE] (last visited Nov. 16, 2018) (on file with the Harvard Law School Library).

uniquely secure is called a Proof-of-Work ("PoW") system: in a PoW system, thousands of computers authorize, back, and achieve consensus on every transaction.[15] No singular entity owns the blockchain; thus, it is immutable and there is no single point of penetration or vulnerability for those attempting to hack or otherwise corrupt the data on the blockchain ledger.[16]

To that end, blockchain is the first technology that enables the transfer of digital ownership in a decentralized and trustless manner.[17] The implications of living in a world where contracts and data are completely transparent and secure, and where transactions can be executed more quickly and efficiently without third-party intermediaries, in theory, revolutionizes and disrupts the customary mechanisms by which traditional industries operate.[18] For example, in the world of finance, third-party intermediaries, such as lawyers and bankers, may no longer be necessary; and in the world of music, the need for third-parties such as music publishers, music managers, and music distributers may become altogether discretionary.

C. Introduction to Bitcoin and Cryptocurrencies

Satoshi Nakamoto[19] originally developed the blockchain ledger as part of the digital currency Bitcoin.[20] While Bitcoin, a type of digital currency, operates on the blockchain platform, the two differ completely in functionality.[21] Bitcoin is a type of cryptocurrency.[22] A cryptocurrency is a "purely electronic form of money designed to take advantage of the distributed, de-

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[15] HOWARD, *supra* note 1, at 23.

[16] Arthur Iinuma, *What Is Blockchain And What Can Businesses Benefit From It?*, FORBES Apr. 5, 2018, https://www.forbes.com/sites/forbesagencycouncil/2018/04/05/what-is-blockchain-and-what-can-businesses-benefit-from-it/#f8cb04675fe8, [https://perma.cc/QM26-MMF2] (on file with the Harvard Law School Library).

[17] *Id.*

[18] *Id.*

[19] *See* Jeffrey Tucker, *Why It's Okay That Satoshi's Real Identity Remains Anonymous*, FORBES (Oct. 21, 2018, 12:55 PM), https://www.forbes.com/sites/jeffreytucker/2018/10/21/i-dont-want-to-know-satoshis-real-identity/#1547d8e62247, [https://perma.cc/W66H-9X2K] ("One of the beautiful aspects of Bitcoin is that the creator is still unknown. 'Satoshi Nakamoto' is a pseudonym").

[20] *See* Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System*, BITCOIN, Nov. 16, 2018, *available at* https://bitcoin.org/bitcoin.pdf, [https://perma.cc/4P3C-8463].

[21] *See* Matt Lucas, *The Difference Between Bitcoin and Blockchain for Businesses*, IBM, May 9, 2017, https://www.ibm.com/blogs/blockchain/2017/05/the-difference-between-bitcoin-and-blockchain-for-business/, [https://perma.cc/T89X-ZDJ8] (on file with the Harvard Law School Library) (discussing the relationship between Bitcoin and Blockchain; specifically, distinguishing between the two. According to Lucas,

centralized, and trust-building nature of the blockchain."[23] Hence, Bitcoin is a digitalized, unregulated currency with no central authority, bank, or administrator and it can be sent from user-to-user on the peer-to-peer Bitcoin network without intermediaries.[24]

George Howard, CIO of Los Angeles music rights company Riptide and associate professor at Berklee College of Music and Brown University analogizes Bitcoin's relationship with blockchain to the relationship between pornography and the Internet.[25] According to Howard,

> "Bitcoin is simply a currency that utilities the Blockchain as a decentralized registry of transactions . . . thus, in the same way pornography drove the early development of the internet, these early adopters of Bitcoin – motivated by the promise of utilizing the nascent technology to satisfy their very specific needs – may end up creating markets and technologies that ultimately lay the foundation for more generalized uses."[26]

To Howard's point, the early success and popularity of Bitcoin and other cryptocurrencies, while potentially fleeting, has led to increasing global interest and awareness of the underlying blockchain technology.[27] As Howard correctly predicted, this global attention has driven the innovation of several other blockchain-based technologies – most notably, smart contracts. Smart contracts, in essence, "digital contracts," are arguably the most promising application of blockchain technology to date.[28]

Bitcoin was the first application of the blockchain, and this is probably where the confusion between the two technologies began).

[22] *See* Nakamoto, *supra* note 20.

[23] OMID MALEKAN, THE STORY OF THE BLOCKCHAIN: A BEGINNER'S GUIDE TO THE TECHNOLOGY THAT NOBODY UNDERSTANDS 15 (2018).

[24] *See* GOLDMAN SACHS, *supra* note 154.

[25] *See* HOWARD, *supra* note 1, at 13.

[26] *Id.* at 14.

[27] *See* Jamie Ballard, *79% of Americans are Familiar with at Least One Kind of Cryptocurrency*, YOUGOV, Sept. 6, 2018, https://today.yougov.com/topics/finance/articles-reports/2018/09/06/cryptocurrency-bitcoin-popular-americans, [https://perma.cc/6XK2-3VWZ] (on file with the Harvard Law School Library); *Global Blockchain Market Grows as Financial Organizations Adopt the Technology*, MARKETWATCH, Sept. 14, 2018, https://www.marketwatch.com/press-release/global-blockchain-market-grows-as-financial-organizations-adopt-the-technology-2018-09-14-9183510, [https://perma.cc/2M9R-5YT8] (on file with the Harvard Law School Library).

[28] *See* Joe Liebkind, *Are Smart Contracts the Best of Blockchain?*, INVESTOPEDIA, Oct. 12, 2017, https://www.investopedia.com/news/are-smart-contracts-best-blockchain/, [https://perma.cc/T48D-VTSN] (on file with the Harvard Law School Library).

D. Introduction to Smart Contracts

Smart contracts allow for two or more parties to implement their own terms and conditions into a binding digital ledger.[29] Smart contracts automatically enforce obligations on parties once these terms and conditions are met.[30] Proponents of smart contracts envision a future where commerce takes place exclusively using smart contracts, eliminating the need for contractual drafting and intermediation by courts altogether.[31]

The following illustration demonstrates how smart contracts operate in practice: Someone wants to sell their smartphone, and in today's world that person utilizes a platform such as Amazon, or EBay, that acts as an intermediary between buyer and seller.[32] Often, banks process the payments on these platforms, which will cost the buyer, and occasionally the seller, extra money in the form of a transactional fee.[33] Now, because of smart contracts, which enable peer-to-peer transactions, the exchange of commercial goods and services between two or more parties is possible without the need for any third-party intermediary.[34] The transactional fees that intermediaries and central authorities (in this example, Amazon, EBay, and the bank) customarily secure will no longer be unavoidable.[35] As it relates to the music industry, smart contracts prove especially valuable to smaller name content creators. These smaller name content creators, especially those without the backing of a major record label, often struggle to make a living for themselves in the current system in place – a system that forces them to surrender most of their profits to centralized management and intermediaries.[36]

Smart contracts, while certainly disruptive in their own capacity, are just one of various blockchain-based mechanisms with the potential to revo-

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[29] HOWARD, *supra* note 1, at 23.

[30] *See id.*

[31] *See generally* Jeremy M. Sklaroff, Comment, *Smart Contracts and the Cost of Inflexibility*, 166 U. PA. L. REV. 263 (2017).

[32] *See* Oliver Herzfeld, *Smart Contracts May Create Significant Innovative Disruption*, FORBES (Feb. 22, 2016, 11:28 AM), https://www.forbes.com/sites/oliverherzfeld/2016/02/22/smart-contracts-may-create-significant-innovative-disruption/#29b238c1396a, [https://perma.cc/D5DS-ZG5G] (discussing platforms, such as eBay, that "facilitate the purchase of goods or engagement of services to be provided by third parties").

[33] *Id.*

[34] *Id.*

[35] *Id.*

[36] *See* Andrew Rossow, *Blockchain Aims to Be The Biggest Stage For Empowering Music Artists*, FORBES (May 27, 2018, 8:39 PM), https://www.forbes.com/sites/andrewrossow/2018/05/27/blockchain-aims-to-be-the-biggest-stage-for-empowering-music-artists/#274ae0173e0b, [https://perma.cc/G4XH-PEB8].

lutionize the music industry. Part II will discuss these other mechanisms in further detail, examining how exactly their widespread implementation within the music industry can benefit content-creators and fans alike.

III. How Blockchain Technology Can Transform the Music Industry

A. *Introduction*

The secure nature of blockchain technology abridges the gap between content creators and consumers by cutting out intermediaries, allowing for quick and seamless transactions and ensuring the transparency of all music-related information.[37] Then, if in fact blockchain technology lays the foundation for a new music ecosystem, the relationship between content creators and fans will strengthen over time. In this light, blockchain technology has the potential to change the landscape of the music industry for the better. These profound changes manifest themselves in three ways. First, smart contracts completely corrode the traditional relationship between content creators and intermediaries.[38] No longer will content creators rely on intermediaries, such as purchasing platforms and financial brokers that traditionally yield sizeable dividends of content creators' royalty payments.[39] Rather, these content creators will receive direct and fair compensation each time one of their musical works is used.[40] These facilitated transactions will appeal to all content creators – especially amateur content creators who do not have the backing of a major record label.[41]

Second, widespread implementation of the blockchain ledger within the music industry provides content creators with valuable information regarding the use and sales of their musical works.[42]

Lastly, fans and content creators both benefit from the creation of a global database registry that stores all copyright data. As it stands, "the title to any given piece of music and performance is recorded in multiple, often-

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[37] *See* Howard, *supra* note 1, at 23.

[38] Imogen Heap, *Smart Contracts For the Music Industry*, Medium, Mar. 15, 2018, https://medium.com/humanizing-the-singularity/smart-contracts-for-the-music-industry-3e641f87cc7, [https://perma.cc/ZLY8-ZKVD] (on file with the Harvard Law School Library).

[39] *See* Howard, *supra* note 1, at 23.

[40] *See* Heap, *supra* note 3.

[41] *Id.*

[42] *Id.*

conflicting and/or incomplete records of who owns the rights to what."[43] Collective management organizations ("CMOs") often fail to acknowledge and/or compensate content creators for their works.[44] The implementation of this universal ledger guarantees that content creators will receive correct and timely compensation and accreditation.[45]

B. Smart Contracts Facilitate Quick, Accurate, and Secure Payouts

Reports suggest that the average musician makes $23.40 for every $1,000 of her music sold - a meager two percent net profit.[46] Labels, publishers, and streaming services exploit the information imbalance between themselves and content creators, perpetuating an inequitable arrangement between the two sides.[47] Smart contracts, conversely, eliminate the need for content creators to navigate their way through costly purchasing platforms and financial brokers - allowing them to sell their products directly to their fans and consequently eliminating all transactional costs.[48] More specifically, smart contracts allow the original creator of a musical work to determine how/if/when/and at what exact price others can use her works.[49]

Execution of a smart contract over the blockchain network de facto eliminates the need for third-party intermediaries to review and/or confirm transactions. Use of these self-executing contracts binds all involved parties to the rules and determinations of the underlying code; and so, smart contracts may, in the not so distant future, eliminate the need for attorneys and litigation entirely – ergo, cutting costs for content creators.

This revamped business model is especially valuable to smaller name content creators, without the backing of a major record label, and less revenue at their disposal. With facilitated transactions and an accessible, decon-

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[43] *Blockchain: Recording the Music Industry: How Blockchain Technology Could Save the Music Industry Billions*, PRICEWATERHOUSECOOPERS LLP, https://www.pwc.fr/fr/assets/files/pdf/2018/07/pwc-blockchain-recording-music-industry.pdf, [https://perma.cc/48BM-C2TH] (last visited Nov. 17, 2018) (on file with the Harvard Law School Library).

[44] *Id.*

[45] *See id.*

[46] *See* C. BYUN, THE ECONOMICS OF THE POPULAR MUSIC INDUSTRY: MODELLING FROM MICROECONOMIC THEORY AND INDUSTRIAL ORGANIZATION 95 (2014).

[47] *See* Heap, *supra* note 3.

[48] Yessi Bello Perez, *Imogen Heap: Decentralising the Music Industry with Blockchain*, MYCELIA FOR MUSIC, http://myceliaformusic.org/2016/05/14/imogen-heap-decentralising-the-music-industry-with-blockchain/, [https://perma.cc/LF2T-GYBK] (last visited Nov. 17, 2018) (on file with the Harvard Law School Library).

[49] *See id.*

gested market, a new wave of amateur content creators will likely step into the new blockchain-enabled music industry. This influx of new content creators will likely lead to an influx of overall music published, quantity-wise, and as a result, both fans and content creators triumph.

1. Does the Music Modernization Act Already Ensure Quick, Accurate and Secure Payouts – Absent Smart Contracts?

In late 2017, Congress introduced the Music Modernization Act ("MMA").[50] On October 11th, 2018 President Donald J. Trump officially signed the MMA into law.[51] According to President Trump, the MMA introduces new business conditions within the music industry that, "close[ ] loopholes in our digital royalties laws to ensure that songwriters, artists and producers receive fair payment for licensing of music."[52]

President Trump, in this instance, fails to grasp the underlying issues and liberties at stake within the music industry – issues that the MMA itself fails to wholly address. The bill, while certainly "a great step forward towards a fairer music ecosystem that works better for music creators, services, and fans,"[53] fails to resolve the more troubling issues in place within the music industry. The MMA perpetuates an inequitable system that discriminates against content creators.[54] While the MMA strives to reward content creators with greater disbursements,[55] and very well may succeed in doing so, the blockchain ledger presents content creators with an even more sizable distribution of revenue by extinguishing the need for intermediaries entirely.[56] The blockchain ledger ensures that all imputed data is incorruptible; on the same token, smart contracts and self-publication (through the

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[50] The technical name for this act is the Orrin G. Hatch – Bob Goodlatte Music Modernization Act. *See* Orrin G. Hatch-Bob Goodlatte Music Modernization Act, H.R. Con. Res. 1551, 115th Cong. (2018) (enacted).

[51] Ed Christman, *President Trump Signs Music Modernization Act Into Law With Kid Rock, Sam Moore As Witnesses*, BILLBOARD, Oct. 11, 2018, https://www.billboard.com/articles/business/8479476/president-trump-signs-music-modernization-act-law-bill-signing, [https://perma.cc/8UA8-HAFB] (on file with the Harvard Law School Library).

[52] *Id.*

[53] *See* Bruce Houghton, *Industry Reacts to Music Modernization Act Passage: AIMP, BMI, A2IM, NMPA, SoundEx, ASCAP, More*, HYPEBOT, Sept. 19, 2018, https://www.hypebot.com/hypebot/2018/09/industry-reacts-to-music-modernization-act-senate-passage-soundexchange-ascap-riaa-c3-more.html, [https://perma.cc/2C8V-XZ3H] (on file with the Harvard Law School Library)

[54] *See* Christman, *supra* note 51.

[55] *Id.*

[56] *See* Heap, *supra* note 3.

ledger) enable content creators to safely sell their works on their own terms.[57] On the other hand, with the MMA in place, the threat of data corruption and misappropriation looms.[58]

Consider section J(i)(II) of the MMA, establishing that (after a three year holding period) one-hundred percent of unclaimed royalties will go to publishers based on market share.[59] Enforcement of this provision would cause a great deal of independent songwriters to lose out on royalties because of copyright issues, incomplete data, or misspellings on their songs.[60] Antithetically, none of these arbitrary reserve clauses exist on the blockchain ledger, and content creators will never be penalized for marginal errors - errors that, under the MMA, could potentially cost them millions of dollars.[61] Instead, blockchain technology offers content creators an inherently fair and transparent platform – i.e. an alternative absent any loopholes.

C. Utilizing the Blockchain Ledger to Track Music Sales

Within the current framework of the music industry, the power of information lies in the hands of a select view.[62] The distributors and record labels receive all the relevant data – like how many times a track has been listened to.[63] "Getting the music out there and distributed is not a problem. Where the disruption now needs to happen is in the curation of the feedback, on the data that we, as [content creators], need to receive," says Grammy-winning recording musician, and blockchain enthusiast Imogen Heap, adding: "Artists very rarely receive meaningful data relating to their tracks."[64]

In this context, the benefit of a secure, decentralized, distributed ledger enables content creators to view how many times their track has been

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[57] *Id.*

[58] *See* Daniel Sanchez, *3 Major Problems With The Music Modernization Act*, DIGITAL MUSIC NEWS, Feb. 27, 2018, https://www.digitalmusicnews.com/2018/02/27/music-modernization-act-major-problems/, [https://perma.cc/E9JK-TGXC] (on file with the Harvard Law School Library).

[59] Orrin G. Hatch-Bob Goodlatte Music Modernization Act, H.R. Con. Res. 1551, 115th Cong. (2018) (enacted).

[60] *See* Sanchez, *supra* note 58.

[61] *See id.*

[62] *See* Heap, *supra* note 3.

[63] *See* Perez, *supra* note 48.

[64] *Id.*

played,[65] where their track has been played, and who specifically has been playing their track.[66] The data encrypted on the blockchain ledger helps content creators make better-informed and well-educated business decisions.[67]

For example: a content creator utilizing the blockchain ledger observes that the majority of the sales from her recently released album come from South Africa. In effect, the prospect of increased ticket sales from sold out arenas may incentivize her to book an additional few dates in South Africa on her upcoming tour. More specifically, if the same content creator notices that her music is extremely popular in Cape Town, and Durban, and Johannesburg, it would behoove her to play shows in those particular cities. Her logic behind these decisions is as follows: if she decides to book a venue on her upcoming tour in Cape Town, or Durban, or Johannesburg, or any combination of the three, where she *knows* she has more fans, she is more likely to sell more tickets, and sell more merchandise (assuming, of course, she is not already one of the world's most famous content creators). Following this logic, if the same content creator notices that her music is extremely popular in Africa, but conversely, her sales in Europe prove dismal, she may be inclined to promote herself more in Europe, and play a few more shows in Paris, or Barcelona, or London, or any combination of the three, in an effort to boost her brand.

D. Implementation of a Global Copyright Database

The overwhelming need for transparent data within the music industry extends far beyond the need for meaningful data from music sales. Content creators are often not properly recognized for their creative efforts, and in effect, not compensated.[68] The blockchain ledger offers a solution to this issue, allowing content creators to upload all elements of their musical works onto a single, unified database.[69] "Things such as lyrics, musical composition, liner notes, cover art, licensing information, audio and video per-

[65] For the purposes of this paper, the terms "track," "song," and "musical work" are used interchangeably to represent all varieties of "musical pieces" or creative content produced by a content creator.

[66] *See* Heap, *supra* note 3.

[67] *Id.*

[68] *Id.*

[69] *Id.*

formances of the work would get logged into this global, inclusive, and easily verified peer-to-peer system."[70]

Thus, the third way that blockchain technology can revolutionize the music industry is through the creation of a transparent, decentralized database that stores the copyright data from all artistic creations. Implementation of this global registry remedies the issue of often-conflicting and/or incomplete records.

Past efforts to establish a single point of works recognition within the music industry failed.[71] The Global *Repertoire Database* ("GRD") undertook the last major effort to create a global database of every song ever created, including an exhaustive listing of all the copyright owners.[72] On July 9 2014, PRS for Music (the UK's leading collection society) officially declared the GRD a failure, and, since then, no major efforts towards the implementation of a single global registry have been made.[73] Considering the old English-language proverb, "necessity is the mother of invention,"[74] it seems surprising that the music industry is still bereft of a workable solution to the existing information asymmetry between content creators and intermediaries. Fortunately, the blockchain ledger presents content creators with a viable path to successful implementation of a global copyright database.[75] Leading the path is Grammy-award winning musician Imogen Heap.[76]

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[70] *The State of Music: How Blockchain Can Disrupt The Music Industry*, MEDIUM, May 2, 2017, https://medium.com/@sostereo/the-state-of-music-how-blockchain-can-disrupt-the-music-industry-d95bda2f63ac, [https://perma.cc/2RVE-SLKY] (on file with the Harvard Law School Library).

[71] PRICEWATERHOUSECOOPERS LLP, *supra* note 43.

[72] *Id.*

[73] *See Statement on the GRD*, PRS FOR MUSIC, July 9, 2014, https://www.prsformusic.com/press/2014/statement-on-the-grd, [https://perma.cc/P7MH-6AWH] (on file with the Harvard Law School Library).

[74] *Necessity is the mother of invention*, CAMBRIDGE DICTIONARY, https://dictionary.cambridge.org/us/dictionary/english/necessity-is-the-mother-of-invention, [https://perma.cc/Q2FV-MBLS] (last visited Nov. 23, 2018) (on file with the Harvard Law School Library).

[75] *See* Heap, *supra* note 3.

[76] *Id.*

IV. Startups Have Already Begun to Utilize Blockchain Technology To Combat On-Going Issues in the Music Industry

A. Imogen Heap's Mycelia: A Revolutionary Music Sharing Platform

Imogen Heap stands at the forefront of blockchain innovation in the music industry: her startup Mycelia will allow content creators to store all the information from their songs in one accurate, global database.[77] Mycelia embodies the quintessential spirit of what blockchain technology hopes to accomplish – a decentralized ledger that provides ultimate transparency and allows for secure peer-to-peer transactions.[78]

Thanks to steaming platforms, music is more accessible than ever.[79] Nonetheless, the business model intrinsic to streaming does not support content creators; intermediaries continue to purposefully muddle and obscure valuable information, and CMOs struggle to correctly distribute royalty payments in a timely fashion.[80] As it stands, 20-50% of music payments do not get distributed to their rightful owners.[81] Widespread adoption of this global registry not only solves the information asymmetry between content creators and intermediaries, but also assures that rightful copyright owners are correctly paid and acknowledged. Heap's Mycelia envisions a utopian platform that safeguards content creators' valuable information: an industry where "artists, songwriters, performers and musicians – the real owners of the industry – will be the main benefactors, for they will finally be able to own their creations and get their due for their efforts."[82]

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[77] Perez, *supra* note 48.

[78] *See* Heap, *supra* note 3.

[79] *See 10 Technologies that Revolutionized the Music Industry*, Medium, Jan. 4, 2018, https://medium.com/singulardtv/10-technologies-that-revolutionized-the-music-industry-aa3023ad3132, [https://perma.cc/5MHT-T35Q] (on file with the Harvard Law School Library).

[80] *See* PricewaterhouseCoopers LLP, *supra* note 43.

[81] David Gerard, *Why You Can't Put The Music Industry On A Blockchain*, Hypebot, Nov. 12, 2018, https://www.hypebot.com/hypebot/2017/08/why-you-cant-put-the-music-industry-on-a-blockchain-excerpt.html, [https://perma.cc/Y5JE-MPNT] (on file with the Harvard Law School Library).

[82] Ben Dickson, *How Blockchain Technology Can Change the Music Industry*, TechCrunch, 2016, https://techcrunch.com/2016/10/08/how-blockchain-can-change-the-music-industry, [https://perma.cc/7JUM-PS4V] (on file with the Harvard Law School Library).

1. Mycelia's Creative Passport and Creative Passport Database

Spearheaded by Imogen Heap and Mycelia, The Creative Passport is a "one stop shop which allows everyone to access data verified by [content creators]."[83] Mycelia's Creative Passport project aims to be the uniform, digital container for all "verified profile information, IDs, acknowledgements, works, business partners and payment mechanisms for all music makers."[84] Ideally, Heap's Creative Passport project will emerge into what she calls a "Creative Passport Database" – the singular copyright database within the music industry.[85] All content creators and fans are able to access the Creative Passport free of charge, but third-party services wishing to use the data for commercial and licensing purposes must pay a fee.[86] Thereafter, the underlying blockchain technology enables the direct distribution of these fees to the Creative Passports' holders (i.e. content creators).[87] This system, utilizing the underlying blockchain ledger and smart contracts, ensures content creators are correctly paid and accredited.[88]

Still and all, various challenges to establishing a successful global copyright database present themselves in the wake of Mycelia's Creative Passport project. For instance: will content creators update their profiles with accurate and timely information? The Creative Passport project's success seemingly relies on whether or not content creators will keep their profiles up-to-date with relevant information. By the same token, successful implementation of Mycelia's Creative Passport Database will require widespread cooperation from content creators.

A. 3Lau and Audius: Alternatives to Traditional CMOs

An ongoing battle continues between content creators (the copyright holders) and CMOS regarding the fair distribution of royalties for their music.[89] In simple terms, CMOs are responsible for collecting and distributing

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[83] *Creative Passport Change Maker Forums*, MYCELIAFORMUSIC, http://myceliaformusic.org/creativepassport-changemaker-forums/, [https://perma.cc/N2YL-K377] (last visited Nov. 21, 2018) (on file with the Harvard Law School Library).

[84] *Creative Passport*, MYCELIAFORMUSIC, http://myceliaformusic.org/creative-passport/, [https://perma.cc/BY2E-WSNG] (last visited Nov. 21, 2018) (on file with the Harvard Law School Library).

[85] *See id.*

[86] *Id.*

[87] *Id.*

[88] *Id.*

[89] *See* Jacob Enoch & Frederikke Boogard, *INSIGHT: Could Blockchain Solve the Discrepancy Between Technology, IP Law?*, BLOOMBERG, July 6, 2018, https://www

royalty payments to the appropriate content creators each time someone plays, uses, or performs the content creators' musical work.[90]

These CMOs (usually national entities) and globalization makes it so that content creators will have to deal with multiple CMOs in all the other places that the composition is either played or used.[91] For example, in Europe alone, 28 collection societies collect royalties in 28 different markets.[92] This process can be incredibly time consuming, considering that a content creator would have to register with multiple CMOs in different jurisdictions.[93] On top of that, CMOs charge commissions, diluting the amount a content creator earns from royalty payments.[94]

Blockchain-based startup companies now offer an alternative to CMOs that would resolve the time consuming process of registration with multiple CMOs, as well as the issue of diluted royalties.[95] Ujo, a blockchain-based start-up, allows for content creators to register their music and license their songs upon payment of a fee directly to users, without the interference of any CMO.[96] Songwriter Imogen Heap used Ujo in 2015 to launch the song "Tiny Human" for $0.60 per download.[97] The release of "Tiny Human" on the blockchain-based Ujo platform was by no means a success, earning Heap a grand-total of $133.20.[98] The lackluster launch of "Tiny Human" served more as a testament to the learning curve involved with using cryptocurrencies, as opposed to any problems with the underlying blockchain technology. The launch of "Tiny Human," while certainly disappointing, was a

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.bna.com/insight-blockchain-solve-n73014477160, [https://perma.cc/9A73-S44D] (on file with the Harvard Law School Library).

[90] *See* PRICEWATERHOUSECOOPERS LLP, *supra* note 43.

[91] *See id.*

[92] *See id.*

[93] *See id.*

[94] *See* Enoch & Boogard, *supra* note 89.

[95] *See* PRICEWATERHOUSECOOPERS LLP, *supra* note 43.

[96] *See* UJO MUSIC, https://ujomusic.com (last visited Nov. 20, 2018) (on file with the Harvard Law School Library).

[97] *See* HATCHING AMAZING, *Part 1: How We Tried To Buy Imogen Heap's Song On Ethereum*, MEDIUM, Jan. 24, 2016, https://medium.com/hatching-amazing/part-1-how-my-ssn-prevented-me-from-buying-music-on-the-blockchain-and-why-blockchain-for-music-a85eaeaca7ad, [https://perma.cc/26F8-SFUV] (on file with the Harvard Law School Library).

[98] David Gerard, *Why Spotify Wants Blockchain & How All The Music Industry's Blockchain Dreams Can Come True*, HYPEBOT, https://www.hypebot.com/hypebot/2017/05/why-spotify-wants-blockchain-how-music-industry-blockchain-dreams-work.html, [https://perma.cc/US49-VV5S] (last visited Nov. 17, 2018) (on file with the Harvard Law School Library).

step in the right direction; innovation in its early stages oftentimes faces setbacks.[99]

C. Vevue and CustosTech: Startups Battling Piracy

Experts suggest that sharing any media content unlawfully could be extremely difficult, or impossible if the entire Internet was built on the blockchain ledger.[100] With this end is view, Vevue, a blockchain streaming service, is creating a blockchain-based technology to track the life cycle of any content.[101] "If someone copies content tracked by our technology by any possible means, including videoing or recording a screen, our platform will be able to identify the owner of the device/system where the content was last played," says Vevue founder Thomas Olson.[102] Vevue is developing a smart computational engine to perform the task of protecting media content.[103] Vevue's blockchain-based media tracking includes three components: 1) the assignment of a unique ID to video content stored on the blockchain ledger and activating a surveillance smart contract; 2) the technology enabling the smart contract then performs an internal search for illegal duplicates of the video; and 3) then the automatic triggering of a desired copyright action.[104] Vevue is one of many promising and experimental blockchain-based startups focusing on copyright protection.[105]

Another blockchain-based startup, CustosTech, uses the blockchain ledger to help owners of intellectual property fight piracy.[106] CustosTech, a South African tracking company, rewards individuals commonly referred to as "bounty hunters," with Bitcoin once the "bounty hunters" detect pirated

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[99] *See generally* NATIONAL ACADEMIES OF SCIENCES, ENGINEERING, AND MEDICINE, THE POWER OF CHANGE: INNOVATION FOR DEVELOPMENT AND DEPLOYMENT OF INCREASINGLY CLEAN ELECTRIC POWER TECHNOLOGIES 54 (2016) (discussing obstacles that hinder the progress of innovation in the early stages).

[100] Craig Adeyanju, *Blockchain in Media: How Can Blockchain Fight Piracy?*, COINTELEGRAPH, Aug. 8, 2018, https://cointelegraph.com/news/blockchain-in-media-how-can-blockchain-fight-piracy, [https://perma.cc/76G9-MRLB] (on file with the Harvard Law School Library).

[101] *See Blockchain is the New Internet*, VEVUE, https://www.vevue.com/blockchain/, [https://perma.cc/FEC3-SJW4] (last visited Nov. 17, 2018) (on file with the Harvard Law School Library).

[102] Adeyanju, *supra* note 100.

[103] *See* VEVUE, *supra* note 101.

[104] Adeyanju, *supra* note 100.

[105] *Id*.

[106] *How It Works*, CUSTOSTECH, https://custostech.com/tech/, [https://perma.cc/W3US-7BHQ] (last visited Nov. 17, 2018) (on file with the Harvard Law School Library).

copies of the media.[107] CustosTech does this using a propriety forensic watermarking technology that makes it possible to embed a monetary reward, linked to a unique serial number into media, and for the purposes of this paper, audio files, during the encoding process.[108] This process, commonly referred to as "digital watermarking," is one of the many inventive ways in which blockchain technology is being used to battle piracy.[109]

While a variety of creative and effective blockchain-based solutions work towards combatting piracy and other issues in the music industry, certain barriers to blockchain technology's widespread implementation threaten the long-term prospects of innovative startups, like CustosTech and Vevue.

V. Barriers to Widespread Adoption

A. Issues with Cryptocurrencies

The release of Imogen Heap's single "Tiny Human," while innovative and bold, only made Heap $133.20.[110] The threat of infinitesimal sales numbers will deter even the most avid blockchain enthusiasts within the music industry from transitioning to a blockchain-based music ecosystem.

The biggest culprit for Heap's disastrous launch was the level of difficulty involved in purchasing the single.[111] Purchasing "Tiny Human" on the blockchain-based start-up Ujo was difficult to navigate for even the most avid blockchain enthusiasts.[112] After clicking "Download" on the page, the instructions required the creation of an Ethereum wallet,[113] followed by a redirection to a Bitcoin exchange so that the user could buy Bitcoins and then exchange them for ether (the cryptocurrency used by Ethereum[114]). Acquiring the Bitcoins required buyers to either send their money and some government identification to an unregulated exchange, and

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[107] *Id.*

[108] Adeyanju, *supra* note 100.

[109] *Id.*

[110] *See* Gerard, *supra* note 98.

[111] *See* Hatching Amazing, *supra* note 97.

[112] *Id.*

[113] *Id.*

[114] Ritesh Modi, *Introduction to Blockchain, Ethereum and Smart Contracts — Chapter 1*, Medium, May 16, 2018, https://medium.com/coinmonks/https-medium-com-ritesh-modi-solidity-chapter1-63dfaff08a11, [https://perma.cc/EX9P-8ZBN] (on file with the Harvard Law School Library) ("Ether is the currency of Ethereum. Every activity on Ethereum that modifies its state costs Ether as fee and miners who are successful in generating and writing a block in chain are also rewards Ether.

finally, after all this, a download key appeared.[115] Adding to the confusion, the entire process was incredibly glitchy and slow.[116]

The complicated launch of "Tiny Human" illustrates the primary barrier to blockchain technology's widespread adoption by the general public, and that is the current level of difficulty associated with using and understanding cryptocoins and blockchain-based platforms. At the moment, the variety of widely used cryptocurrencies, such as Etherium and Bitcoin, make the process of buying coins and converting them even more confusing to the average consumer.[117] The use of different blockchain currencies for different content creators would cause mass confusion among these content creators' fan bases.[118] As a result, the push for blockchain technology's widespread implementation throughout the music industry will likely fail if this issue persists.

Thus, while the blockchain ledger has the potential to provide a quicker and "seamless experience for anyone involved with creating or interacting with music,"[119] current confusion over the complexity of the payment system in place derails the blockchain ledger's popularity among the general public.[120]

Keeping all this in mind, the blockchain's functionality grows in proportion to its population (i.e. its overall usage). A larger network equates to greater information sharing and increased transparency. Following this logic, if blockchain technology does not gain significant traction among the general public, the music industry is unlikely to adopt blockchain technology as a whole. Then, the technology will remain experimental in the context of the music industry until the vast majority of the public, and fans in

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Ether can easily be converted to dollars or other traditional currencies through Crypto-exchanges.").

[115] *See* HATCHING AMAZING, *supra* note 97.

[116] *Id.*

[117] *See generally* HATCHING AMAZING, *supra* note 97.

[118] *See generally id.*

[119] *See* Heap, *supra* note 3.

[120] CUSTOSTECH, *supra* note 106. Confusion over the complexity of the payment systems associated with cryptocurrencies has derailed the blockchain ledger's *overall* popularity among the general public. Keep in mind: a plethora of blockchain-based technologies do not require users to utilize cryptocurrencies at all. For example, consider CustosTech's statement on its website, noting that their clients need not ever interact with cryptocurrencies: "The Custos team comprises of some of [sic] engineers and economists specializing in cryptocurrency. They take the responsibility of managing the Bitcoin. As a client, you will never interact with the Bitcoin directly. You will also be shielded from any volatility of the currency. The Bitcoin and blockchain form a part of the back-end of the technology."

particular, become more comfortable with blockchain technology and the cryptocurrencies that utilize the blockchain ledger as a platform.

B. Restrictive Governance and Regulation

Regulation of blockchain technology would, without question, corrupt the integrity of a technology that prides itself on its decentralized nature. The incorporation of a central regulating source, such as the government, opens up the possibility and the obvious danger that erroneous and/or dangerous information is either accidentally or purposefully entered into the distributed ledger (the blockchain). " Governance and regulation could have consequences for the integrity of the data, given the obvious danger that erroneous information is entered, accidentally or otherwise, onto an immutable ledger."[121] In effect, regulation would compromise what is arguably the most promising attribute of blockchain technology – its *security*.

As a result, proponents of blockchain technology and its value within the music industry may be dissuaded of the blockchain ledger's potential if it is in fact regulated. While the fear of regulation and centralization remains a looming threat to the future of blockchain technology's successful implementation and widespread usage in the music industry, no discussion of when or how legislatures would deal with the issue has yet arisen. Though, as blockchain technology's influence and reach grows, those with the most to lose by transitioning to a blockchain-based music industry, such as CMOs, publishers, and producers, will likely lobby for its regulation (in the context of the music industry).

C. Widespread Adoption

1. Resistance from Current Incumbents

Whether major labels, publishers, and CMOs will willingly adopt blockchain technology remains unclear; these incumbents have little genuine incentive to innovate.[122] Intermediaries and financiers will likely attempt to squash any form of a blockchain-based revolution that develops within the music industry. Even so, these incumbents are outmatched in size and influence, by content-creators and fans seeking to change the com-

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[121] Blockchain For Creative Industries Research Cluster, *Music on the Blockchain*, MIDDLESEX UNIVERSITY, July 2016, at 18, *available at* https://www.mdx.ac.uk/__data/assets/pdf_file/0026/230696/Music-On-The-Blockchain.pdf, [https://perma.cc/P64P-SJYR].

[122] *See* HOWARD, *supra* note 1, at 10.

plex of the music industry *now*. If the blockchain ledger is adopted in mass by the general public (i.e. consumers) and the major regulatory and financial institutions that influence the general public, then these resistant incumbents will have no choice other than to conform at the will of content creators and fans alike.

2. Likelihood of Widespread Adoption by Leading Institutions

Nearly all financial institutions currently engage in blockchain-based research.[123] Globally, venture capitalists invested more than one billion dollars into blockchain-based startups in the first five months of 2018[124] and one blockchain-based payments company, Circle, is the beneficiary of $110 million.[125] Prominent proponents of blockchain-based technology have begun to reveal themselves, near and far. Even Dubai, representing the United Arab Emirates, recently announced that it set its sights on becoming the first blockchain-powered government by 2020.[126] With content creators, incumbents, and fans unlikely to shift to a blockchain-based music industry overnight, the global corporate and political investment surrounding blockchain technologies lends credence to the popular belief that adoption of blockchain-based platforms by large corporations can become widespread enough to disrupt society as a whole, inclusive of the music industry, in the not so distant future.[127]

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[123] Marco A. Santori, Craig A. DeRidder & James M. Grosser, *How Blockchain Will Revolutionize Commercial Transactions*, LAW360, A LEXISNEXIS COMPANY (2016) (on file with the Harvard Law School Library).

[124] Jason Rowley, *With at Least $1.3 Billion Invested Globally in 2018, VC Funding for Blockchain Blows Past 2017 Totals*, TECHCRUNCH, https://techcrunch.com/2018/05/20/with-at-least-1-3-billion-invested-globally-in-2018-vc-funding-for-blockchain-blows-past-2017-totals/, [https://perma.cc/36V6-P6B6] (last visited Nov. 17, 2018) (on file with the Harvard Law School Library).

[125] Romain Dillet, *Circle Raises $110 Million (or 13,300 BTC)*, TECHCRUNCH, https://techcrunch.com/2018/05/16/circle-raises-110-million-or-13300-btc/, [https://perma.cc/P2YP-YJPT] (last visited Nov. 17, 2018) (on file with the Harvard Law School Library).

[126] Supara Dutt D'Cunha, *Dubai Sets Its Sights on Becoming the World's First Blockchain-Powered Government*, FORBES (Dec. 18, 2017), https://www.forbes.com/sites/suparnadutt/2017/12/18/dubai-sets-sights-on-becoming-the-worlds-first-blockchain-powered-government/, [https://perma.cc/WA6S-GGP4].

[127] *See* Blockchain For Creative Industries Research Cluster, *supra* note 121, at 21.

3. Reaching Critical Mass

Cryptocurrencies are challenging to use, and the prospect of purchasing and transferring cryptocoins can deter buyers from using blockchain-based purchasing platforms.[128] Additionally, it remains uncertain whether the majority of buyers feel comfortable enough with the high level of transparency the blockchain ledger guarantees.[129] Fans may not wish to share data about their transactions on a public ledger, for whatever reason.[130] Similarly, many content creators may feel the same way; more established content creators, in particular, may wish to downplay their earnings, fearing complete disclosure would make fans less willing to purchase their work.[131]

Emerging blockchain-based publishing platforms, such as Dot Blockchain Music, offer content creators a solution to this privacy issue, allowing content creators to limit the amount of information they publish on the public ledger.[132] Specifically, Dot Blockchain Music does not require content creators to share any data beyond what the startup refers to as the "Minimum Viable Data."[133] For content creators, this approach alleviates the perceived pitfalls of complete transparency on the blockchain ledger, but a comprehensive shift to a blockchain-based platform may appear too tedious an undertaking for content creators and fans alike.[134]

For example: all content creators are financially incentivized, in theory, to join Mycelia's Creative Passport project, so it follows logically that over time most content creators will join Heap's network. Nevertheless, recent studies in the field of behavioral economics put forth a new axiom of the "irrational consumer," displacing that of the "rational consumer."[135] Formerly, behavioral economists advanced the following theory: since consumers are rational beings, they make rational decisions to maximize their pleasures.[136] Newer studies, instead, posit that consumers are in fact irra-

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[128] *See generally* HATCHING AMAZING, *supra* note 97.

[129] *See* Blockchain For Creative Industries Research Cluster, *supra* note 121, at 13.

[130] *Id.*

[131] *Id.*

[132] *Id.*

[133] *Id.*

[134] *See* Derek Thompson, *The Irrational Consumer: Why Economics Is Dead Wrong About How We Make Choices*, THE ATLANTIC (Jan. 13, 2013), *available at* https://www.theatlantic.com/business/archive/2013/01/the-irrational-consumer-why-economics-is-dead-wrong-about-how-we-make-choices/267255/, [https://perma.cc/8FER-6ZXA].

[135] *Id.*

[136] *Id.*

tional and prone to a variety of biases and prejudices; moreover, consumers tend to avoid making difficult decisions.[137] In short, laziness most often trumps logic.[138]

Accordingly, while content creators are financially incentivized to contribute to Mycelia's Creative Passport project, new developments in the field of behavior economics point to the fact that financial incentives may not be enough.

Nevertheless, if leading societal institutions collectively adopt the blockchain ledger as a resolute alternative to our current transactional contract-based system, then hesitant content creators, resistant incumbents, and the critical mass will be obliged to follow.[139]

VI. Conclusion

Ripe with opportunity, the blockchain ledger offers content creators a promising solution to a decades-old problem with the antiquated system in place – a new music ecosystem founded on principles of fairness and transparency.

The blockchain ledger, a powerful self-publishing platform, solves various major issues within the music industry seemingly all at once, enabling content creators to bypass the complexities of the modern day music industry. The application of blockchain technology and, specifically, smart contracts to the music industry instantaneously resolves the ongoing battle between content creators and intermediaries.[140]

Smart contracts facilitate quick, accurate, and secure payouts for content creators, altogether eliminating the need for intermediaries such as labels, publishers, CMOs, and attorneys. Next, content creators, utilizing the blockchain ledger to track sales of their music, will finally be able to forge a more profitable relationship with their fans. Moreover, implementation of a global copyright database solves the troubling information access asymmetry between content creators and intermediaries.

Startups such as Mycelia, Ujo, Vevue, and CustosTech, among many others, demonstrate the effective utility of the blockchain ledger to solve a variety of diverse issues within the music industry. Even so, while the blockchain ledger offers the transformative power to "change . . . well, eve-

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[137] *See* Thompson, *supra* note 134.
[138] *See id.*
[139] *See* Daniel Kahneman, Thinking, Fast and Slow 19 (2011).
[140] *See* Heap, *supra* note 3.

rything,"[141] there are no doubt serious barriers to its widespread usage and adoption within the music industry. These barriers include, but are not limited to: potential governance and regulation, difficulty using cryptocurrencies, and resistance from current music industry incumbents.

Thus, for the blockchain ledger to effectively remedy ongoing issues within the music industry, fans and content creators alike will need to take a leap of faith and embrace blockchain technology and the changes it brings about for what they are: *revolutionary*.

[141] Oscar Williams-Grut, *Goldman Sachs: 'The Blockchain can change. . . well everything'*, BUSINESS INSIDER (Dec. 2, 2015, 10:58 AM), https://www.businessinsider.com/goldman-sachs-the-blockchain-can-change-well-everything-2015-12, [https://perma.cc/DPY7-ZLX7].

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Using Your Head: A Different Approach to Tackling The NFL's Concussion Epidemic

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ABSTRACT

Football is currently facing a "concussion epidemic" with no fix-all solution in sight. "You got your bell rung, that's all!" "Shake out the cobwebs!" Coaches and medical experts alike have commonly made comments like these on football fields across the country. While the intent of such "encouragement" is usually to challenge young athletes to toughen up and learn to persevere through adversity—to become better versions of themselves—what these comments really portray is a dark story of our society's misunderstanding about, and mishandling of, brain injuries and their associated health consequences.

There is no better example of this mishandling than the NFL's past management of the concussion epidemic. After recent advances in neurological knowledge have revealed the devastating short and long-term consequences of concussions, the NFL now finds itself scrambling to mitigate the threat being posed to what makes the NFL, and football in general, so popular—the gladiator-esque nature of the game. High concussion rates threaten to shrink the NFL's talent pool, erode public support, decrease viewership

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(and consequently advertising and TV revenue), and expose the NFL to significant employment-related legal liability.

While some of the NFL's responses to date hold promise for helping to mitigate the concussion epidemic, they are nonetheless inadequate because a fix-all is unlikely to be developed soon, if ever. As such, this article argues the NFL should commit, through their collective bargaining agreement, to developing (1) genetic screening techniques that will inform players if they are acutely susceptible to substandard concussion recovery outcomes and long-term effects; (2) diagnostic tests that enable objective confirmation of concussion occurrence and recovery (or lack thereof); and (3) pre-mortem testing for concussion-related neurological diseases such as chronic traumatic encephalopathy (CTE).

A genuine commitment to these initiatives will not only accelerate the innovation of concussion epidemic-mitigating technologies, but also ensure the NFL is providing its players with the necessary information for them to properly "assume the risk" of playing football.

Introduction

Football is currently facing a "concussion epidemic" with no fix-all solution in sight. "You got your bell rung, that's all!" "Shake out the cobwebs!" Coaches[1] and medical experts[2] alike have commonly made comments like these on football fields across the country. While the intent of such "encouragement" is usually to challenge athletes to learn to persevere through adversity, what these comments really portray is a dark story of our

[1] *See, e.g.*, Erick Fernandez, *This is the Horrifying Way People Talked About Concussions in 1988*, Huffington Post (Oct. 14, 2015), https://www.huffingtonpost.com/entry/jim-mcmahon-concussions-1988_us_561d57ebe4b028dd7ea56770 [http://perma.cc/UVB7-F9GU] (discussing Coach Mike Ditka's response to questions about his QB's concussion by noting the QB "had to clear up the cobwebs. He had spots in front of his eyes for a while, but he was fine after that . . . . [he will] practice full speed . . . and play Sunday . . . He'll be fine . . . that question shouldn't be asked again.").

[2] NFL team physician Elliot Pellman once noted veteran players can "'unscramble their brains a little faster' than rookies . . . 'because they're not afraid after being dinged.'" Ben McGrath, *Does Football Have A Future?*, New Yorker (Jan. 31, 2011), https://www.newyorker.com/magazine/2011/01/31/does-football-have-a-future [http://perma.cc/4SRA-8N3K]. Pellman served for more than two decades as chairman of the NFL's Mild Traumatic Brain Injury Committee, during which time the Committee stated returning to play after sustaining a concussion "does not involve significant risk of a second injury either in the same game or during the season." Peter Keating, *Doctor Yes*, ESPN (Nov. 6, 2006), http://www.espn.com/espnmag/story?id=3644940 [https://perma.cc/JU9F-LX3J].

society's misunderstanding about, and mishandling of, brain injuries and associated health consequences. There is no better example of this understanding than the National Football League's (NFL's)[3] handling of the "concussion epidemic."

Recent advances in neurology reveal the devastating consequences of concussions.[4] The NFL, the world's most financially successful sports league,[5] now finds itself scrambling to mitigate the threat being posed to what makes the NFL, and football in general, so popular—the violent, gladiator-esque nature of the game. High neural trauma rates and knowledge of the associated negative health consequences threaten to shrink the NFL's talent pool, erode public support, decrease viewership (and consequently advertising and TV revenue), and expose the NFL to significant employment-related legal liability. The NFL's efforts to address this threat have, to date, yielded marginal reductions in concussion occurrence[6]—a statistic that should be qualified by the subjective nature of current concussion diagnostic testing.[7]

Acknowledging there is no easy fix to the concussion epidemic, the NFL should focus on promoting the development of a better understanding of neural trauma, how to prevent it, diagnose it, treat it, mitigate its long-term consequences, and how to counsel players about these issues. To do this effectively, the NFL must turn to the very thing that is threatening the league's, and the sport's, existence—neuroscience, in particular genetic research.

With that goal in mind, this paper proposes two provisions be included in the 2020 collective bargaining agreement (CBA).[8] These provisions create genetic testing programs aimed at providing players with better information regarding concussion occurrence, their relative predisposition to substandard post-concussion recovery, and whether they are suffering from CTE. Such employer-sponsored medical testing, especially of a genetic na-

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[3] The term "NFL," is used to refer to the NFL as an entity and to the 32 NFL teams' ownership collectively.

[4] *See generally* Section I.

[5] *See infra* note 58 and accompanying text.

[6] *See 2016 Injury Data*, NFL.COM, Jan. 26, 2017, tbl.1., https://www.playsmartplaysafe.com/newsroom/reports/2016-injury-data/ [http://perma.cc/YU8W-AYEH].

[7] *See* Raquel C. Gardner & Kristine Yaffe, *Epidemiology of Mild Traumatic Brain Injury and Neurodegenerative Disease*, 66 MOLECULAR & CELLULAR NEUROSCIENCE 75, 76 (2015).

[8] John Breech, *NFLPA Director Says Strike or Lockout Will 'Almost Certainly' Hit NFL in Near Future*, CBS SPORTS (Aug. 17, 2017), https://www.cbssports.com/nfl/news/nflpa-director-says-strike-or-lockout-will-almost-certainly-hit-nfl-in-near-future/ [http://perma.cc/JU9Z-YJ6R].

ture, is perceived to be prohibited by federal anti-discrimination and privacy-focused laws.[9] Most relevant of these laws for purposes of this paper is the Genetic Information Nondiscrimination Act (GINA), which prohibits employers from requesting, accessing, or utilizing genetic information.[10]

But, existing exceptions to these laws (the "Wellness Program Exception"[11] and the "Genetic Monitoring Exception"[12]) may allow such testing. Applicable federal laws and the aforementioned exceptions are analyzed in Sections IV and V of this paper.

The proposed CBA provisions will create an employee[13] wellness program ("NFL Wellness Program"), in which an independent medical committee will conduct *voluntary* genetic testing and associated genetic counseling services related to a player's predisposition to substandard post-concussion neurological recovery and outcomes. They will also set the foundation for two *voluntary* genetic monitoring programs, which will enable NFL team doctors to (1) utilize blood-based diagnostic tests to objectively determine if a player has a concussion, and if so, when it is safe for him to return to play,[14] and (2) allow for periodic pre-mortem CTE diagnostic testing.[15] Even if some of these tests are not FDA-approved at the time the next NFL CBA is negotiated, experts believe these technologies will be viable soon thereafter.[16]

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[9] Relevant laws discussed in Section IV include the Patient Protection and Affordable Care Act (ACA), 42 U.S.C. § 18001 et seq. (2010); American with Disabilities Act (ADA), 42 U.S.C. § 12101 et seq.; and the Genetic Information Nondiscrimination Act (GINA), 42 U.S.C. § 2000(ff) et seq. (2008).

[10] 42 U.S.C. § 2000(ff) et seq. (2008).

[11] *See* 42 U.S.C. § 2000ff-1(b)(2)(A) (2008).

[12] *Id.* § 2000ff-1(b)(5).

[13] As explained in Section IV.A, while the question of whether the NFL is considered an employer of its players is undecided, the proposed CBA provisions assume the NFL, NFLPA, and all 32 NFL teams must adhere to federal employment-related laws in crafting the testing programs outlined in this paper.

[14] A review of recent research on blood-based diagnostic concussion tests is beyond the scope of this paper. For such a review, see Betsy J. Grey & Gary E. Marchant, *Biomarkers, Concussions, and the Duty of Care*, 2015 MICH. ST. L. REV. 1911, 1930–38 (2015).

[15] For a review of the recent research on pre-mortem CTE diagnostic testing, see Jonathan D. Cherry et al., *CCL11 Is Increased in the CNS in Chronic Traumatic Encephalopathy but Not in Alzheimer's Disease*, 12 PLoS ONE e0185541, 1 (2017) (finding the biomarker CCL11 may be a novel target for diagnosing CTE pre-mortem).

[16] *See* Patrick Hruby, *The Future of Detecting Brain Damage in Football*, THE ATLANTIC (Sept. 21, 2017), https://www.theatlantic.com/health/archive/2017/09/football-brain-injury-chronic-traumatic-encephalopathy/540459/ [http://perma.cc/X8F6-LFD9]. At least one in-vitro blood-based biomarker test is already viable, having been approved for marketing authorization by the FDA in mid-February

Setting the legal framework for these testing programs in the CBA would ensure (1) the programs are governed and permitted by federal labor and employment laws; (2) stable and sufficient funding to carry out the proposed testing; and (3) implementation of statutorily-compliant confidentiality and reporting procedures for the information gathered during testing. If the testing programs are implemented in accordance with the considerations discussed in Section IV and V, they are likely to fit within the existing exceptions to applicable federal statutes.[17]

I. Concussions and Chronic Traumatic Encephalopathy—What Are They?

To better understand the topics to be covered, a brief overview of what concussions and CTE are, how they occur, and the damage and symptoms they cause is useful.

A. Mild Traumatic Brain Injuries—AKA "Concussions"

While "concussion" is often used to describe traumatic brain injuries ("TBI") resulting in a cluster of post-injury symptoms including headache, dizziness, and blurred vision,[18] the more accurate term is "mild[19] traumatic brain injury" ("mTBI").[20] mTBIs occur when an external force acts upon

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2018. *FDA Grants Marketing Authorization to Banyan Biomarkers for the First Diagnostic Blood Test for Traumatic Brain Injury*, BusinessWire.com (Feb. 14, 2018), https://www.businesswire.com/news/home/20180214006251/en/FDA-Grants-Marketing-Authorization-Banyan-Biomarkers-Diagnostic [http://perma.cc/AR6L-SLHX].

[17] Proposals of the kind put forth here have not been suggested despite the significant resources being devoted to head trauma issues by large entities. *See, e.g.*, *NCAA, DoD Launch Concussion Study*, NCAA (May 29, 2014, 9:41 AM), http://www.ncaa.org/about/resources/media-center/news/ncaa-dod-launch-concussion-study [http://perma.cc/QV8N-6RPK] (outlining a concussion study co-sponsored by the NCAA and U.S. Department of Defense).

[18] David Sharp & Peter Jenkins, *Concussion is Confusing Us All*, 15 Prac. Neurology 172, 172 (2015).

[19] Using the term "mild" is misleading, as mTBIs can, and do, cause significant damage to the brain. *See* Ellen R. Bennett, Karin Reuter-Rice & Daniel T. Laskowitz, *Genetic Influence in Traumatic Brain Injury*, *in* Translational Res. in Traumatic Brain Inj. 179, 180 (Daniel Laskowitz & Gerald Grant eds., 2016).

[20] *See* Kimberly G. Harmon et al., *American Medical Society for Sports Medicine Position Statement: Concussion in Sport*, 47 Brit. J. Sports Med. 15, 16–17 (2013).

the body and causes brain trauma, resulting in brain dysfunction.[21] To better understand how an mTBI occurs, and why helmet technology cannot eradicate the concussion epidemic anytime soon (if ever),[22] a summary of the biomechanics involved in TBIs is useful.

The human brain is encased in a protective skull and is cushioned by spinal fluid.[23] Nerve cells, known as neurons, communicate between different regions of the brain.[24] Integral to this communication are axons, thread-like structures that run across the brain[25] and utilize nerve impulses to allow neurons to "talk" with other neurons.[26] When an external mechanical force acts upon the brain, the brain's layers slide across one another,[27] damaging axons through stretching and tearing.[28] This damage can cause nerve impulses to transmit less effectively, or to cease transmission altogether.[29] The damage also leads to cognitive deficits including fatigue, impaired short-term memory, and difficult with concentration.[30]

Such jarring forces can cause structural (e.g., axonal) damage and chemical changes to the brain.[31] These changes can be even more significant when the external force is strong enough to cause the affected individual's brain to slam into his/her skull.[32]

Think of the head as an egg—the brain being the delicate yolk, the cerebrospinal fluid being the whites, and the skull being the shell. Shaking of the egg is the external mechanical force, which causes rapid acceleration

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[21] *Diseases and Conditions: Traumatic Brain Injury*, MAYO CLINIC, https://www.mayoclinic.org/diseases-conditions/traumatic-brain-injury/symptoms-causes/syc-20378557 [http://perma.cc/A7AY-KVPS].

[22] Erik E. Swartz et al., *Early Results of a Helmetless-Tackling Intervention to Decrease Head Impacts in Football Players*, 50 J. ATHL. TRAINING 1219, 1221 (2015).

[23] Grey & Marchant, *supra* note 14, at 1921.

[24] *Neurons (Nerve Cells)*, PUBMED HEALTH, https://www.ncbi.nlm.nih.gov/pubmedhealth/PMHT0024269/ [http://perma.cc/CX2A-GJCU].

[25] *See* MICHAEL S. GAZZANIGA, RICHARD B. IVRY & GEORGE R. MANGUN, COGNITIVE NEUROSCIENCE: THE BIOLOGY OF THE MIND 24–28, 64–66 (2d ed. 2002).

[26] *See id.* at 60.

[27] OWEN D. JONES, JEFFREY D. SCHALL & FRANCIS X. SHEN, LAW AND NEUROSCIENCE 323 (2014).

[28] Douglas H. Smith & David F. Meaney, *Axonal Damage in Traumatic Brain Injury*, 6 NEUROSCIENTIST 483, 484–87 (2000).

[29] *Id.*

[30] *See* Fumihiko Yasuno et al., *Decision-Making Deficit of a Patient with Axonal Damage After Traumatic Brain Injury*, 84 BRAIN & COGNITION 63, 63–64 (2014).

[31] Thomas W. McAllister, *Neurobiological Consequences of Traumatic Brain Injury*, 13 DIALOGUES CLINICAL NEUROSCIENCE, 287, 291 (2011); *see also* Smith & Meaney, *supra* note 28, at 484–87.

[32] Smith & Meaney, *supra* note 28, at 484–87.

of the yolk. If the egg (a head) is shaken hard enough, the yolk (the brain) will move through the cerebrospinal fluid enough to hit the inside of the egg shell (the skull). If this happens, the brain not only sustains trauma from hitting the inside of the skull, but also from the sheering forces applied during sudden displacement—acceleration and deceleration. This illustrates why helmets alone will not solve the concussion epidemic. For while improved helmet technology softens the blow to a player's head, thereby reducing the brain's acceleration, helmets cannot reduce the acceleration enough to prevent TBIs.[33]

It is important to recognize that our ability to understand the scope of football's mTBI issue is limited by our lack of reliable, objective measures to diagnose mTBI.[34] Reliance on clinical diagnoses based in large part upon self-reported symptoms[35] leads to diagnosis error and lack of accurate mTBI occurrence data.[36] The data we have is further skewed by self-reporting problems rooted in football's gladiator culture.[37] Even with the underreporting of the number and severity of concussions, current statistics demonstrate a serious mTBI issue.

The Centers for Disease Control and Prevention estimated that in 2013, the U.S. population suffered 2.8 million TBIs, for an annual incidence rate of one TBI for every 113 people.[38] By comparison, there were about 2,880 players in the NFL,[39] and 71 diagnosed concussions[40] during the NFL's *one-month* contact period of preseason, for a concussion rate of one TBI for every 39 players. During the five-month NFL regular season, there were

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[33] Swartz et al., *supra* note 22.

[34] *See* Gardner & Yaffe, *Epidemiology of Mild Traumatic Brain Injury and Neurodegenerative Disease*, *supra* note 7, at 76–77.

[35] *Id.*

[36] Erik Greb, *Can A Diagnosis of Concussion be Objective?*, 24 NEUROLOGY REVS. 39, 39–40 (2016) ("A diagnosis of concussion is based on clinical observation and testing, and it therefore is susceptible to error.").

[37] COMMITTEE ON SPORTS-RELATED CONCUSSIONS IN YOUTH, INST. OF MED. & NAT'L RESEARCH COUNCIL, SPORTS-RELATED CONCUSSION IN YOUTH 289–90 (Robert Graham et al. eds., 2014). ("Consequently, concussed athletes may not seek medical advice, leading to artificially low reported concussions rates."). *See* Ashley A. LaRoche et al., *Sport-Related Concussion Reporting and State Legislative Effects*, 26 CLIN. J. SPORT MED. 33 (2016).

[38] *TBI: Get the Facts*, CTR. FOR DISEASE CONTROL & PREVENTION, https://www.cdc.gov/traumaticbraininjury/get_the_facts.html [http://perma.cc/3KUC-CUEC].

[39] Wade Davis II, *A Numbers Game: Making an NFL Roster*, HUFFINGTON POST (Oct. 28, 2014), https://www.huffingtonpost.com/wade-davis-jr/a-numbers-game-making-an-nfl-roster_b_5731630.html [http://perma.cc/9DQY-J8JE].

[40] *2016 Injury Data*, *supra* note 6, at tbl.1.

about 1,969 and 173 diagnosed concussions[41]—an incidence rate of one concussion for every 11 players. Youth, high school, and collegiate players also experience high concussion rates.[42]

B. Chronic Traumatic Encephalopathy (CTE)

CTE has been the most publicized degenerative disease associated with repetitive brain trauma.[43] The disease is characterized by an abnormal build-up of tau protein in the brain.[44] Excess tau, traditionally associated with Alzheimer's disease, acts as a plaque that decreases the brain's functionality.[45] CTE symptoms include: suicidal tendencies, impaired judgment, memory loss, impulse control issues, aggression, Parkinsonism, depression, and progressively worsening dementia.[46] The disease's wide range of age-of-onset and latency periods,[47] coupled with the fact it can only currently be diagnosed post-mortem, make it extremely difficult to study and treat.[48]

What is most worrisome is the seemingly-low threshold of head injury severity necessary to cause CTE.[49] While it is already well-established that mTBIs are associated with CTE, a growing body of scientific evidence indicates that repetitive sub-concussive impacts, which leave the affected individual asymptomatic, may also lead to the development of CTE.[50] The implications of this are startling: even great concussion prevention, diagno-

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[41] *2016 Injury Data*, *supra* note 6, at tbl.1.

[42] Thomas Dompier et al., *Incidence of Concussion During Practice and Games in Youth, High School, and Collegiate American Football Players*, 169 JAMA PEDIATRICS 659, 661–65 (2015).

[43] *See Frequently Asked Questions About CTE*, BOSTON UNIVERSITY: CTE CENTER, www.bu.edu/cte/about/frequently-asked-questions/ [http://perma.cc/U7YP-AAZA] (on file with the Harvard Law School Library).

[44] *Id.*

[45] *Id.*

[46] *Id.*

[47] *Id.*

[48] Ann C. McKee et al., The First NINDS/NIBIB Consensus Meeting to Define Neuropathological Criteria for the Diagnosis of Chronic Traumatic Encephalopathy, 131 ACTA NEUROPATHOLOGICA 75 (2016) [hereinafter McKee et al., *The First NINDS/NIBIB Consensus Meeting*].

[49] *CTE Resources*, CONCUSSION LEGACY FOUND., https://concussionfoundation.org/CTE-resources/subconcussive-impacts, [http://perma.cc/M7HJ-CGSA].

[50] *See, e.g.*, Chad A. Tagge et al., *Concussion, Microvascular Injury, and Early Tauopathy in Young Athletes After Impact Head Injury and an Impact Concussion Mouse Model*, 141 BRAIN 422, 424 (2018); *see also* Christine M. Baugh et al., *Chronic Traumatic Encephalopathy: Neurodegeneration Following Repetitive Concussive and Subconcussive Brain Trauma*, 6 BRAIN IMAGING & BEHAV. 244, 245 (2012).

sis, and recovery protocols would not solve the cumulative effects of subconcussive hits on CTE development.

In 2002, Dr. Bennet Omalu first discovered CTE in an NFL player.[51] Shortly thereafter he found it in multiple retired players.[52] But the discovery was largely ignored by the NFL[53] and general public.[54] However, the push towards recognition of the mTBI-CTE link has grown stronger in recent years.[55] In March 2016, only after U.S. House Committee hearings on head trauma in the NFL, high-profile suicides by ex-NFL players later found to have had CTE, increasing media pressure, and mounting scientific evidence, did a senior NFL executive acknowledge a link between repetitive head trauma and CTE for the first time.[56]

II. The NFL's Current Market Position

Despite the bad publicity the NFL has received for its response to head trauma issues, it nonetheless has maintained remarkable popularity[57] and has become increasingly financially successful.[58] Like other competitive enterprises, the NFL's financial outlook is in large part dependent on product

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[51] Dr. Omalu, a forensic pathologist, discovered CTE in former NFL player Mike Webster's brain during an autopsy after Webster had committed suicide. *NFL Concussion Fast Facts*, CNN (Aug. 26, 2018), http://www.cnn.com/2013/08/30/us/nfl-concussions-fast-facts/index.html [http://perma.cc/8YRM-MV8H].

[52] *See* McGrath, *supra* note 2.

[53] *See* Sean Gregory, *Concussion Expert: Over 90% of NFL Players Have Brain Disease*, TIME (Dec. 22, 2015), time.com/4158140/concussion-film-bennet-omalu-cte-nfl/ [http://perma.cc/9PRZ-BBTA].

[54] McGrath, *supra* note 2. ("The earliest cases of C.T.E. had been medical news, not national news.").

[55] Ann C. McKee et al., *supra* note 48, at 83–84.

[56] *See NFL Concussion Fast Facts*, *supra* note 51.

[57] Adam Kilgore & Scott Clement, *Poll: Nine in 10 Sports Fans Say NFL Brain Injuries Are a Problem, but 74 Percent Are Still Football Fans*, Wash. Post (Sept. 6, 2017), https://www.washingtonpost.com/sports/poll-nfl-remains-as-popular-as-ever-despite-head-injuries-other-concerns/2017/09/06/238bef8a-9265-11e7-8754-d478688d23b4_story.html?utm_term=.875d92098999 [http://perma.cc/9S5A-2WCU].

[58] In 2015, the NFL generated ~$13 billion in revenue, ~ $3.5 billion more than its closest competitor. Steven Kutz, *NFL Took in $13 Billion in Revenue Last Season — See How It Stacks Up Against Other Pro Sports Leagues*, MarketWatch (July 2, 2016), http://www.marketwatch.com/story/the-nfl-made-13-billion-last-season-see-how-it-stacks-up-against-other-leagues-2016-07-01 [http://perma.cc/GB72-3CAV]. Unsurprisingly, NFL teams are, on average, the most profitable and highest valued sports teams. *See* Kurt Badenhausen, *Full List: The World's 50 Most Valuable Sports Teams 2017*, Forbes (July 12, 2017), https://www.forbes.com/sites/kurtbaden

quality and public perception. The product, in-game entertainment, is dependent on on-field talent. This talent consists of some of the world's best athletes performing awe-inspiring acts of strength, speed, and agility. If concussions and CTE concerns are not resolved, the NFL's talent pool is at risk of dilution as top athletes may choose sports with less risk of head trauma, thereby negatively affecting the NFL's product and creating a risk of declining viewership and advertising revenues. Prominent football broadcasters,[59] NFL coaches, and former NFL players[60] have begun to speak out about how football's brain trauma issue threatens the league's existence and how they would not (or will not) let their own children play.

Several NFL players retired early over concussion and CTE concerns.[61] Commentators believe early retirements will only increase as players develop a better understanding of the science behind these neurological afflictions.[62] These worries may have already started to affect participation, as high school football participation declined for the second year in a row in 2017, despite a growing number of high school sports participants overall and schools offering varsity-level football.[63]

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hausen/2017/07/12/full-list-the-worlds-50-most-valuable-sports-teams-2017/#15e5c7794a05 [http://perma.cc/UW42-JCJS].

[59] *See, e.g.*, Mark W. Sanchez, *ESPN Football Voice Quits Over the Sport's Brain Toll*, N.Y. POST (Aug. 30, 2017), http://nypost.com/2017/08/30/espn-football-voice-quits-over-the-sports-brain-toll/ [http://perma.cc/3LG8-PHHP] (discussing Broadcaster Ed Cunningham resignation as an ESPN football anchor because he could "no longer be in [football's] cheerleader's spot" since he "[doesn't] think the game is safe for the brain."); Tom Schad, *Bob Costas on the Future of Football: 'This Game Destroys People's Brains*," USA TODAY (Nov. 8, 2017), https://www.usatoday.com/story/sports/nfl/2017/11/08/ bob-costas-future-football-nfl-this-game-destroys-peoples-brains/842904001/ [https://perma.cc/6ZR9-A7AL].

[60] Fernandez, *supra* note 1 (reporting that Mike Ditka stated that he would not want his son to play football because he think the "risk is worse than the reward.").

[61] *See, e.g.*, Justin Block, *We Shouldn't Be Surprised When NFL Players Retire Anymore*, HUFFINGTON POST (Apr. 8, 2016), https://www.huffingtonpost.com/entry/dbrickashaw-ferguson-nfl-early-retirement-no-surprise_us_5707c4d5e4b0c4e26a2273fa [http://perma.cc/WL4S-MXS4] (claiming that former NFL players D'Brickashaw Ferguson, Chris Borland, Rashean Mathis, Adrian Coxson, and Anthony Davis have all retired early than expected due to concussion concerns).

[62] *Why More NFL Players Will Retire Early Like Calvin Johnson*, FOX SPORTS (Mar. 14, 2016), http://www.foxsports.com/nfl/story/nfl-cte-link-brain-disease-calvin-johnson-bj-raji-retirement-early-young-leaving-game-031416 [http://perma.cc/27HN-DSYQ].

[63] Eric Sondheimer, *11-Man High School Football Participation Declines by More Than 25,000 Nationally*, L.A. TIMES (Aug. 7, 2017), http://www.latimes.com/sports/highschool/varsity-times/la-sp-high-school-sports-updates-11-man-high-school-football-1502127207-htmlstory.html [http://perma.cc/ZL9Z-LBVZ].

The decline may be due to parental concern for head injuries. Specifically, several polls indicate that parents have expressed hesitation in letting their children play football.[64] The California legislature has proposed a bill banning contact football before high school.[65] These concerns may eventually affect the supply and quality of football players for the NCAA and NFL.

Concern for head injuries is supported by a growing body of medical literature.[66] Despite small sample sizes, self-selection, and other aspects of these studies that are likely to skew results, such studies are nonetheless damning.[67] Dr. Omalu has estimated that over 90 percent of NFL players have some degree of CTE,[68] and that "90 to 100% of all [NFL players] will have some residual problem from their exposure to thousands of blows to the head."[69]

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[64] *See* Annie Linskey, *Half of Americans Don't Want Their Sons Playing Football, Poll Shows*, BLOOMBERG (Dec. 10, 2014), https://www.bloomberg.com/news/articles/2014-12-10/bloomberg-politics-poll-half-of-americans-dont-want-their-sons-playing-football [https://perma.cc/58ZH-J2JT]; *see also* Eliana Dockterman, *Parents Deeply Concerned About Injuries in Youth Sports, Survey Finds*, TIME (Oct. 13, 2014), http://time.com/3502999/youth-sports-injuries-concussion/ [https://perma.cc/58ZH-J2JT].

[65] Khadrice Rollins, *New California Bill Would Ban Tackle Football Before High School*, SPORTS ILLUSTRATED (Feb. 8, 2018), https://www.si.com/high-school/2018/02/08/california-bill-ban-tackle-football-high-school [https://perma.cc/VTR9-HTSA]. Such a bill is likely to gain increasing support. Press Release, Robert Morris Univ., RMU Poll Shows Growing Support for Banning Youth Football (Dec. 18, 2014), http://www.rmu.edu/News.aspx?id=816 (a poll showing 49.4 percent of responding parents support a ban on children playing contact football before high school).

[66] *See, e.g.*, Jesse Mez et al., *Clinicopathological Evaluation of Chronic Traumatic Encephalopathy in Players of American Football*, 318 JAMA 360, 362 (2017) (A study finding that out of 202 football players (111 former NFL players), 177 were diagnosed with CTE, with 110 out of 111 former NFL players diagnosed with the disease).

[67] *See, e.g.*, Victoria C. Merritt et al., *The Influence of the Apolipoprotein E (APOE) Gene on Subacute Post-Concussion Neurocognitive Performance in College Athletes*, 33 ARCHIVES CLINICAL NEUROPSYCHOLOGY 36, 36 (2017) (suggesting a relationship between the å4 allele and post-mTBI (1) impairment, (2) neurocognitive performance variability, and (3) less efficient cognitive processing).

[68] *Concussion Expert: Over 90% of NFL Players Have Brain Disease*, *supra* note 53.

[69] *Id.*

III. The NFL's Response to the Concussion Epidemic, and What It Should Do

The NFL has tried to address the concussion epidemic by implementing new rules,[70] assessing penalties for players who hit other players in the head[71] and for teams that fail to adhere to the NFL's concussion protocol,[72] augmenting trainers' ability to intervene in games,[73] sponsoring safe tackling programs,[74] and reducing contact in practices.[75] The NFL has also sought out partnerships with organizations concerned with high mTBI rates,[76] and has invested millions of dollars in the development of protective

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[70] Lorenzo Reyes, *NFL Reports Reduction in Concussions, New Measures to Protect Players*, USA Today (Aug. 6, 2015), https://www.usatoday.com/story/sports/nfl/2015/08/05/concussions-reduced-rule-changes-defenseless-injured-players/31189031/ [https://perma.cc/6MU4-2VBA] [hereinafter Reyes, *NFL Reports New Measures*].

[71] *See, e.g.,* Ken Belson, *N.F.L. Fines Two Broncos for Head Hits to Panthers' Cam Newton*, N.Y. Times (Sept. 15, 2016), https://www.nytimes.com/2016/09/16/sports/football/nfl-fines-two-broncos-for-head-hits-to-panthers-cam-newton.html [http://perma.cc/X39R-LWKE] (reporting that, in 2016, Broncos linebacker Brandon Marshall was fined $24,309 for hitting Panthers quarterback Cam Newton in the head).

[72] *See* Ken Belson, *N.F.L. Introduces New Rules to Back Its Concussion Protocol*, N.Y. Times (July 25, 2016), https://www.nytimes.com/2016/07/26/sports/football/nfl-concussion-protocol-new-rules.html?_r=0, [http://perma.cc/7Y6F-ADYC] (penalties include fines in the hundreds of thousands of dollars, and the possibility of losing draft picks).

[73] In 2015, the NFL gave certain certified athletic trainers the authority to stop play with the touch of a button if they notice a player exhibiting notable signs of injury, including a concussion. Reyes, *NFL Reports New Measures*, *supra* note 70.

[74] Steve Fainaru & Mark Fainaru-Wada, *Questions About Heads Up Tackling*, ESPN (Jan. 13, 2014), http://www.espn.com/espn/otl/story/_/id/10276129/popular-nfl-backed-heads-tackling-method-questioned-former-players [http://perma.cc/6B45-33M7].

[75] *See* NFL & NFL Players Association, NFL Collective Bargaining Agreement, 140–41 (2011) [hereinafter NFL CBA].

[76] *See, e.g.*, Press Release, NFL, NFL Partners with CFL on Concussion Testing (Oct. 5, 2015), http://www.nfl.com/news/story/0ap3000000507064/article/nfl-partners-with-cfl-on-concussion-testing [http://perma.cc/N296-BUY9] (reporting the NFL's 2013 partnership with General Electric and Under Armour to launch the Head Health Initiative—a four-year, $60 million collaboration designed to improve the diagnosis and treatment of TBI).

equipment and more research on the effects of mTBI.[77] At best, these changes have yielded marginal reductions in mTBI occurrence.[78]

Despite the NFL's monetary dedication to concussion-related initiatives, some commentators have criticized the NFL for purposely stymying neurological injury research.[79] Without more research to develop a comprehensive understanding of how the brain reacts to neural trauma, and why it reacts in the way it does, neurological injury will remain an epidemic. Innovation occurs less frequently than is socially optimal.[80] The main reasons for this are high research and development costs and the limited number of opportunities for innovation.[81] The NFL needs to make a genuine commitment, both publicly and financially, to developing neural trauma-related knowledge, and implementing this knowledge once developed.[82] While

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[77] *See, e.g.*, Ken Belson, *N.F.L. to Spend $100 Million to Address Head Trauma*, N.Y. TIMES (Sept. 14, 2016), https://www.nytimes.com/2016/09/15/sports/football/nfl-concussions-100-million-roger-goodell.html [https://perma.cc/DHP4-WYK7] (outlining the NFL's pledge of $30 million to the Foundation for the National Institutes of Health for concussion-related medical research, and its 2016 $100 million pledge to fund mTBI and CTE-related research).

[78] *See 2016 Injury Data*, *supra* note 6, at tbl.1.

[79] *See, e.g.*, Genna Reed, *How the NFL Sidelined Science—and Why It Matters*, UNION CONCERNED SCIENTISTS (Oct. 25, 2017), http://blog.ucsusa.org/genna-reed/how-the-nfl-sidelined-science-and-why-it-matters?_ga=2.128072908.1935828711.1513916524-80013690.1513916524 [http://perma.cc/FF5S-JGW6]; *see also N.F.L. to Spend $100 Million to Address Head Trauma*, *supra* note 77 (criticizing the NFL's prevention of funds devoted to mTBI research from being spent on a long-term head trauma study because it involved critics of the NFL's mTBI efforts); *see also* Mark Fainaru-Wada & Steve Fainaru, *NFL Retakes Control of Brain Research as Touted Alliance Ends*, ESPN (Aug. 31, 2017), http://www.espn.com/espn/otl/story/_/id/20509977/nfl-takes-control-brain-research-100-million-donation-all-ending-partnerships-entities [http://perma.cc/LC8V-SVAY] (criticizing the NFL for only funding one CTE study since its 2016 $100 million pledge to mTBI research—a study run by two doctors skeptical of the connection between mTBI and CTE).

[80] *See* Edwin Mansfield, *Microeconomics of Technological Innovation*, *in* TECHNOLOGY AND GLOBAL INDUSTRY 311 (Bruce R. Guile & Harvey Brooks eds., 1987); *see also* Charles I. Jones & John C. Williams, *Measuring the Social Return to R & D*, 113 Q. J. ECON. 1119 (1998); Jeffrey Bernstein & M. Ishaq Nadiri, *Interindustry R & D Spillovers, Rates of Return, and Production in High-Tech Industries*, 78 AM. ECON. REV. 429 (1988).

[81] *See* Mansfield, *Microeconomics of Technological Innovation*, *supra* note 80; *see also* Jones & Williams, *Measuring the Social Return to R & D*, *supra* note 80; Bernstein & Nadiri, *Interindustry R & D Spillovers*, *supra* note 80.

[82] While the NFL's R&D costs will be significant, the innovations that could be developed may help protect the NFL's revenue model and would have wide-ranging applications outside of football. Specifically, with regard to professional sports, the NFL's dominant market position could enable it to benefit more significantly from

such knowledge will not solve the "concussion epidemic," it will improve the diagnosis and treatment of mTBI, and thereby help mitigate the associated negative long-term consequences.

A growing body of research suggests genetic variations influence diverse cellular responses to TBI, and can therefore be used to help predict and explain mTBI outcome variability.[83] Researchers are exploring several genetic-based technologies and processes to better prevent, predict, diagnose, and treat mTBIs.[84] Underlying these innovations is the knowledge that patients who sustain similar initial injuries experience variable outcomes.[85]

Variability in genetics-related mTBI outcomes is linked to individual-specific gene variants, known as polymorphisms.[86] The most-studied gene that scientists believe influences TBI is the apolipoprotein E ("APOE") gene.[87] APOE research originally focused on the gene's relationship with Alzheimer's disease.[88] However, recent studies have explored the impact of APOE allele variants on the brain's response post-mTBI.[89] Researchers believe the å3 allele (the most common form) promotes neural recovery, while the å4 allele inhibits neural growth and repair.[90] The å4 allele's association with reduced antioxidant and biological activity indicates it is a risk factor

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its innovative efforts. *See* Richard J. Gilbert & Steven C. Sunshine, *Incorporating Dynamic Efficiency Concerns in Merger Analysis: The Use of Innovation Markets*, 63 ANTITRUST L.J. 569, 576–77 (1995).

[83] Thomas W. McAllister, *Genetic Factors in Traumatic Brain Injury*, 128 HANDBOOK CLINICAL NEUROLOGY 723, 723 (2015). Many researchers acknowledge that TBI recovery is polygenic, involving the interaction of several genes and neural pathways. *See, e.g.*, Bennett, Reuter-Rice & Laskowitz, *supra* note 19, at 180. Scientists have also urged consideration of the role of epigenetic mechanisms. Mika Gustafsson et al., *Modules, Networks and Systems Medicine for Understanding Disease and Aiding Diagnosis*, 6 GENOME MED. 1, 9 (2014).

[84] Research on how to diagnose and track the progression of CTE in living individuals is being conducted. For more on these efforts, see Cherry et al., *supra* note 15.

[85] *See* Bennett, Reuter-Rice & Laskowitz, *supra* note 19, at 180; *see also* Jonathan C. Edwards & Jeffrey D. Bodle, *Causes and Consequences of Sports Concussion*, 42 J.L. MED. & ETHICS 128, 128 (2014).

[86] Bennett et al., *supra* note 19, at 180.

[87] *See id.* at 191–95. For a more comprehensive list of genes affecting TBI occurrence, severity, etc., see *id.*

[88] Baugh et al., *supra* note 50.

[89] *See, e.g.*, *id.*

[90] *See* Jonathan T. Finnoff et al., *Biomarkers, Genetics, and Risk Factors for Concussion*, 3 PM&R 452, 454 (2011); *see also* Graham M. Teasdale et al., *Association of Apolipoprotein E Polymorphism with Outcome After Head Injury*, 350 LANCET 1069, 1070 (1997).

for neurodegenerative disorders.[91] Several studies suggest å4 carriers have an increased risk of suffering mTBIs,[92] are more likely to have worse recovery post-mTBI,[93] and have an increased susceptibility to CTE[94] and Alzheimer's Disease.[95] Studies of several other genes have resulted in similar findings, including the: (1) APOE promoter allele G-219T;[96] (2) catechol-*O*-methyltransferase ("COMT") gene;[97] and (3) protein phosphatase 3 catalytic subunit gamma isozyme gene.[98] These studies are, however, limited by several factors.[99]

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[91] *See* John K. Yue et al., *Apolipoprotein E Epsilon 4 (APOE-å4) Genotype is Associated with Decreased 6-month Verbal Memory Performance After Mild Traumatic Brain Injury*, 7 BRAIN & BEHAV. e00791, 1, 2 (2017).

[92] *See, e.g.*, Cameron B. Jeter et al., *Biomarkers for the Diagnosis and Prognosis of Mild Traumatic Brain Injury/Concussion*, 30 J. NEUROTRAUMA 657, 666 (2013).

[93] *See generally* Victoria C. Merritt et al., *Apolipoprotein E (APOE) å4 Allele is Associated with Increased Symptom Reporting Following Sports Concussion*, 22 J. INT'L NEUROPSYCHOLOGICAL SOC'Y 89, 89–93 (2016) (indicating å4 allele carriers may be at a greater risk for experiencing poorer post-concussion outcomes); Merritt et al., *supra* note 67, at 36.

[94] Jesse Mez et al., *Chronic Traumatic Encephalopathy: Where Are We and Where Are We Going?*, 13 CURRENT NEUROLOGY NEUROSCIENCE REP. 407, 413 (2013).

[95] *See* Jiqing Cao et al., *ApoE4-associated Phospholipid Dysregulation Contributes to Development of Tau Hyper-phosphorylation After Traumatic Brain Injury*, 7 SCI. REP. 11372, 11372 (2017); *see generally* Richard Mayeux & Nicole Schupf, *Adolipoprotein E and Alzheimer's Disease: The Implications of Progress in Molecular Medicine*, 85 AM. J. PUB. HEALTH 1280 (1995).

[96] *See, e.g.*, Ryan T. Tierney et al., *Apolipoprotein E Genotype and Concussion in College Athletes*, 20 CLINICAL J. SPORTS MED. 464, 466 (2010) (finding individuals with the rare T allele had over 8X the likelihood of suffering a mTBI as those with the normal G/G genotype).

[97] *See, e.g.*, Robert Lipsky et al., *Association of COMT Val158Met Genotype with Executive Functioning Following Traumatic Brain Injury*, 17 J. NEUROPSYCHIATRY & CLINICAL NEUROSCIENCE 465, 468–69 (2005) (finding an association between the COMT gene and worse executive function and cognitive flexibility post-TBI).

[98] *See, e.g.*, Yasue Horiuchi et al., *Support for Association of the PPP3CC Gene with Schizophrenia*, 12 MOLECULAR PSYCHIATRY 891, 891 (2007) (indicating the gene's malfunctioning may be implicated in CTE); *see also* James W. Bales et al., *Association Between the PPP3CC Gene, Coding for the Calcineurin Gamma Catalytic Subunit, and Severity of Traumatic Brain Injury in Humans*, 28 J. NEUROTRAUMA 1 (2011) (suggesting an individual having the A/G polymorphism indicates a susceptibility to TBI, as well as a worse recovery after TBI).

[99] Merritt et al., *supra* note 67, at 93.

IV. Implementing Genetic Testing Programs in the Next NFL CBA—Navigating A Statutory and Regulatory Maze

A quick summary of the NFL's organizational structure is informative to better understand (1) the employer-employee relationships that exist among the NFL, NFL Players Association ("NFLPA"), and NFL players, and (2) why the CBA is the best vehicle for implementing the proposed genetic testing programs.

A. Who Is the Employer?

The NFL is an unincorporated association of thirty-two member teams.[100] Each team is a separate legal entity.[101] Despite each team's legal independence, the NFL acts as the governing body for all teams, facilitating shared business and policy decision making.[102]

As the NFL's CBA states, a player is the employee of his respective team.[103] During the CBA negotiating process, players are represented by their union, the NFLPA.[104] The NFLPA acts as the "bargaining unit"[105] for purposes of the National Labor Relations Act ("NLRA"), which governs, among other things, collective bargaining agreements.[106] In this capacity, the NFLPA is the "exclusive [representative] of all employees . . . for the purposes of collective bargaining in respect to rates of pay, wages, hours of

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[100] *See* Am. Needle, Inc. v. National Football League, 560 U.S. 183, 187 (2010) ("[T]he NFL is an unincorporated association that now includes 32 separately owned professional football teams.").

[101] *See* Brady v. National Football League, 640 F.3d 785, 787 (8th Cir. 2011) (per curiam) (where the presence of all 32 NFL teams and the NFL as codefendants serves as an example of how each team is a separate legal entity, both from one another, and from the NFL).

[102] *See* NFL, Constitution And Bylaws of the National Football League art. II, § 2.1(A) (2006) (stating the NFL's purpose is to "promote and foster the primary business of [NFL] members, each member being an owner of a professional football club located in the United States").

[103] NFL CBA, *supra* note 75 at pmbl.; *see also* National Football League v. Vigilant Ins. Co., 824 N.Y.S.2d 72, 77 (N.Y. App. Div. 2006) ("[I]t is undisputed that NFL players are employees of individual NFL teams, not the NFL itself.").

[104] NFLPA, *About the NFLPA*, https://www.nflpa.com/about [http://perma.cc/V7QV-CHU7].

[105] *See* NFL CBA, *supra* note 75, at pmbl (outlining what the "bargaining unit" consists of).

[106] Metro. Life Ins. Co. v. Massachusetts, 471 U.S. 724, 724 (1985) ("[C]ollective-bargaining agreements [are] regulated by the National Labor Relations Act (NLRA).").

employment, or other conditions of employment."[107] As such, NFL teams must adhere to relevant federal employment laws.[108]

What is less clear is whether the NFL is considered an employer of the players.[109] For this paper's purposes, it is assumed the NFL will be treated as an employer and therefore is required to adhere to relevant federal employment laws. Specifically, this paper explores the applicability and protections of the employment-related sections of the ACA, ADA, and GINA, as well as the exceptions the NFLPA and NFL may utilize to implement the previously outlined genetic testing programs. For reasons explained in Section IV.B, state law is not a serious consideration in drafting the CBA language.

B. Why State Employment Laws Likely Are Not Implicated

While there are state laws governing the requesting, collection, and use of employee genetic information,[110] it is unlikely the NFL or NFLPA will need to seriously consider these statutes in crafting the proposed CBA provisions as the Supreme Court has held the Federal National Labor Relations Act ("NLRA") preempts much of the legal field relating to CBAs.[111] Sec-

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[107] 29 U.S.C. § 159(a) (2012).

[108] This is dependent upon each NFL team meeting the statutory requirements of an "employer." *See, e.g.*, 42 U.S.C. §12111(5)(A) ("The term 'employer' means a person engaged in an industry affecting commerce who has 15 or more employees for each working day in each of 20 or more calendar weeks in the current or preceding calendar year, and any agent of such person . . . .").

[109] *Compare* National Football League v. Vigilant Ins. Co., 824 N.Y.S.2d 72, 77 (N.Y. App. Div. 2006) ("it is undisputed that NFL players are employees of individual NFL teams, not the NFL itself"), *with* Williams v. National Football League, No. 27 -CV-o8-29 778, slip op. at t6 (Dist. Ct. Minn. May 6, 2010) (finding the NFL has an employment relationship with its players for purposes of the Minnesota's Drug and Alcohol Testing in the Workplace Act (DATWA)). On appeal, the appellate court reaffirmed the district court's decision and noted, "we agree that the NFL is an employer, and appellants its employees, within the meaning of DATWA." *Williams* at 396.

[110] *See generally Genetic Employment Laws*, NATIONAL CONFERENCE OF STATE LEGISLATURES (Jan. 2008), http://www.ncsl.org/research/health/genetic-employment-laws [http://perma.cc/2UGJ-BSYT].

[111] Anna Wermuth & Jeremy Glenn, *It's No Revolution: Long Standing Legal Principles Mandate the Preemption of State Laws in Conflict with Section 3(o) of the Fair Labor Standards Act*, 40 U. MEM. L. REV. 839, 842–49; *see also The Almighty CBA*, NFL CONCUSSION LITIG. (Aug. 30, 2012), http://nflconcussionlitigation.com/?p=1080 [http://perma.cc/T9SB-RM6R] (explaining "Section 301 of the Labor Management Relations Act preempts all state law claims if they are substantially dependent upon, are inextricably intertwined or arise under the CBAs"); *but see Exception for*

tion 301 of the Labor Management Relations Act ("LMRA") grants federal courts jurisdiction over "[s]uits for violation of contracts between an employer and a labor organization representing employees in an industry affecting commerce as defined in this chapter, or between any such labor organizations."[112] The Supreme Court has recognized this jurisdictional grant as valid.[113]

Labor law experts have noted that while Section 301 appears to be only a jurisdictional provision, it was actually intended to create a "comprehensive, unified body of federal law [that would] govern actions concerning the interpretation and enforcement of collective bargaining agreements under the aegis of the Act."[114] The Supreme Court has indicated as much, holding in *Allis-Chalmers Corp. v. Lueck* that Section 301 preempted not only claims alleging breach of a CBA, but also any "state-law claim [that] is substantially dependent upon analysis of the terms of an agreement made between the parties."[115] In *San Diego Building Trades Council v. Garmon*, the Supreme Court went as far as to find that even the mere *potential* for conflict between state and federal law sufficient to require the application of preemption.[116]

Over fifty years have passed since the *Garmon* decision, and Congress has yet to explicitly disapprove of the Supreme Court's expansive view of

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Genetic Monitoring, *in* 3 AMERICANS WITH DISABILITIES: PRACTICE & COMPLIANCE MANUAL § 12A:48(4)(b) (West 2018) (requiring that genetic monitoring is done in compliance with "(b) state genetic monitoring regulations, in the case of a state that is implementing genetic monitoring regulations under the authority of the Occupational Safety and Health Act of 1970 (29 U.S.C.A. §§ 651 to 678)").

[112] 29 U.S.C.A. § 185(a) (2012).

[113] *See* Garner v. Teamsters Chauffeurs & Helpers Local Union No. 776, 346 U.S. 485, 490 (1953) ("Congress did not merely lay down a substantive rule of law to be enforced by any tribunal competent to apply law generally to the parties. It went on to confide primary interpretation and application of its rules to a specific and specially constituted tribunal [(Federal Courts)] . . . . Congress evidently considered that centralized administration of specially designed procedures was necessary to obtain uniform application of its substantive rules and to avoid those diversities and conflicts likely to result from a variety of local procedures and attitudes toward labor controversies . . . .").

[114] John E. Higgins Jr. et al, DEVELOPING LABOR LAW, 2381(John E. Higgins Jr. et al. eds., 5th ed. 2006).

[115] 471 U.S. 202, 220 (1985); *see also* San Diego Bldg. Trades Council v. Garmon, 359 U.S. 236, 244–45 (1959) (stating that "when an activity is arguably subject to §7 or §8 of the [NLRA], the States as well as the federal courts must defer to the exclusive competence of the NLRB if the danger of state interference with national policy is to be averted.").

[116] 359 U.S. at 246 ("The governing consideration is that to allow the State to control activities that are potentially subject to federal regulation involves too great a danger of conflict with national labor policy.").

Section 301. As the Supreme Court noted in *Amalgamated Ass'n of Street, Electric Railway & Motor Coach Employees v. Lockridge*, "until [*Garmon*] is altered by congressional action or by judicial insights that are born of further experience with it, a heavy burden rests upon those who would, at this late date, ask this Court to abandon *Garmon* and set about again in quest of a system more nearly perfect."[117]

Despite the far reach of federal preemption regarding CBAs, there remain a few exceptions that leave preemption of the field incomplete.[118] However, even if a case involving a CBA dispute is heard in state court, Section 301 requires the reviewing state court to apply federal law.[119]

C. Implicated Federal Laws

The Proposed CBA Provisions required adherence to federal employment laws is made especially difficult because the interplay between the ACA, ADA, and GINA is complicated and uncertain, not yet having been resolved by the courts[120] or the Equal Employment Opportunity Commission ("EEOC"),[121] the agency responsible for promulgating the ADA and GINA's regulations and enforcing the statutes' implementation.[122] As such,

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[117] 403 U.S. 274, 302 (1971).

[118] These exceptions include where (1) the state is acting as a market participant, as opposed to a regulator; (2) the regulated conduct is a concern tangential to the NLRA, or (3) if the regulated conduct affects interests that are particularly deeply rooted in local feeling and responsibility. *Garmon*, 359 U.S. at 243–44. These exceptions are unlikely to apply here.

[119] *See* United Steelworkers v. Rawson, 495 U.S. 362, 368 (1990).

[120] E.E.O.C. v. Honeywell Intern., Inc., CIV. 14-4517 ADM/TNL, 2014 WL 5795481, at *5 (D. Minn. Nov. 6, 2014) ("In sum, great uncertainty persists in regard to how the ACA, ADA and other federal statutes such as GINA are intended to interact"); *see also* E. Pierce Blue, *Wellness Program, the ADA, and GINA: Framing the Conflict*, 31 HOFSTRA LAB. & EMP. L.J. 367, 367–85 (2014); *see also* Press Release, EEOC, Employer Wellness Programs Need Guidance to Avoid Discrimination (May 8, 2013), https://www.eeoc.gov/eeoc/newsroom/release/5-8-13.cfm, [http://perma.cc/TVY2-PHLB] ("Other panelists . . . urged the Commission to provide guidance on the application of the ADA and GINA to wellness programs in order to facilitate employer compliance and clarify the relationship between the ADA, GINA, the Health Information Portability and Accountability Act (HIPPA) and the Affordable Care Act (ACA) provisions on incentives and penalties.").

[121] The EEOC has issued a "Final Rule" on how the ADA and GINA's Title II apply to employee wellness programs. Press Release, EEOC, EEOC Issues Final Rules on Employer Wellness Programs (May 16, 2016), https://www.eeoc.gov/eeoc/newsroom/release/5-16-16.cfm [http://perma.cc/BL89-JBSW].

[122] *Laws Enforced by EEOC*, EEOC, https://www.eeoc.gov/laws/statutes/index.cfm [https://perma.cc/N5RX-3MA2].

the following analysis will briefly cover the ACA and the ADA, with an emphasis on GINA due to its role in regulating the acquisition and use of genetic information by employers.[123]

1. The Affordable Care Act

One of the ACA's major goals is to encourage individuals to be proactive about disease prevention.[124] It aims to accomplish this goal, in part, through employer-sponsored wellness programs,[125] which are encouraged in two distinct ways. First, the ACA provides financial resources through the Prevention and Public Health Fund to help employers plan and implement wellness programs.[126] Second, the ACA increases the previously defined limits for financial incentives that employers can offer to employees in exchange for employees' participation in wellness programs.[127] Despite the

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[123] GINA is also the best statute to focus on as it is more restrictive than the ADA regarding an employer's ability to acquire medical information. Deborah Hembree, Brian Magargle & Robin Shea, *The EEOC, GINA and Wellness Programs: It's Not that Bad*, SOC'Y HUM. RES. MGMT. (Nov. 30, 2015), https://www.shrm.org/resourcesandtools/hr-topics/benefits/pages/gina-wellness-eeoc.aspx [http://perma.cc/8MDT-NWML].

[124] Howard K Koh & Kathleen G. Sebelius, *Promoting Prevention Through the Affordable Care Act*, 363 NEW ENG. J. MED. 1296 (2010) (former Secretary of Health and Human Services Kathleen Sebelius has written "[t]oo many people in our country are not reaching their full potential for health because of preventable conditions . . . . [The] Affordable Care Act responds to this need with a vibrant emphasis on disease prevention.").

[125] ACA regulations define a "wellness program" as "a program offered by an employer that is designed to promote health or prevent disease." 42 U.S.C.A. § 300gg-4(j) (2010).

[126] 42 U.S.C. § 300u-11 (2016), *amended by* PL 115-123, February 9, 2018, 132 Stat 308.

[127] Elizabeth A. Brown, *Workplace Wellness: Social Injustice*, 20 N.Y.U. J. LEGIS. & PUB. POL'Y 191, 219 (2017). Prior to the ACA's passage, the Department of Labor ("DOL") had capped incentives contingent upon participation in a wellness program at 20% of the total cost of an employee's insurance plan. Nondiscrimination & Wellness Programs in Health Coverage in the Group Market, 71 F. R. 75014, 75018 (Dec. 13, 2006). The ACA not only changed the cap from 20% to 30% (42 U.S.C. § 300gg-4(j)(3)(A) (2012)), but also vested the Secretaries of Treasury, Labor, and Health and Human Services with discretion to increase the cap to up to 50% of the cost of an employee's medical coverage. 42 U.S.C. § 300gg-4 (j)(3)(A) (2010). Subsequent regulations increased the incentive cap for smoking cessation and prevention programs to 50% but kept the cap for all other wellness programs at 30%. *See* Incentives for Nondiscriminatory Wellness Programs in Group Health Plans, 78 Fed. Reg. 33157, 33159 (June 3, 2013).

ACA encouraging the development of wellness programs, federal discrimination laws limit the impact of the ACA's encouragement.[128]

2. The Americans with Disabilities Act (ADA)

The relevant part of the ADA for our purposes is Title I, which aims to prevent employment discrimination.[129] For an employer to be subject to the ADA's employment provisions, the employer must be an employment agency, labor organization, joint labor-management committee,[130] or an employer with fifteen or more employees.[131] It is clear the NFLPA constitutes a labor organization,[132] each NFL team constitutes an employer,[133] and for the purposes of this paper, we are assuming the NFL has an employment relationship with NFL players.[134] As the NFL has more than fifteen employees, it is also subject to Title I's employment provisions.[135]

Under Title I, an employer may not discriminate against an employee because of a historical, current, or perceived disability.[136] Employers are also prohibited from requiring an employee to undergo a medical examination or inquiry that indicates whether, or the extent to which, an individual has a disability.[137] Regarding pre-offer medical examinations, this prohibition

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[128] *See generally* Jennifer S. Bard, *When Public Health and Genetic Privacy Collide: Positive and Normative Theories Explaining how ACA's Expansion of Corporate Wellness Programs Conflicts with GINA's Privacy Rules*, 39 J.L. MED. ETHICS 469 (2011) (analyzing how the ACA's incentivizing of wellness programs interplays with GINA's privacy provisions).

[129] *See* 42 U.S.C. § 12112(a) (2012) ("No covered entity shall discriminate against a qualified individual on the basis of disability in regard to job application procedures, the hiring, advancement, or discharge of employees, employee compensation, job training, and other terms, conditions, and privileges of employment.").

[130] *Id.* § 12111(2).

[131] *Id.*; *id.* § 12111(5)(A)–(B).

[132] NFL Players Association, NFL Players Association Constitution Preamble (March 2007), *available at* https://ipmall.law.unh.edu/sites/default/files/hosted_resources/SportsEntLaw_Institute/League%20Constitutions%20&%20Bylaws/NFLPA%20Constitution%20-%20March%202007.pdf [https://perma.cc/GGY4-FUD7].

[133] *See supra* Section IV.A.

[134] *Id.*

[135] *See* Davis II, *supra* note 39 (noting that at the beginning of NFL camps there are 2,880 total players in the NFL, with that number dropping by a minimum of 1,184 (to 1,696) before the regular season starts).

[136] *See* 42 U.S.C. § 12112(a) (2012).

[137] *Id.* § 12112(d)(2), (4)(A); *see also* AARP v. U. S. Equal Employment Opportunity Comm'n, 226 F. Supp. 3d 7, 11–12 (D.D.C. 2016) ("Title I of the ADA bars employers from requiring medical examinations or inquiring as to whether an indi-

applies to employees with and without an ADA recognized disability.[138] Furthermore, these prohibitions extend to employers engaged in the collective bargaining process.[139] These protections are legal rights incapable of being waived under the ADA[140] or GINA.[141] However, players' inability to waive their legal rights under GINA or the ADA does not negate players' collective ability to agree to be bound by a mandatory CBA arbitration agreement.[142]

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vidual has a disability unless the inquiry or examination is job-related and 'consistent with business necessity.'").

[138] *See* Michelle A. Travis, *Lashing Back at the ADA Backlash: How the Americans with Disabilities Act Benefits Americans Without Disabilities,* 76 TENN. L. REV. 311, 337 (2009) (quoting 42 U.S.C. § 1211(d)(2)(A)) (pointing out the ADA's pre-offer medical examination provisions refer to all "job applicant[s]," not just qualified individuals with a disability).

[139] *See* Condon A. McGlothlen & Gary N. Savine, *Eckles v. Consolidated Rail Corp.: Reconciling the ADA with Collective Bargaining Agreements: Is This the Correct Approach?*, 46 DEPAUL L. REV. 1043, 1044 (1997) (arguing the ADA "obviously prohibits an employer and union from entering into a collective bargaining agreement which . . . restricts the hiring of persons with AIDS [or members of other protected classes].").

[140] *See* EEOC, EEOC ENFORCEMENT GUIDANCE 915.002 (Apr. 10, 1997), https://www.eeoc.gov/policy/docs/waiver.html [http://perma.cc/4LSU-FS94] [hereinafter EEOC Enforcement Guidance 1997] (noting that "while a private agreement can eliminate an individual's right to personal recovery, it cannot interfere with [the] EEOC[']s [sic] right to enforce Title VII the EPA, the ADA, or the ADEA by seeking relief that will benefit the public and any victims of an employer's unlawful practices who have not validly waived their claims."); *see also* EEOC v. Cosmair, Inc., 821 F. 2d 1085 (5th Cir. 1987) (holding, in part, that while an employee cannot waive the right to file a charge with EEOC, he/she can waive the right to recover in his own lawsuit as well as the right to recover in a lawsuit brought by the EEOC on his/her behalf).

[141] Because Title VII's precedent applies to the ADA, and GINA adopts the same process and remedies as Title VII, it follows that employees cannot waive potential GINA claims ahead of time. *See* EEOC Enforcement Guidance 1997, *supra* note 140.

[142] *See supra* note 14 and accompanying text. Arbitration agreements relating to anti-discrimination claims have generally been found to be enforceable. 14 Penn Plaza LLC v. Pyett, 556 U.S. 247, 274 (2009) ("[W]e hold that a collective-bargaining agreement that clearly and unmistakably requires union members to arbitrate ADEA claims is enforceable as a matter of federal law"). That said, the EEOC can nonetheless sue on behalf of an aggrieved employee regardless of if that employee is contractually bound by an arbitration clause. JOHN F. BUCKLEY IV & MICHAEL R. LINDSAY, DEFENSE OF EQUAL EMPLOYMENT CLAIMS at § 19:3 (2d ed. Supp. 2013) (stating the EEOC "may pursue injunctive relief and seek any other relief not available in the arbitral forum even on behalf of a party that signed a pre-dispute arbitration agreement.").

It is likely that an NFL genetic testing program utilizing tests like those discussed in Section III will fit squarely within the EEOC's definition of "medical examination[s]."[143] Fortunately for the NFL, the ADA provides two relevant exceptions to its general prohibition on medical examinations, each of which may facilitate the legality of the proposed NFL testing programs.

First, the ADA allows medical examinations or inquiries where the "examination or inquiry is shown to be job-related and consistent with business necessity."[144] An examination or inquiry is "consistent with business necessity" when an employer "has a reasonable belief, based on objective evidence, that: (1) an employee's ability to perform essential job functions will be impaired by a medical condition; or (2) an employee will pose a direct threat due to a medical condition."[145] Essentially, "job-relatedness requires that the inquiry pertains to the specific job in question, whereas

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[143] EEOC, Enforcement Guidance: Disability-Related Inquiries and Medical Examinations of Employees Under the Americans with Disabilities Act (ADA) 915.002, July 27, 2000, https://www.eeoc.gov/policy/docs/guidance-inquiries.html [http://perma.cc/NGF4-DNKG] [hereinafter ADA Enforcement Guidance] (defining a "medical examination" as a "procedure or test that seeks information about an individual's physical or mental impairments or health"). The EEOC provides seven criteria to use in determining if an evaluation is a "medical examination." These criteria include: "(1) whether the test is administered by a health care professional; (2) whether the test is interpreted by a health care professional; (3) whether the test is designed to reveal an impairment or physical or mental health; (4) whether the test is invasive; (5) whether the test measures an employee's performance of a task or measures his/her physiological responses to performing the task; [sic] (6) whether the test normally is given in a medical setting; and, (7) whether medical equipment is used." *Id.*

[144] 42 U.S.C. § 12112(d)(4)(A) (2016); *see also* U.S. Equal Employment Opportunity Comm'n, 226 F. Supp. 3d 7, 11–12 (D.D.C. 2016).

[145] ADA Enforcement Guidance, *supra* note 143. The EEOC has provided several examples of situations where job-related medical examinations would fit the "business necessity exception," including where a crane operator at a construction site is on break and becomes light-headed, has to abruptly sit down, and experiences shortness of breath. In talking about this incident with his supervisor, the crane operator states he has been affected by these same symptoms on multiple occasions in recent months, although he does not know the cause. Here, the employer has "a reasonable belief, based on objective evidence, that the employee will pose a direct threat [to workplace safety] and, therefore, may require the crane operator to have a medical examination to ascertain whether the symptoms he is experiencing make him unfit to perform his job." *Id.* The extent of the tests the employer could require would depend upon what tests are needed "[t]o ensure that [the employer] receives sufficient information" to make a determination about the crane operator's ability to perform his or her job safely. *Id.*

business necessity speaks to whether the particular examination is necessary to achieve a legitimate business purpose."[146]

These business-necessity requirements can sometimes be met where an employer knows an employee has a certain medical condition, observes the employee having performance problems, and reasonably attributes the problems to the medical condition.[147] The NFL genetic testing program should fit within this interpretation. The effects of neural trauma are a continually growing area of concern for professional football players, and players miss significant playing time after suffering concussions. If team ownership can identify concussion-related symptoms—dizziness, headaches, etc.—as the reason for a player missing playing time, the ownership can reasonably attribute the player's inability to perform to the medical condition.

Unfortunately, the EEOC's recent Final Rule on employee wellness programs states the ADA's "business necessity" exception does not apply to GINA.[148] This issue has yet to be addressed by the courts. Implementing a CBA section using the "business necessity" exception must await either an EEOC rule change or successful legal action extending the "business necessity" exception to GINA.

Second, the ADA allows medical examinations or inquiries if done as part of a voluntary[149] wellness program.[150] Employers can also conduct medical examinations as part of an employer-sponsored wellness program, as long as employees participated voluntarily, and any medical records acquired

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[146] Jessica L. Roberts et al., *Evaluating NFL Player Health and Performance: Legal and Ethical Issues*, 165 U. PA. L. REV. 227, 262 (2017).

[147] ADA Enforcement Guidance, *supra* note 143, at n. 5.

[148] Alyson Horn, *The Need to Reexamine Gina: A Call for a Business Necessity Exception to the Genetic Information Nondiscrimination Act*, 30 J. CONTEMP. HEALTH L. & POL'Y 316, 316 (2014) ("GINA does not offer a business necessity exception as found under the ADA.").

[149] The EEOC, which administers both the ADA and GINA has yet to define "voluntary" in the context of wellness programs. While the EEOC was recently tasked with creating a definition, it is unclear if they will be able to do so. Sharon Begley, *'Voluntary' Workplace Wellness Dealt Setback by U.S. Court*, STAT, Aug. 23, 2017, https://www.statnews.com/2017/08/23/voluntary-workplace-wellness-court/, [http://perma.cc/D2K5-TAB6]. Despite the lack of a formal definition, past EEOC guidance has said a voluntary wellness program is one which "neither requires participation nor penalizes employees who do not participate." Peggy R. Mastroianni, *ADA: Voluntary Wellness Programs & Reasonable Accommodation Obligations*, EEOC, Jan. 18, 2013, https://www.eeoc.gov/eeoc/foia/letters/2013/ada_wellness_programs.html, [http://perma.cc/7S89-E8SB]; *see also* ADA Enforcement Guidance, *supra* note 143.

[150] 29 C.F.R. § 1630.14(d); ADA Enforcement Guidance, *supra* note 143, at n. 22, 23.

as part of the program are kept confidential and separate from personnel records.[151] Such inquiries do not need to be job-related in nature. Common medical examinations include cholesterol testing, blood pressure screening, and cancer screening.[152]

There is a dearth of ADA case law involving genetic testing. However, some legal scholars believe post-hire, employer-implemented genetic testing would be permissible if (1) all employees are tested, (2) tests are kept confidential, (3) results use complies with the ADA,[153] and (4) testing is job-related and consistent with business necessity.[154]

3. The Genetic Information Nondiscrimination Act (GINA)

The biggest hurdle for the implementation of the proposed testing program is whether it must adhere to GINA's Title II general prohibition against covered entities "request[ing], requir[ing], or purchas[ing] genetic information with respect to an employee."[155] The answer hinges on whether (1) the NFL and NFLPA are considered "covered entities" under Title II of GINA, and (2) the proposed tests require and analyze "genetic information."

Like the ADA, GINA regulations define a "covered entity" as "an employer, employing office, employment agency, labor organization, or joint labor-management committee."[156] As noted in Section IV.A, because the NFLPA and NFL teams are "employers" of NFL players, they are "covered entities." Like the ADA,[157] the NFLPA further qualifies as a "covered entity" because it constitutes a "labor organization" as defined by GINA.[158]

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[151] *See* 42 U.S.C. § 12112(d)(4)(B) (2012); H.R. REP. NO. 101-485, pt. 2, at 75 (1990) ("As long as the programs are voluntary and the medical records are maintained in a confidential manner and not used for the purpose of limiting health insurance eligibility or preventing occupational advancement, these activities would fall within the purview of accepted activities.").

[152] 29 C.F.R. § 1635.8(b)(2)(i)(A) (2016).

[153] 42 U.S.C.§12112(d)(3) (2012).

[154] *See id.* §12112(d)(4)(A); *see also* Roberts et al., *supra* note 146, at 266.

[155] 42 U.S.C. § 2000ff-1(b) (2008); 29 C.F.R. § 1635.8(a) (2011).

[156] *Compare* 42 U.S.C. § 12111(2) (defining "covered entity" to mean "an employer, employment agency, labor organization, or joint labor-management committee"), *with* 29 C.F.R. § 1635.2(b) (defining "covered entity" to mean "an employer, employing office, employment agency, labor organization, or joint labor-management committee.").

[157] *See infra* Section IV.C.2.

[158] 29 C.F.R. § 1635.2(h) (2011) (defining "labor organization" according to 42 U.S.C. § 2000(d), to mean an "organization with fifteen or more members engaged in an industry affecting commerce, and any agent of such an organization in which

Once again, we assume the NFL is also an "employer" under GINA,[159] and therefore a "covered entity."

We consider to whether the proposed tests require and request "genetic information," which is defined in GINA as including "information about: ¶ (i) An individual's genetic tests" and "any request for, or receipt of, genetic services, or participation in clinical research which includes genetic services, by such individual."[160]

EEOC regulations implementing GINA further define a "genetic test" to mean "an analysis of human DNA, RNA, chromosomes, proteins, or metabolites that detects genotypes, mutations, or chromosomal changes."[161] The most viable current testing options for the proposed wellness program, outlined in Section III, fall within GINA's definition of a "genetic test" as they analyze human DNA to detect either genotype variations or differences in gene expression.[162] Furthermore, the gene to be examined as part of the NFL testing program are comparable to those examined in other "genetic tests" that the EEOC has listed in GINA regulations, including tests to determine predisposition to breast cancer (BRCA 1 or BRCA 2 gene variants), hereditary nonpolyposis colon cancer, Huntington's Disease,[163] and alcoholism or drug use.[164]

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employees participate and which exists for the purpose, in whole or in part, of dealing with employers concerning grievances, labor disputes, wages, rates of pay, hours, or other terms or conditions of employment.").

[159] 29 C.F.R § 1635.2(d) (defining "employer" to mean "any person that employs an employee defined in § 1635.2(c) of this part, and any agent of such person, except that, as limited by section 701(b)(1) and (2) of the Civil Rights Act of 1964, 42 U.S.C. § 2000(e)(b)(1) and (2)"). This definition has several exceptions, but they do not apply to the instant situation. *See e.g.*, 29 C.F.R. § 1635.2(d) (noting "employer" does not "include an Indian tribe, or a bona fide private club (other than a labor organization) that is exempt from taxation under section 501(c) of the Internal Revenue Code of 1986.").

[160] 42 U.S.C. § 2000ff(4)(A–B) (2008); 29 C.F.R. § 1635.3(c)(1)(iv) (2011).

[161] 29 C.F.R. § 1635.3(f)(1).

[162] Michael McCrea et al., *Role of Advanced Neuroimaging, Fluid Biomarkers and Genetic Testing in the Assessment of Sport-related Concussion: A Systematic Review*, 51 BRIT. J. SPORTS MED. 919, 925–26 (2017) (providing a review of recent concussion-related genetic testing research).

[163] 29 C.F.R. § 1635.3(f)(2)(i), (ii), (vi) ("(2) Genetic tests include, but are not limited to: ¶ (i) A test to determine whether someone has the BRCA1 or BRCA2 variant evidencing a predisposition to breast cancer, a test to determine whether someone has a genetic variant associated with hereditary nonpolyposis colon cancer, and a test for a genetic variant for Huntington's Disease.").

[164] 29 C.F.R. § 1635.3(f)(4)(ii).

EEOC GINA regulations also further define "genetic services" as including "genetic test[s], genetic counseling (including obtaining, interpreting, or assessing genetic information), or genetic education."[165] The proposed NFL testing programs includes all three of these aspects—it will provide genetic testing and analysis, genetic counselors to inform players of their results and then educate players about the future implications of their testing results.

Therefore, as the proposed tests qualify as "genetic tests," they constitute "genetic services." As such, the proposed testing program must adhere to GINA's Title II general prohibition. For the Proposed CBA Provisions creating the three NFL testing programs to be legal, these provisions must fit within one of the six exceptions to GINA's general prohibition.[166] Of these six, there are two that allow for the lawful implementation of the Proposed CBA Provisions: (1) the employer-sponsored wellness program exception ("Wellness Program Exception"),[167] and (2) the genetic monitoring program for toxic substances in the workplace exception ("Genetic Monitoring Exception").[168]

a. Wellness Programs

GINA allows covered entities to collect genetic information where "health or genetic services are offered by the employer, including . . . services offered as part of a wellness program."[169] Employer-sponsored wellness programs, whether GINA or ADA compliant (or both), are relatively common, with an estimated one half to two-thirds of employers having such programs.[170] For a wellness program including genetic services to be lawful, it must adhere to four requirements laid out in GINA, and its accompanying regulations.[171] These requirements are discussed in turn.

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[165] 29 C.F.R. § 1635.3(e).

[166] 42 U.S.C. § 2000ff-1(b) (2008).

[167] *Id.* § 2000ff-1(b)(2).

[168] *Id.* § 2000ff-1(b)(5).

[169] *Id.* § 2000ff-1(b)(2)(A). Such health or genetic services must also adhere to *id.* § 2000ff-1(b)(2)(B–D).

[170] Soeren Mattke et al., WORKPLACE WELLNESS PROGRAMS STUDY: FINAL REPORT, 101 (RAND ed., 2013) (estimating that 391,000 to 521,333 out of the approximately 782,000 employers with 15 or more employees offer some type of employer-sponsored wellness program).

[171] The EEOC's "Final Rule" guidance for wellness programs noted that such programs must also comply with Title I of the ADA and other EEOC enforced employment anti-discrimination laws. *See* 29 C.F.R. § 1635 (2011). A wellness program that provides medical care, including genetic counseling, may constitute a

i. The Wellness Program is Reasonably Designed

The proposed wellness program must be "reasonably designed to promote health or prevent disease."[172] A wellness program will meet this requirement if the program:

has a reasonable chance of improving the health of, or preventing disease in, participating individuals, and it is not overly burdensome, is not a subterfuge for violating Title II of GINA or other laws prohibiting employment discrimination, and is not highly suspect in the method chosen to promote health or prevent disease.[173]

While courts have had limited opportunity to address this requirement in the context ofGINA,[174] a rational analysis of the Player Wellness Program indicates it has a reasonable chance of improving the health of participating players. Players voluntarily participating in the program are likely to already be cognizant of their neural health. Therefore, if a player learns he has a significant predisposition to poor neural recovery post-concussion, it reasonable to think the player will alter his playing style, attitude towards returning from a concussion, or the duration of his NFL career. One or more of these changes would likely lead to improved neural health.

Using the same reasoning, the wellness program likely also prevents disease, as participating players would be informed and educated about their genetic predisposition to developing neurological diseases like CTE. If players responded to this information with altered playing style, attitude towards concussion recovery, or early retirement, the wellness program may prevent or at least mitigate the development of CTE.

It is likely the proposed Player Wellness Program is also not "overly burdensome." The program is completely voluntary, with players not required to participate, incentivized to participate, or punished for not participating. Any impact that participation in the wellness program has on the

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group health plan that is required to comply with a host of other statutes including HIPAA nondiscrimination provisions as amended by the ACA (26 U.S.C. § 9802), section 702 of the ERISA (29 U.S.C. § 1182), and section 2705 of the PHS Act (i.e., Title I of GINA). 29 C.F.R. § 1635.8(b)(2)(vii) (2016).

[172] 29 C.F.R. § 1635.8(b)(2)(i)(A).

[173] *Id.*

[174] *See, e.g.*, Dittmann v. ACS Human Services LLC, No. 2:16-CV-16-PPS-PRC, 2017 WL 819685, at *1 (N.D. Ind. Mar. 1, 2017) (stating in dicta that an employee wellness program, which incentivized participation in an online health questionnaire and wellness screening meant to determine if employees were smokers, with the employer's removal of a $500 tobacco surcharge charged annually to employees, was reasonably designed to improve employee health through encouraging employees to quit using tobacco).

player's monetary or employment outlook, will be a result of the player voluntarily acting upon the information he has been provided. The Player Wellness Program will also not be overly burdensome to the NFL or NFLPA, as they are hypothetically opting to include this program in the next CBA, rather than being forced to do so.

EEOC regulations further state that for a program testing or screening for health-related information to be "reasonably designed to promote health or prevent disease," the program must provide participants with follow-up consultation designed to improve the participants' health *or* the information collected must be "used to design a program that addresses at least a subset of conditions identified."[175] The proposed NFL Wellness Program fulfills the first of the two options. As explained above, the program has a reasonable likelihood of improving participant health by empowering players to make better-informed decisions about their neural health.

ii. The Employees Voluntarily Participate in the Wellness Program

An employee's participation in the Player Wellness Program must be voluntary.[176] Despite the significant importance of the "voluntary" requirement for wellness programs, Congress did not provide a definition of the term in either the ADA or GINA. The EEOC has, however, provided hints at the meaning of "voluntary" through regulations and enforcement guidance. A player's participation in the Player Wellness Program is likely to be found "voluntary" under GINA if the player is not required to participate in the wellness program, nor penalized for a lack of participation.[177] While employers offering wellness programs that don't involve genetic testing are able to offer employee inducements to facilitate participation,[178] the NFL cannot do so because of the genetic nature of its proposed testing.[179]

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[175] 29 C.F.R. § 1635.8(b)(2)(i)(A) (2016). Requiring the NFL teams to hire doctors to protect players' safety is not a new concept. The existing CBA already requires NFL clubs to hire doctors with a range of specialties including neurology, cardiovascular disease, and orthopedics. NFL CBA, *supra* note 75, at art. 39, § 1(a)–(b).

[176] 42 U.S.C. § 2000ff-1(b)(2)(B) (2008).

[177] 29 C.F.R. § 1635.8(b)(2)(i)(A) – (B) ("The provision of genetic information by the individual is voluntary, meaning the covered entity neither requires the individual to provide genetic information nor penalizes those who choose not to provide it."); *see also* Mastroianni, *supra* note 149.

[178] *See* Incentives for Nondiscriminatory Wellness Programs in Group Health Plans, 78 Fed. Reg. 33157, 33159 (June 3, 2013).

[179] *See* 29 C.F.R. § 1635.8(b)(2)(ii) (2016) ("[A] covered entity may not offer an inducement (financial or in-kind), whether in the form of a reward or penalty, for

To ensure voluntary participation, the participating employee must provide "prior, knowing, voluntary, and written authorization."[180] An authorization form is only valid if it (1) is written in a way that is reasonably likely to be understood by the participating individual; (2) outlines the genetic information to be obtained, and the purpose of obtaining it; and (3) states how the collected information will be protected and handled according to GINA's restrictions on disclosure of genetic information.[181]

iii. The Wellness Program Adheres to Reporting and Confidentiality Requirements

GINA requires any individually identifiable genetic information gathered as part of a player's participation in a wellness program only be provided to the participating player and the "licensed health care professional[s] or board certified genetic counselor[s] involved in providing such services."[182] Such genetic information may not be disclosed to the employer, or anyone who makes employment decisions for the employer, unless disclosure is done in aggregate terms that do not reveal specific employees' identities.[183]

If genetic information is disclosed to the covered entity, the entity must maintain this information in files separate from personnel files and must treat this genetic information as a confidential medical record.[184] Regardless of how a covered entity acquires an employee's genetic information,

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individuals to provide genetic information"); s*ee also* 29 C.F.R. § 1635.8(b)(2)(iv) ("A covered entity may not . . . condition participation in an employer-sponsored wellness program or provide and inducement to an employee . . . in exchange for an agreement permitting the sale, exchange, sharing, transfer, or other disclosure of genetic information.").

[180] 42 U.S.C § 2000ff-1(b)(2)(B) (2008). Such authorization may be provided in electronic format. *Id.*

[181] 29 C.F.R. § 1635.8(b)(2)(C)(1–3) (2016).

[182] 42 U.S.C. § 2000ff-1(b)(2)(C) (2008); 29 C.F.R. § 1635.8(b)(2)(i)(D) (2016).

[183] *See* 42 U.S.C. § 2000ff-1(b)(2)(D) (2008); 29 C.F.R. § 1635.8(b)(2)(i)(D–E) (2016). EEOC regulations have noted a covered entity will not violate the requirement that information be provided to the entity in aggregate form if the entity "receives information that, for reasons outside the control of the provider or the covered entity (such as the small number of participants), makes the genetic information of a particular individual readily identifiable with no effort on the covered entity's part." 29 C.F.R. § 1635.8(b)(2)(i)(E) (2016).

[184] 29 C.F.R. § 1635.9(a)(1–2) (2011). Whether an entity may maintain an employee's genetic information in the same file as other confidential medical information is subject to 42 U.S.C. § 12112(d)(3)(B) (2009).

there is a general prohibition against the covered entity disclosing this information.[185]

These limitations on confidentiality and reporting are reflected in the Proposed CBA Provisions, as well as in the general structure of the wellness program. The wellness program is organized to be operationally independent of the NFL and to ensure the NFL exercises as little influence over the Player Wellness Program as possible. It is hopeful this independence will not only help maintain the reporting and confidentiality requirements once implemented, but also will serve to alleviate players' worries regarding wellness program participation, thereby encouraging participation.[186]

b. Genetic Monitoring Programs

Another exception to GINA's blanket prohibition on employers collecting employees' genetic information is the Genetic Monitoring Exception.[187] This exception allows an employer to "acquire [an employee's] genetic information for use in genetic monitoring of the biological effects of toxic substances in the workplace."[188]

There is no discernable case law or news coverage of an employer's use of this exception. That said, a rational analysis of the Genetic Monitoring Exception could find the proposed tests to be carried out in the Biomarker Monitoring Program and CTE Monitoring Program to constitute instances of "genetic monitoring of . . . biological effects of toxic substances in the workplace."[189]

i. Genetic Monitoring Definition

GINA regulations define "genetic monitoring" as:
the periodic examination of employees to evaluate acquired modifications to their genetic material, such as chromosomal damage or evidence of increased occurrence of mutations,[190] caused by the toxic substances they use or are

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[185] *See* 29 C.F.R. § 1635.9(b) (2011). This general prohibition is subject to six exceptions where the entity may disclose an employee's genetic information. *See id.*

[186] It is reasonable to believe players will worry that if they volunteer to participate in this program, that their test results will end up in the hands of NFL clubs' front offices, and consequently negatively affect the players' employment opportunities and contractual bargaining power.

[187] 29 C.F.R. § 1635.8(b)(5) (2016).

[188] *Id.*

[189] *Id.*

[190] The quoted text preceding this note is hereinafter collectively referred to as "Part 1" of the "genetic monitoring" definition.

exposed to in performing their jobs,[191] in order to identify, evaluate, and respond to the effects of, or to control adverse environmental exposures in the workplace.[192]

1. Acquired Genetic Modifications

It is unlikely that the genetic tests discussed in Section III would fall within Part 1 of the genetic monitoring definition, as these tests' purpose is to test for genotype, not to evaluate acquired genetic modifications that may have occurred in the workplace. However, both the blood-based biomarker tests that objectively confirm neural injury and in vivo CTE testing will likely fall within Part 1 of the genetic monitoring definition.

Blood-based biomarker tests are likely to meet Part 1 as several recent studies have found TBI causes adverse genetic alterations, alteration of gene expression,[193] oxidative stress that damages proteins,[194] apoptotic cell death,[195] and accumulation of toxic proteins.[196] CTE testing should also meet Part 1 as studies have shown CTE causes, among other things, cellular

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[191] The quoted text subsequent to note 277 and preceding this note is hereinafter collectively referred to as "Part 2" of the genetic monitoring definition. The quoted text subsequent to this note is hereinafter collectively referred to as "Part 3" of this definition.

[192] 29 C.F.R. § 1635.3(d) (2011).

[193] *Compare* 29 C.F.R. § 1635.3(d) (2011) (defining "genetic monitoring" as including the evaluation of genetic modifications including "chromosomal damage or evidence of increased occurrence of mutations"), *with* Qingying Meng et al., *Traumatic Brain Injury Induces Genome-Wide Transcriptomic, Methylomic, and Network Perturbations in Brain and Blood Predicting Neurological Disorders*, 16 EBIOMEDICINE 184, 191–92 (2017) (finding TBI-caused genetic alterations put the injured individual at an increased risk for diseases including ADHD, Alzheimer's, Parkinson's, schizophrenia, and post-traumatic stress disorder); *see also* Richelle Mychasiuk et al., *The Development of Lasting Impairments: A Mild Pediatric Brain Injury Alters Gene Expression, Dendritic Morphology, and Synaptic Connectivity in the Prefrontal Cortex of Rats*, 288 NEUROSCIENCE 145 (2015) (finding mTBIs alter gene expression, synaptic connectivity, and dendritic morphology in rats).

[194] Joshua A. Smith et al., *Oxidative Stress, DNA Damage, and the Telomeric Complex as Therapeutic Targets in Acute Neurodegeneration*, 62 NEUROCHEM INT. 764 (2013) (finding oxidative stress is a major contributor to central nervous system injury pathophysiology, including TBI).

[195] Christopher C. Giza & David A. Hovda, *The New Neurometabolic Cascade of Concussion*, 75 NEUROSURGERY S24, S29 (2014) ("In addition to the effects of chronic energy impairment as a trigger to protease activation and apoptotic cell death, it is well known that normal cellular protein homeostasis depends upon a functioning system of protein degradation . . . . it is not surprising that these links are now being made in TBI.").

death.[197] As all human cells carry chromosomes,[198] CTE-caused cellular death would consequently damage the cell's chromosomes, thereby fulfilling Part 1.

2. Modifications are Caused by Toxic Substances in the Workplace

We then move to Part 2 of the genetic monitoring definition—whether the genetic modifications in Part 1 were "caused by the toxic substance [employees] use or are exposed to in performing their jobs." Unfortunately, GINA is of little use in this endeavor, as neither it's text, nor its regulations define "toxic substances."

Next, we apply traditional canons of statutory interpretation. In ascertaining Congress's intent to effectuate the purpose of the law in question,[199] courts will start with the statute's language, as this is the primary indication of Congress's intent.[200] A reviewing court will likely first look to the ordinary meaning of the term or word,[201] which is often done by looking at the term's dictionary definition(s)[202] and colloquial meaning.[203]

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[196] *Id.* ("it is well known that normal cellular protein homeostasis depends upon a functioning system of protein degradation . . . . There are many examples in neurodegenerative disease of cellular oxidative stress leading to oxidatively damaged proteins that can affect metabolic enzymes and/or the ubiquitin-proteasome system. This could then result in the accumulation of abnormal/toxic proteins . . . . [I]t is not surprising that these links are now being made in TBI.").

[197] Ann C. McKee & Daniel H. Daneshvar, *The Neuropathology of Traumatic Brain Injury*, 127 HAND. CLIN. NEUROLOGY 45, 53 (2015) (noting CTE causes focal neuropathologic changes including "disseminated microgliosis and astrocytosis, myelinated axonopathy, and focal neurodegeneration.").

[198] *Chromosomes*, NIH (June 16, 2015), https://www.genome.gov/26524120/chromosomes-fact-sheet/ [https://perma.cc/7Y4C-YGFC].

[199] DuBois v. Workers Comp. Appeals Bd., 5 Cal.4th 382, 387 (1993) ("A fundamental rule of statutory construction is that a court should ascertain the intent of the Legislature so as to effectuate the purpose of the law.").

[200] United States v. Aguilar, 21 F.3d 1475, 1480 (9th Cir. 1994), *aff'd in part, rev'd in part*, 515 U.S. 593 (1995).

[201] Perrin v. United States, 444 U.S. 37, 42 (1979) ("A fundamental canon of statutory construction is that, unless otherwise defined, words will be interpreted as taking their ordinary, contemporary, common meaning.").

[202] Smith v. United States, 508 U.S. 223, 228–29 (1993) (the Supreme Court, in carrying out an exercise in statutory interpretation, looked to several dictionary definitions to determine a statutory term's ordinary and natural meaning).

[203] *See* Nix v. Hedden, 149 U.S. 304, 307 (1893) (the Supreme Court considered testimony regarding the colloquial meaning of "tomato" in determining whether such is a fruit or vegetable); *but see* United States v. Aguilar, 515 U.S. 593, 616 (1995) ("Statutory language need not be colloquial.").

Merriam-Webster Dictionary defines "toxic" as: "containing or being poisonous material especially when capable of causing death or serious debilitation,"[204] and "substance" as "physical material from which something is made or which has discrete existence."[205] The tau protein that characterizes CTE's development likely constitutes a "toxic substance" as tau protein is a poisonous material that can cause serious debilitation and death.[206] The neurometabolic cascade the brain experiences post-concussion should also be found to be a "toxic substance," as the cascade causes, among other things, apoptotic cell death, oxidative stress that damages proteins, and an abnormal accumulation of toxic proteins.[207]

A court is likely to also look at the use of "toxic substances" in other similar statutory contexts, such as the Toxic Substances Control Act[208] and parts of the Occupational Safety and Health Standards Act (OSHA).[209] Among the toxic substance categories listed in OSHA regulations are "bloodborne pathogens,"[210] which are defined as "pathogenic microorganisms that are present in human blood and can cause disease in humans."[211] As discussed in Section I.A. and III, mTBI cause a neurometabolic response in the brain that often causes secondary injury, which contributes to CTE—a diagnosable disease.

As the Genetic Monitoring Exception's language is clear, courts are unlikely to heavily consider legislative history.[212] However, if a court sought to do so, it would find such history lacking, as the Genetic Monitoring Exception was created by EEOC regulation, not by GINA's enact-

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[204] *Toxic*, MERRIAM-WEBSTER DICTIONARY, https://www.merriam-webster.com/dictionary/toxic [https://perma.cc/4267-3R6K].

[205] *Substance*, MERRIAM-WEBSTER DICTIONARY, https://www.merriam-webster.com/dictionary/substance [https://perma.cc/Q66N-ZQ7C].

[206] Amanda L. Woerman et al., *Tau Prions from Alzheimer's Disease and Chronic Traumatic Encephalopathy Patients Propagate in Cultured Cells*, 113 PROC. NATL. ACAD. SCI. 8187, 8187 (2016) (stating studies indicate tau protein plays a harmful role in neurodegeneration. Specifically, tau is linked to frontotemporal lobar degenerative diseases, including argyrophilic grain disease, corticobasal degeneration, Pick's disease, and progressive supranuclear palsy).

[207] *See infra* notes 192–95 and accompanying text.

[208] *See generally* 15 U.S.C. §§ 2601–2629.

[209] *See* 29 C.F.R. § 1910 (subpart Z) (2012).

[210] *Id.* § 1910.1030 (2012).

[211] *Id.* § 1910.1030(b) (2012).

[212] Blum v. Stenson, 465 U.S. 886, 896 (1984) ("Where, as here, resolution of a question of federal law turns on a statute and the intention of Congress, we look first to the statutory language and then to the legislative history if the statutory language is unclear.").

ment.[213] If a reviewing court reaches this step, it may also consider the term's usage in regulatory programs[214] or prior cases.[215]

3. Monitoring is Meant to Identify, Evaluate, Respond to, or Control Adverse Exposures in the Workplace

The Biomarker Monitoring Program is designed to objectively identify mTBIs. This program will also enable doctors to effectively evaluate and respond to mTBIs by providing information about the severity of the injury, informing steps for treatment, and indicating when a player has sufficiently recovered to return to play.[216] These improved tools hold promise in decreasing the likelihood of Second Impact Syndrome (SIS).[217]

The CTE Monitoring Program is designed to identify the potential existence of CTE, and if it does exist, evaluate the extent of the injury. Furthermore, some think that gene editing could be used to treat, or at least mitigate the damage, of tau-related neurological diseases like CTE. As such, the CTE Monitoring Program would serve as the first line of defense, identifying the existence of CTE, thereby providing players with the necessary information to seek out potential gene editing treatments. The CTE Monitoring Program serves to empower players' autonomy through access to improved neural health information and education. This enables players to

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[213] *See* 29 C.F.R. § 1635.8(b)(5) (2011).

[214] *See, e.g.*, *Toxics Release Inventory (TRI) Program*, EPA, https://www.epa.gov/toxics-release-inventory-tri-program/tri-listed-chemicals [https://perma.cc/LN6Y-FJ7F] (outlining the EPA-created TRI program, which lists chemicals that cause: (1) cancer or other chronic human health effects, (2) significant adverse acute human health effects, (3) significant adverse environmental effects).

[215] City of Waukesha v. E.P.A., 320 F.3d 228, 251 (D.C. Cir. 2003) (detailing an Environmental Protection Agency report on the toxicity of uranium, which said there is no threshold level of safety for uranium as it is a radionuclide that emits radiation that can cause cancer).

[216] *See* Svetlana A. Dambinova, Richard L Sowell & Joseph C. Maroon, *Gradual Return to Play: Potential Role of Neurotoxicity Biomarkers in Assessment of Concussions Severity*, J. Molecular Biomarkers & Diagnosis 1 (2013), doi:10.4172/2155-9929.S3-003.

[217] Second impact syndrome (SIS) occurs when an individual sustains an initial concussion, and then sustains a second concussion before the first has fully healed. This "causes the brain to 'lose its ability to self-regulate pressure and blood volume flowing' and causes rapid and severe brain swelling." *Second Impact Syndrome: The Dangerous Effect of Multiple Concussions*, Revere Health (Sept. 20, 2016), https://reverehealth.com/live-better/second-impact-syndrome-dangerous-effect-multiple-concussions/ [https://perma.cc/9AJJ-NCNF].

make better-informed decisions regarding whether to assume the risk of continuing to play football.

i. Statutory Requirements

Even if both the blood-based biomarker and the in vivo CTE testing programs meet GINA's definition of "genetic monitoring," the programs still must adhere to four main structural requirements to be GINA-compliant.

1. Written Notice

An employer wishing to carry out genetic monitoring must provide written notice of such to its employees.[218] Furthermore, GINA regulations require all participating employees in such a program to "give prior knowing, voluntary and written authorization."[219] The only instance in which authorization does not have to be voluntary is if genetic monitoring is required by federal or state statute.[220] If a genetic monitoring program's proposed type of testing is not required by federal or state law, as is the case with the two proposed NFL programs, an employer may not retaliate or discriminate against an employee for refusing to participate in the monitoring.[221] As such, players' participation must be voluntary.[222]

2. Adequate Authorization Form

To satisfy the "prior knowing, voluntary, and written authorization" in the first requirement, the covered entity must use an authorization form that meets the same standards as the authorization form required by the

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[218] 29 C.F.R. § 1635.8(b)(5) (2016).

[219] *Id*. § 1635.8(b)(5)(i) (2016). To adhere to GINA, the Genetic Monitoring Program's authorization requirements will need to meet the same threshold level as the Wellness Program Exception. *See id.* § 1635.8(b)(2)(i)(C).

[220] *Id.* § 1635.8 (2016) (stating GINA's general prohibition against "requesting, requiring, or purchasing genetic information does not apply . . . [w]here an employer requests medical information from an individual as required, authorized, or permitted by Federal, State, or local law").

[221] *Id.* § 1635.8(b)(5) (2016); *see also* Regulations Under the Genetic Information Nondiscrimination Act of 2008, 75 FR 68912-01 ("the covered entity is prohibited from taking any adverse action, as that term is understood under Title VII of the Civil Rights Act of 1964 and other civil rights laws, against the individual.").

[222] *See infra* notes 176–78 and accompanying text.

Wellness Program Exception.[223] This requirement should be easily met with regard to the CTE Monitoring Program, as this program will be implemented similarly to the proposed wellness program in Section IV.C.3.a.—in a controlled environment with relatively less testing urgency than the Biomarker Monitoring Program.

However, securing the necessary authorization for the Biomarker Monitoring Program will be more difficult because of the program's designed time of use—immediately following a suspected neural injury. Besides the practical hurdles of trying to get a potentially injured player to fill out authorization forms on the sideline or in a locker room, it is unlikely a concussed player could give "knowing" or "voluntary" authorization as they have an altered, lessened mental state.[224] To avoid these problems, season-long authorization for participation in the Biomarker Monitoring Program for the entire season should be obtained at the beginning of every NFL preseason.

3. Genetic Monitoring Complies with Other Federal Genetic Monitoring Statutes and Accompanying Regulations

GINA-compliant genetic monitoring programs must also adhere to other federal genetic monitoring statutes and regulations, including those "promulgated by the Secretary of Labor pursuant to the Occupational Safety and Health Act of 1970 (29 U.S.C. 651 *et seq.*), the Federal Mine Safety and Health Act of 1977 (30 U.S.C. 801 *et seq.*), and the Atomic Energy Act of 1954 (42 U.S.C. 2011 *et seq.*)."[225] Of these, the Occupational Safety and Health Act is the most likely to have a bearing on the proposed NFL genetic monitoring programs' legality because of its broad applicability.[226]

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[223] *Id.* § 1635.8(b)(5)(i) (2016); *see* 29 C.F.R. § (b)(2)(i)(C) (2016).

[224] Reid v. IBM Corp., 1997 WL 357969, at *7 (S.D.N.Y. June 26, 1997) (holding that a contract executed by a party who suffers from a mental illness or defect is voidable); *see also* Kovian v. Fulton County Nat'l Bank and Trust Co., 857 F.Supp. 1032, 1039 (N.D.N.Y. 1994) (holding a contract executed under duress "is not per se void, but merely is voidable"); *see also* RESTATEMENT (SECOND) OF CONTRACTS § 175 (1981).

[225] These include regulations "promulgated by the Secretary of Labor pursuant to the Occupational Safety and Health Act of 1970, 29 U.S.C. 651 et seq., the Federal Mine Safety and Health Act of 1977, 30 U.S.C. 801 et seq., and the Atomic Energy Act of 1954, 42 U.S.C. 2011 et seq." 29 C.F.R. § 1635.8(b)(5)(ii) (2016).

[226] Am. Fed'n. of Lab. v. Hodgson, CIV. A. 2515-72, 1973 WL 13961, at *2 (D.D.C. Jan. 2, 1973) ("It is designed specifically to achieve on a uniform, nationwide basis the far reaching goal of 'assur[ing] so far as possible . . . safe and healthful

4. Provision of Testing Results

Regardless of whether a genetic monitoring program is required by applicable state or federal law, GINA nonetheless requires that participating employees be provided with their individual testing results.[227] Meeting this requirement should be relatively easy for both of the NFL's proposed genetic monitoring programs, as these programs will adhere to a similar organizational structure and operational processes as the proposed NFL Wellness Program.[228]

However, as with the Wellness Program Exception, covered entities may not receive testing results, unless the results are provided in aggregate terms that do not disclose the identity of specific individuals.[229] For the CTE Monitoring Program, this requirement is likely easily met utilizing the same confidentiality safeguards implemented in the proposed NFL Wellness Program.

Fulfillment of this requirement is more difficult when it comes to the Biomarker Monitoring Program. The crux of the problem is the way the program is meant to be utilized—on a sideline or in a locker room immediately following suspected neural injury. Because as few as one player might be suspected of receiving a concussion during a game and consequently undergoing biomarker testing, the likelihood of covered entities receiving aggregate information being able to attribute a testing result to a specific individual would be very high.

While GINA regulations note that such a situation, where a covered entity discerns the identity of a tested employee because of a small sample size, is not a GINA violation,[230] this nonetheless would likely cause significant worry among NFL players. Adding additional confidentiality and reporting safeguards to the CBA provision relating to the Biomarker Monitoring Program is something players, via the NFLPA, would likely seek during the collective bargaining process.

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working conditions" for all employees working in establishments engaged in interstate commerce' *citing* 29 U.S.C. § 651(b)).

[227] 29 C.F.R. § 1635.8(b)(5) (2016).

[228] *See infra* Section IV.C.3.a.

[229] 29 C.F.R. § 1635.8(b)(5)(iii) (2016).

[230] *See* 29 C.F.R. (b)(2)(i)(e) (2016) ("a covered entity will not violate the requirement that it receive information only in aggregate terms if it receives information that, for reasons outside the control of the provider or the covered entity (such as the small number of participants), makes the genetic information of a particular individual readily identifiable with no effort on the covered entity's part.").

VI. Are the Proposed Genetic Testing Programs Lawful?

While the genetic testing programs proposed in this article for the NFL are novel, the same is not true regarding the use of genetic testing by other major U.S. sports organizations. The NBA has had several high-profile instances of genetic test results impacting players' ability to secure employment.[231] MLB has also utilized genetic testing, in several instances using DNA tests to confirm or disprove the identity and age of certain Latin American baseball prospects.[232]

The NCAA, however, has been the most prolific user of genetic testing among major sporting organizations. Specifically, the NCAA requires all athletes competing under its umbrella be tested for the sickle cell gene trait,[233] or alternatively sign a waiver exempting the NCAA (and the athlete's school) from liability in the event the player suffers harm related to the effects of sickle cell disease.[234] Clearly, the utilization of genetic testing by large sports organizations is not a novel idea.

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[231] In one instance, New York Nicks player Cuttino Mobley tested positive for hypertrophic cardiomyopathy (HCM), a genetic heart ailment, and was subsequently declared unfit to play. *See* Mobley v. Madison Square Garden LP, No. 11-8290, 2012 WL 2339270, at *2 (S.D.N.Y. June 14, 2012) (complaining the Knicks forced the plaintiff to retire against his will because of his HCM condition). In another instance, Isaiah Austin withdrew himself from the 2014 NBA draft after a physical revealed he suffered from Marfan Syndrome—a rare genetic disorder, which can comprise the heart's integrity during strenuous activity. Associated Press *Baylor Center Out of N.B.A. Draft,* N.Y. Times (June 23, 2014), https://www.nytimes.com/2014/06/24/sports/basketball/baylor-center-out-of-nba-draft.html [https://perma.cc/L9C2-8DC7] (on file with the Harvard Law School Library).

[232] Michael S. Schmidt & Alan Schwarz, *Baseball's Use of DNA Raises Questions*, N.Y. Times (July 21, 2009), http://www.nytimes.com/2009/07/22/sports/baseball/22dna.html [https://perma.cc/JL6H-BUH7] (on file with the Harvard Law School Library).

[233] Sickle cell trait and sickle cell anemia are genetically inherited conditions that affect the shape of red blood cells, and consequently the ability of those cells to absorb and transport oxygen. Rose Eveleth, *Exercising Caution: Intensive Athletic Activity Could be Fatal to Those with Sickle-Cell Trait*, Sci. Am. (Aug. 13, 2013), https://www.scientificamerican.com/article/athletic-activity-could-be-fatal-to-those-with-sickle-cell-trait/ [https://perma.cc/SX8R-582V] (on file with the Harvard Law School Library).

[234] NCAA, NCAA Sickle Cell Trait (SCT) Testing - What You Need to Know (2014), https://www.ncaa.org/sites/default/files/SCT%20testing%20brief%202014.pdf [https://perma.cc/6T4C-W4BY]. It is important to note the NCAA is not subject to the same employment-related restrictions on medical tests and acquisition of genetic information as professional sporting leagues like the NBA, MLB, and NFL.

A. Is the Wellness Program Lawful?

Distilled down, GINA's Wellness Program Exception allows employers to collect employees' genetic information as part of an employer-sponsored wellness program where (1) the wellness program is reasonably designed to achieve its stated health-improving outcomes, (2) participating employees voluntarily agree to the collection of such information, and (3) such information is only reported back to the employer in an aggregate, non-identifiable form.[235] As analyzed in Section IV and V, the proposed CBA language fulfills these statutory requirements, and therefore an initial analysis of the legality of the proposed NFL Wellness Program should lead to the finding that it is lawful under the federal employment laws analyzed in this article.

That said, a dearth of case law addressing the legality of wellness programs that utilize genetic testing creates uncertainty regarding how the EEOC and addressing courts would rule on the legality of the proposed program.

B. Are the Genetic Monitoring Programs Lawful?

Courts have not had the opportunity to address (1) what constitutes genetic monitoring under GINA, (2) what constitutes a "toxic substance," (3) how GINA's Genetic Monitoring Exception is treated when other statutes, such as the ADA, are applied, and (4) whether a genetic monitoring program is legal under GINA's relevant provisions. Furthermore, the enforcing regulatory agencies have not issued guidance letters or statements in relation to GINA's genetic monitoring provisions. As such, how the EEOC or the courts would treat the proposed NFL genetic monitoring programs is largely unknown. That said, a reasoned analysis of the Genetic Monitoring Exception considering commonly-employed rules of statutory interpretation lead to the conclusion that the proposed genetic monitoring programs would be held lawful under GINA.[236]

Conclusion

Despite Dr. Omalu's stern warnings regarding the connection between football-caused head trauma and long-term neurological afflictions, he nonetheless does not go so far as advocating for the end of football. Rather, Dr.

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[235] *See infra* Section IV.C.3.a.
[236] *See infra* Section IV.C.3.b.

Omalu has challenged us to "[t]rust in the great American ingenuity." He believes "[w]e can derive more intelligent, more brain-friendly ways we can play football," and that "[t]here are no rules that say we must play football the way it's played today."[237]

While the NFL failed to acknowledge Dr. Omalu's initial repetitive head trauma and CTE-related warnings, it now has the chance to ensure it doesn't make the same mistake again. The NFL should heed Dr. Omalu's advice in trusting in the great American ingenuity. While blood-based biomarkers, advanced neuroimaging dyes, and genetic predisposition tests are important tools that show great promise for future application, they require further testing and validation to determine their clinical utility in best mitigating the negative long-term consequences of mTBI.

The NFL cannot wait around for researchers to develop these tests and technology on their own. The concussion epidemic is upon the NFL and it is not going to get better unless we can truly understand how the brain reacts to neural trauma. As many economists have opined, innovation occurs less frequently than is socially optimal.[238] This is in large part because of the research and development costs associated with innovation.[239] The NFL has an opportunity to accelerate the pace of innovation by making a genuine public and financial investment to developing the technologies outlined in this paper.

If these tests are sufficiently developed by the time the next NFL CBA is negotiated, the NFL and NFLPA should make a concerted effort to incorporate the Player Wellness Program, CTE Monitoring Program, and Biomarker Monitoring Program into the CBA's language in a way that will comply with applicable federal laws, most notably GINA. The Wellness Program Exception and Genetic Monitoring Exception provide viable vehicles for the NFL to do this.

While the proposed genetic testing programs will not solve the "concussion epidemic," they will help the NFL better treat mTBI when they do occur, and will best mitigate the negative long-term consequences that are the true crux of the fear that is behind the "concussion epidemic." It is time for football to use the human head in a different, more productive way.

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[237] *See supra* note 53.
[238] *See* Mansfield, *supra* note 80.
[239] *Id.*

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Cheerleaders in the NFL: Employment Conditions and Legal Claims

Heylee Bernstein

I. Introduction

In 2002, National Football League cheerleaders made headlines when they brought suit against 29 NFL teams. The cheerleaders, working for the Philadelphia Eagles, claimed that visiting teams looked into the cheerleaders' bathroom and dressing rooms without the cheerleaders' knowledge.[1] These shocking and grotesque allegations were hardly the last claims made by cheerleaders against NFL teams. The Cincinnati Bengals settled a class-action lawsuit for $255,000 brought by cheerleaders in 2014 claiming the team violated federal minimum wage laws.[2] In early spring 2018, against the backdrop of the #MeToo movement, cheerleaders from numerous teams publicly described employment conditions which they claimed included sexual harassment, sex-based discrimination, and unfair pay.[3] The long history

[1] *See* Debbie Goldberg, *Cheerleaders Say Visiting Players Spied on Them*, The Washington Post, Jan. 24, 2002, *available at* https://www.washingtonpost.com/archive/politics/2002/01/24/cheerleaders-say-visiting-players-spied-on-them/2d5a9ca9-83fb-4223-b936-998c24a90da2/?noredirect=on&utm_term=.08214f480d18, [https://perma.cc/MSH9-36LC].

[2] *See* Patrick Redford, *Ben-Gals Cheerleaders Win $255,000 Settlement In Lawsuit Against The Bengals*, DEADSPIN, Oct. 24, 2015, https://deadspin.com/ben-gals-cheerleaders-win-255-000-settlement-in-lawsui-1738481954, [https://perma.cc/6MHN-W3RN] (on file with the Harvard Law School Library].

[3] *See e.g.*, Juliet Macur & John Branch, *Pro Cheerleaders Say Groping and Sexual Harassment Are Part of the Job*, The New York Times, Apr. 10, 2018, *available at* https://www.nytimes.com/2018/04/10/sports/cheerleaders-nfl.html?rref=collection%2Ftimestopic%2FCheerleaders&action=click&contentCollection=timestopics&region=stream&module=inline&version=latest&contentPlacement=4&pgtype=col

of these claims raises the question: why, even after numerous settlement agreements, are similar claims made against NFL teams regarding their cheerleaders' employment conditions?

This paper explores the various legal claims cheerleaders have brought against their employers, NFL teams, based on their employment conditions. The claims are divided into three categories: first, the Philadelphia Eagles cheerleaders' claim against 29 NFL teams regarding their long-standing tradition of peering into the cheerleaders' locker room from their adjacent locker room demonstrates cheerleaders' long history of enduring inappropriate employment conditions. Next, this paper explores four wage and hour claims. Together, these claims represent an even larger group of similar wage and hour claims cheerleaders from different NFL teams have brought against their employers. The final category consists of the recent claims brought by cheerleaders against their respective NFL teams alleging harassment and discrimination, demonstrating that cheerleaders still face a long road towards fair employment practices in their workplace. Throughout the paper, examples from cheerleaders' rulebooks demonstrate their employment conditions and the often-sexist requirements their employers impose.

II. An Analysis of Cheerleaders' Claims Against Their NFL Teams Based on Multiple Legal Theories

A. Invasion of Privacy, Emotional Distress, and Conspiracy in the Philadelphia Eagles' Cheerleaders' Locker Room

Susette Walsh worked as a cheerleader for the Philadelphia Eagles between 1986 and 1988, and again from 1988 until 2001.[4] For a time during those six years, she also served as a squad captain.[5] She and the rest of the Eagles cheerleaders practiced two nights each week and spent entire home game days[6] at the Eagles' then-home stadium, Veterans Stadium, located in Philadelphia, PA. Despite the considerable amount of time Walsh spent working at Veterans Stadium, she was unaware of a crucial aspect of her designated locker room: visiting teams were able to peep into the cheer-

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lection, [https://perma.cc/C85V-UZR2]; *see also NFL cheerleaders sue teams over unfair wages and working conditions*, The Independent, Jun. 5, 2018, *available at* https://www.independent.co.uk/sport/us-sport/national-football-league/nfl-cheerleaders-houston-texans-sue-buffalo-bills-oakland-raiders-new-york-jets-a8383766.html, [https://perma.cc/7VQH-CENK].

[4] *See* Goldberg, *supra* note 1.

[5] *See id.*

[6] *See id.*

leaders' locker room from the visiting team locker room.[7] Most disturbingly, while Walsh and the cheerleaders remained unaware of this feature, this "special 'perk' of being a visiting team of the Eagles. . .[was] common knowledge among virtually the entire National Football League."[8] Walsh was unaware that her locker room was the subject of spying until she heard so – not from the Eagles – but while sitting at home, watching a postgame show after an Eagles versus New York Giants game in January 2001.[9]

Indeed, when *The New York Times* first reported the story in January 2001, a number of interested parties confirmed that visiting teams had engaged in such spying behavior for years. Several then-current NFL players, former players, agents, and even an Eagles team official confirmed visiting players spied into the cheerleaders' locker room.[10] Two former Dallas Cowboys players personally confirmed they participated in spying on the cheerleaders.[11] The parties described detailed accounts of how visiting players utilized the locker rooms' physical defects to spy on the cheerleaders. For example, players noted that doorknobs, which connected the visiting locker room to the cheerleaders' locker room, had fallen out; and crevices had formed in between the two locker rooms, due to the age of the stadium.[12] Players described actively damaging preventative measures the cheerleaders or team had made in order to prevent the spying: players admitted to poking holes through tape which had been placed over the crevices, and scraping off the paint of a window between the locker rooms which had been painted over.[13] They even acknowledged they "got into shoving matches to catch a glimpse of the women."[14] How did the visiting teams know about the free peep show that came with a trip to the Eagles' stadium? Apparently, in a show of sportsmanship among rivals, teams passed "the information about the openings. . . from team to team."[15]

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[7] *See id*.

[8] *Id*.

[9] *See id*.

[10] *See* Mike Freeman, *PRO FOOTBALL: NOTEBOOK; Comella Characterizes the Giants' Work Ethic*, THE NEW YORK TIMES, Jan. 7, 2001, *available at* https://www.nytimes.com/2001/01/07/sports/pro-football-notebook-comella-characterizes-the-giants-work-ethic.html, [https://perma.cc/2L9S-K8NB].

[11] *See id*.

[12] *See id*; The Eagles' final game in the Veterans Stadium was in January 2003. The team moved into its current stadium, Lincoln Financial Field, in August 2003. Veterans Stadium was opened in April 1971, closed in September 2003, and demolished in March 2004.

[13] *See* Freeman, *supra* note 10.

[14] *Id*.

[15] *Id.*

The breaking *New York Times* report included perspectives from Eagles' personnel, though the team's front office declined to officially comment in the initial report. Then-director of the cheerleading team, Marylou Tammaro, acknowledged she and the team were aware of rumors about visiting players as "peeping Toms."[16] Tammaro noted that players have "tried to drill holes so they can see in [the cheerleaders'] room" but stated the players were unsuccessful.[17] While maintaining the rumors of spying were merely rumors, Tammaro said her repeated pleas to Philadelphia city officials to provide a safe, private environment for the cheerleaders had been ignored.[18] Still, she said the team had "taken precautions," and she or the cheerleaders replace the tape and repaint the window before every home game.[19] Though Tammaro's and the other interviewed parties' accounts suggest some cheerleaders were aware of the spying, Walsh was unaware that she was being exposed to such conditions during her time working for the Eagles. Further, visiting teams confirmed they were aware of the locker room conditions for years before the *New York Times* report.

When the visiting players' actions became public, Eagles cheerleaders were prompted to pursue action. Walsh initially tried to settle privately with NFL teams.[20] However, when her attempt failed, she and one other former Eagles cheerleader joined together to file a federal lawsuit against 23 visiting teams.[21] The suit sought damages of at least $75,000[22] for invasion of privacy, emotional distress, negligence, and conspiracy.[23] Soon, other cheerleaders asked to join the lawsuit. Ultimately, Susette Walsh and 43 other former Eagles cheerleaders filed suit in Philadelphia's Common Pleas Court.[24] The suit named the twenty-nine NFL teams that visited the Eagles' stadium since 1983.[25] The court and Honorary Sandra Mazer Moss settled

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[16] *See id*.
[17] *Id*.
[18] *See id*.
[19] *Id*.
[20] Goldberg, *supra* note 1, at 2.
[21] *See* Joann Loviglio, *Eagles Cheerleaders Allege Spying*, THE WASHINGTON POST, Aug. 9, 2001, *available at* http://www.washingtonpost.com/wp-srv/aponline/20010809/aponline100407_000.htm?noredirect=on, [https://perma.cc/W8LL-VJU5].
[22] *Id*.
[23] Goldberg, *supra* note 1, at 1.
[24] Complaint, Walsh v. Dallas Cowboys ETAL, No. 18-03101318 (Pa. D. Aug. 6, 2003), *available at* https://fjdefile.phila.gov/efsfjd/zk_fjd_public_qry_03.zp_dktrpt_frames.
[25] *See* Goldberg, *supra* note 1, at 1.

the parties' lawsuit in November 2005.[26] There is little more public information available regarding the settlement agreement, except that $417,905 in attorney's fees was divided among the attorneys in May 2006.[27] In April 2012, the court records of the lawsuit were destroyed in accordance with county records provisions.[28]

However, the amended complaint of Rhonda Cowan, one of the plaintiffs, is available. Cowan worked as a cheerleader for the Eagles for the three seasons from 1982-1984, so her complaint names only those teams that visited the Eagles' stadium during those three seasons as defendants.[29] Cowan's complaint makes clear that her duties owed to the Eagles as a cheerleader did not require her to be viewed naked by the defendants, and she did not consent to being seen naked.[30] The complaint placed the beginning of the defendants' actions at least as early as 1973.[31] The complaint alleged the defendants utilized the stadium's physical conditions mentioned above to peep into the cheerleaders' locker room, and that the conditions were sometimes created by the defendants themselves.[32] Further, these conditions were common knowledge throughout the NFL, and even visiting teams' agents, employees, and other personnel utilized this knowledge to engage in such actions.[33] The complaint characterizes this information as a "carefully guarded secret among the participants," helping to explain why Cowan was an unwitting victim of the peeping.[34] The complaint sought redress for several torts, including invasion of privacy, intrusion upon seclusion, intentional infliction of emotional distress, gross negligence regarding failure to supervise, negligence regarding failure to supervise, and conspiracy.[35] The conspiracy claim alleges the teams aided and abetted each other to engage in the peeping, and agreed to keep the peepholes and cracks a secret, in order that the teams could continue to utilize them inappropriately.[36]

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[26] *See* Complaint, Walsh v. Dallas Cowboys ETAL, No. 18-03101318 (Pa. Com. Pl. Aug. 6, 2003), *available at* https://fjdefile.phila.gov/efsfjd/zk_fjd_public_qry_03.zp_dktrpt_frames.

[27] *Id*.

[28] *Id*.

[29] *See* Plaintiff's Amended Complaint, Cowan v. Cowboys ETAL, No. 0137 (Pa. Com. Pl. Jun. 21, 2004).

[30] *See id*.

[31] *Id*.

[32] *See id*.

[33] *See id*.

[34] *Id*.

[35] *Id*.

[36] *See id*.

Notably, the Philadelphia Eagles were not named in the lawsuit that settled in 2005. Cowan's complaint cites the *respondeat superior* doctrine to impute liability onto the visiting teams because they either participated in the acts, or were aware of the acts and their wrongfulness, but did not stop them despite having the authority and ability to do so.[37] Of course, the Eagles were not the visiting team in their own stadium, so the players did not use the visiting team's locker room. The home team's locker room was not adjacent to the cheerleaders' locker room in Veterans Stadium. Still, given that the lawsuit alleged that the locker room's utility was pervasively known throughout the NFL, perhaps the suit could have named the Eagles as a defendant as well, as they knew about the conditions but took no action to stop the behavior. In fact, Cowan's complaint alleges the defendants' conspiracy included Eagles agents, employees, and management, "who were aware of the peeping, and aided and abetted its continuance by not taking any measures to stop or expose the conduct."[38] The Eagles arguably had even greater ability than the visiting teams to stop the behavior, given they likely had some control over the conditions of the locker rooms and stadiums.

Veterans Stadium was in fact owned by Philadelphia, but the city was not named as a defendant either. Walsh's lawyer, Michael McKenna, explained why the Eagles and the city of Philadelphia were not among the defendants. In addition to the Eagles players not participating in the spying due to their locker room location, McKenna, looking forward to a jury trial, understood that jurors were likely to be "hometown fans" and convincing them of the Eagles' wrongdoing would be a more difficult task than convincing them of a rival team's illegal behavior.[39] McKenna considered suing the city as well, but the cheerleaders' main complaint was against the visiting teams' intentional behavior.[40] The Eagles cheerleaders' lawsuit represents a situation in which NFL teams were alleged to have known about grossly inappropriate behavior towards cheerleaders for numerous seasons. Even in such a case where the home team itself seems to have been able to easily take measures to protect its cheerleaders, the victims themselves needed to make legally strategic decisions to omit the home team from their case.

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[37] *See id*.
[38] *Id*.
[39] *See* Goldberg, *supra* note 1.
[40] *Id*.

B. Unpaid Wages Across the League

Cheerleaders from various teams across the NFL have brought unpaid wages claims against their team-employers. For purposes of clarity, this paper will focus on four claims that represent the longstanding and ubiquitous practice of underpaying cheerleaders for their work. The claims also demonstrate how teams use rulebooks to implement conditions and requirements that affect cheerleaders both on the job and in their personal lives. Rulebooks are also later addressed in section *C. Claims Brought in the Midst of the #MeToo Movement Consist of Discrimination and Harassment Claims*.

1. Cincinnati Bengals Settle After Paying Ben-Gals an Alleged $2.85 Per Hour

In 2014, the Cincinnati Bengals faced a federal class action lawsuit brought by a number of their cheerleaders, known as the Cincinnati Ben-Gals. Alexa Brenneman, the named plaintiff, applied for class action certification of all people who were employed by the Bengals as Ben-Gal cheerleaders anytime since February 11, 2011.[41] During the class opt-in period, six former Ben-Gals filed opt-in notices.[42] Brenneman herself was a Ben-Gal between May 2013 and January 2014. The complaint first establishes the prominent function the cheerleaders fulfill for their team. The preliminary statement of the class action complaint quotes the Bengals' website, which praises the Ben-Gals for playing a "major role in the Bengals organization year after year."[43] The website also notes the Ben-Gals spend "countless hours practicing, exercising, and volunteering" and are "involved in many hours per week working for the Bengals organization within the community."[44] Currently, the Bengals' website states that the Ben-Gals "average several appearances per week during the season, and offseason."[45]

The amended complaint goes on to list in further detail the number of hours and work functions required by the cheerleaders throughout the year. The cheerleaders must attend six to eight hours of mandatory practices each

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[41] *See* Plaintiff's Motion for Conditional Certification and Judicial Notice at 1, Brenneman v. Cincinnati Bengals, Inc., No. 1:14-cv-136 (S.D. Ohio Aug. 6, 2014).

[42] Settlement Agreement at 3, Brenneman v. Cincinnati Bengals, Inc., No. 1:14-cv-136 (S.D. Ohio Aug. 26, 2015).

[43] First Amended Class Action Complaint at 1, Brenneman v. Cincinnati Bengals, Inc., No. 1:14-cv-136 (S.D. Ohio Apr. 28, 2014).

[44] *Id.* at 1, 2.

[45] *Cheerleader Appearance Requests,* BENGALS.COM, https://www.bengals.com/cheerleaders/appearancerequests, [https://perma.cc/ZYW7-N6W3] (on file with the Harvard Law School Library).

week beginning in late May and lasting through December; attend at least ten charity functions per season; and pose for and promote a cheerleaders calendar.[46] The complaint totaled the cheerleaders' working time at over 300 hours per year, and the Bengals conceded that hours requirement.[47] The cheerleaders alleged they worked at a wage rate of "at most, $90 for each home football game at which they cheer."[48] Though Brenneman worked more than 300 hours for the Bengals and worked ten home games during the 2013 season, she received just $855 in total for her work.[49] Brenneman's pay amounted to $2.85 per hour, while the minimum wage in Ohio at the time was $7.85 per hour. From a profitability standpoint, the complaint cited a 2003 Forbes article that estimated a cheerleading squad such as the Ben-Gals generates just over $1,000,000 per season in extra revenue for the Bengals.[50] The revenue generated by cheerleaders is not subject to the NFL's revenue-sharing scheme. The below-minimum wage payments seem egregious in themselves, and especially so when compared to the profit margin teams generate from keeping their cheerleader costs low.

The complaint also addresses how the Ben-Gals' rulebook limits the cheerleaders' ability to earn compensation. First, the rulebook requires cheerleaders to agree to restrictions on other employment opportunities. Cheerleaders may not teach outside the Bengals organization or perform with another dance group.[51] Further, missing practices or being late for practice often enough will force the cheerleader to forfeit performing for a game.[52] This punishment is especially damaging when one considers cheerleaders are compensated only for games at which they cheer. Actually, cheerleaders might arrive at the stadium expecting to cheer, but have the opportunity to earn their full wages withheld. Only twenty-four of the thirty Ben-Gals on the squad are selected to cheer during a game.[53] The complaint explains that the six cheerleaders not selected must still complete the pre-game requirements.[54] These include a required carpool meet-up

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[46] *See* First Amended Class Action Complaint at 2, Brenneman v. Cincinnati Bengals, Inc., No. 1:14-cv-136 (S.D. Ohio Apr. 28, 2014).

[47] *See id*.

[48] *Id*.

[49] *See id*.

[50] *See id*. at 5 (citing Rob Wherry), *Pom-Poms and Profits*, FORBES, Sep. 15, 2003, *available at* https://www.forbes.com/free_forbes/2003/0915/084.html, [https://perma.cc/UFM3-R739].

[51] First Amended Class Action Complaint at 5, 6, Brenneman v. Cincinnati Bengals, Inc., No. 1:14-cv-136 (S.D. Ohio Apr. 28, 2014).

[52] *Id*. at 6.

[53] *Id*. at 8

[54] *Id*.

with the other Ben-Gals up to five hours and fifteen minutes before kick-off in full hair and make-up; typically, two practices before each game; as well as meet-ups, autograph signings, and photos with fans at locations in the stadium selected by the Bengals.[55] The cheerleaders who were not selected to cheer during the game then spend the first half of the game meeting fans in the stadium's luxury suites.[56] These cheerleaders may leave after the first half, but are "encouraged to stay and help with on-field activities."[57] These cheerleaders earn $45[58]—half of the full $90 they would earn if they were selected to cheer during the game. On typical 1:00 PM game days on which she cheered, Brenneman met up with the other cheerleaders for a required carpool to the stadium at 7:45 AM and left the stadium at 5:00 PM.[59] For those eight hours and fifteen minutes, Brenneman and the cheerleaders completed all of the required activities outlined above and earned $90. Over the eight months Brenneman worked as a Ben-Gal, she was paid only twice.[60] She received her first payment twenty-two weeks after her first practice and almost ten weeks after her first home game and her last payment the same month she resigned.

The cheerleaders' rulebook also contained a section regarding "Attitude and Behavior."[61] The rulebook told cheerleaders they would be benched or dismissed if they displayed "even the slightest degree" of insubordination.[62] Under "authority," Ben-Gals were told there is "ABSOLUTELY NO ARGUING OR QUESTIONING THE PERSON IN AUTHORITY!!!"[63] Brenneman's complaint did not contain any allegations or claims regarding these rulebook provisions. Ultimately, Brenneman's complaint included claims for denial of minimum wage under FLSA, willful violation of FLSA, denial of minimum wage under the Ohio Constitution, denial of minimum wage under the Ohio minimum wage law, unjust enrichment, failure to pay semi-monthly wages, and failure to maintain wage and hour records.

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[55] *Id*.
[56] *See id*.
[57] *Id*.
[58] *Id*.
[59] *See id*. at 8–9.
[60] *See* Plaintiff's Motion for Conditional Certification and Judicial Notice at 9, Brenneman v. Cincinnati Bengals, Inc., No. 1:14-cv-136 (S.D. Ohio Apr. 28, 2014); *see also* First Amended Class Action Complaint, *supra* note 44.
[61] First Amended Class Action Complaint at 9, Brenneman v. Cincinnati Bengals, Inc. No. 1:14-cv-136 (S.D. Ohio Apr. 28, 2014).
[62] *Id.*
[63] *Id.*

In a New York Times op-ed, Laura Vikmanis, a former Bengals cheerleader, also recounted some of the rules contained in the nine single-spaced-page rulebook. Vikmanis recalls that the only time a cheerleader could miss practice without penalty was for her own wedding.[64] The rulebook also contained restrictions regarding the cheerleaders' weight. When Vikmanis cheered in 2009, any cheerleader more than three pounds over her goal weight was penalized by not cheering at the next game.[65] Again, this punishment is especially severe when one considers the cheerleaders' pay at the time was tied to the number of games cheered. Vikmanis earned $75 per game.[66] Vikmanis notes that this rule was changed after Brenneman's lawsuit, but the director and coaches can still decide to bench a cheerleader from games based on "a cheerleader's look."[67] Regarding wardrobe, the rules seem similarly harsh and disempowering. Practice wardrobe was strictly mandated: the cheerleaders were to wear sports bras, short shorts, pantyhose underneath the shorts, and sneakers with socks.[68] Some cheerleaders were uncomfortable with the rule that they were not allowed to wear "panties. . .under practice clothes or uniform."[69] Cheerleaders did not even own their own uniforms – they were required to pay a $100 rental fee, refundable only if the uniform was returned in good condition.[70] Wardrobe rules were not confined to practices or game days. Cheerleaders faced rules regarding wardrobe on days off as well. Cheerleaders were prohibited from wearing t-shirts that showed their bellies, belly-button rings, body piercings, and glitter.[71] Even on off-days, cheerleaders were expected to wear makeup and have "well-groomed hair."[72] While it is not unusual for employee rulebooks to contain uniform or grooming expectations, the rules Vikmanis describes impose a number of strict requirements and traditional roles on the cheerleaders.

In August 2015, the Bengals and Brenneman settled Brenneman's lawsuit.[73] Though they denied any wrongdoing, the Bengals agreed to pay each

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[64] Laura Vikmanis and Amy Sohn, *Little to Cheer About*, THE NEW YORK TIMES, April 12, 2018, *available at* https://www.nytimes.com/2018/04/12/opinion/cheerleading-nfl-gender-discrimination.html, [https://perma.cc/8TXC-4ZZ5].

[65] *Id.*

[66] *Id.*

[67] *See id.*

[68] *Id.*

[69] *Id.*

[70] *Id.*

[71] *Id.*

[72] *See id.*

[73] The settlement agreement also settled claims related to wages earned by Ben-Gals during outside event appearances for which they were paid through a third-

class member $2,500 per season worked.[74] Since the class members worked a total of 102 seasons, the Bengals owed the class $255,000 in wages. The Bengals also owed Brenneman $5,000 for her role as named plaintiff and class representative and her attorney's fees as well.[75] Finally, the settlement agreement notes that after Brenneman filed her lawsuit, "the pay structure for the Ben-Gals was changed to include additional payments by the Bengals."[76]

2. Tampa Bay Buccaneers Cheerleaders Settle Class-Action Lawsuit for Unpaid Minimum Wages

Shortly after Brennamen filed her complaint against her employer, cheerleaders for the Tampa Bay Buccaneers filed a similar lawsuit against their NFL team-employer. Manouchcar Pierre-Val acted as the named plaintiff and filed her amended complaint in June 2014. While discussing her decision to file a class action lawsuit, Pierre-Val echoed the hesitancies Brenneman's lawyer voiced regarding upsetting hometown fans. Pierre-Val stated she struggled with filing the lawsuit, because she "didn't know how people were going to react, especially people I cheered for. . . it was hard to move forward, especially once I got all the backlash from other people."[77] Ultimately though, she had discussed the compensation issues with fellow cheerleaders, so she wasn't surprised she had the will to file the lawsuit.[78] Further, she felt she "had a diligence to do what's right."[79] Once she filed the lawsuit, Pierre-Val received "a lot of negativity, a lot of backlash" from "people insinuat[ing] that [she] was doing it more for a come-up or financial gain"; at the same time however, she received support from "the community and the cheerleaders."[80] Though her fellow cheerleaders may have expected such a lawsuit, Pierre-Val certainly faced backlash from the Tampa

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party company called 1 Cheer. The sections related to that claim are not included in this analysis for clarity, as well as their lack of consequence on the claims addressed.

[74] Settlement Agreement at 7, Brenneman v. Cincinnati Bengals, Inc., No. 1:14-cv-136 (S.D. Ohio Aug. 26, 2015)*; see also* Redford, *supra* note 2.

[75] Settlement Agreement at 9, Brenneman v. Cincinnati Bengals, Inc., No. 1:14-cv-136 (S.D. Ohio Aug. 26, 2015).

[76] *Id.*

[77] Tony Marrero, *Former Bucs cheerleader who filed labor lawsuit talks about new ventures*, TAMPA BAY TIMES, Sep. 23, 2016, https://www.tampabay.com/news/humaninterest/sunday-conversation-cheerleader-in-bucs-suit-now-pursues-nursing/2294716, [https://perma.cc/A45P-NT47] (on file with the Harvard Law School Library).

[78] *See id*.

[79] *Id*.

[80] *Id*.

Bay community. Ultimately though, many of her fellow cheerleaders supported her enough to join the lawsuit.

The final class included Pierre-Val and roughly 90 other then-current and former Buccaneers cheerleaders.[81] Pierre-Val and the class sued for recovery of minimum wages under FLSA and under Florida minimum wage law.[82] Like Brenneman's complaint, Pierre-Val's complaint cites the Buccaneer's website to demonstrate that the team recognizes the number of hours cheerleaders spend working for the team. The complaint quotes the Buccaneers' website as saying, "as a Tampa Bay Buccaneers Cheerleader, the ladies are consistently busy rehearsing, performing, and volunteering for community events and appearances. The squad makes approximately 300 community appearances every year for both non-profit organizations and corporate events."[83] The complaint also lists a number of the cheerleaders' work requirements for which they were uncompensated, such as attending at least four to fifteen hours of practice each week, arriving approximately four hours before home game kick-off times, and performing at least forty hours of community appearances.[84] For all of these requirements, the cheerleaders were only paid a flat $100 compensation for each home game, and "limited wages" for corporate event appearances.[85] Therefore, the cheerleaders were not compensated for mandatory practices, "non-profit community events, cheer clinics, [and] photo-shoots" among other work.[86] The complaint alleged that this payment scheme deprived the cheerleaders of federal and state minimum wages.

In response to Pierre-Val's complaint, the Buccaneers' answer denied all liability.[87] In September 2014, the Buccaneers and the plaintiffs participated in a full-day mediation. When the mediation resulted in an impasse, the Buccaneers and the plaintiffs participated in three half-day conferences between September and December 2014 to negotiate a settlement.[88] On December 23, 2014, the two parties agreed to settle the class-action lawsuit for

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[81] *See id.*

[82] Amended Class/Collective Action Complaint and Demand for Jury Trial at 1, Pierre-Val v. Buccaneers Limited Partnership, No. 8:14-cv-1182-T-33EAJ (M.D. Fla. Jun. 3, 2014).

[83] *Id.*

[84] *See id.*

[85] *See id.*

[86] *Id.*

[87] *See* Plaintiffs' and Class Counsels' Supplemental Unopposed Motion for Award of Attorney's Fees and Costs and Incorporated Memorandum of Law at 5, Pierre-Val v. Buccaneers Limited Partnership, No. 8:14-cv-1182-T-33EAJ (M.D. Fla Oct. 15, 2015).

[88] *See id.*

$825,000.[89] Pierre-Val characterized the Buccaneers' decision to settle as "the right thing to do" and stated she was satisfied with the settlement agreement.[90] While reflecting on fair pay for an NFL cheerleader, Pierre-Val focused on the amount of time spent performing or preparing for work duties. She found her role as a cheerleader was a second full-time job.[91] While working as a Buccaneers cheerleader between April 2012 and March 2013, Pierre-Val also maintained a full-time job as a registered nurse.[92] Pierre-Val recounted that cheerleaders practiced at home, took hours to get ready for cheerleading, and spent eight hours at the stadium each game day.[93] Given the amount of work and public relations efforts the cheerleaders perform for the Buccaneers, Pierre-Val felt cheerleaders deserve salaries, just like other staff members.[94] Though the Buccaneers continued to deny wrongdoing, at least one of the cheerleaders, Pierre-Val, was satisfied with the lawsuit's outcome.

3. Various Other Teams Face Unpaid Wages Claims, and Settle in Similar Fashion to the Bengals and Buccaneers

a) New York Jets

In January 2016, the New York Jets settled a class-action lawsuit brought against the team by a class of fifty-two cheerleaders. The cheerleaders, known at the time as "The Flight Crew" filed their lawsuit in New Jersey Superior Court in August 2014,[95] two months after Pierre-Val filed her amended complaint, and four months after Brenneman's amended complaint. Just like the Bengals' and Buccaneers' cheerleaders, the Jets' cheer-

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[89] *See id*.

[90] Marrero, *supra* note 78.

[91] *See id*.

[92] *See* Amended Class/Collective Action Complaint and Demand for Jury Trial at 1, Pierre-Val v. Buccaneers Limited Partnership, No. 8:14-cv-1182-T-33EAJ (M.D. Fla. Jun. 3, 2014); *see also* Marissa Payne, *Tampa Bay Buccaneers cheerleaders get $825,000 in wage lawsuit settlement*, THE WASHINGTON POST, Mar. 7, 2015, *available at* https://www.washingtonpost.com/news/early-lead/wp/2015/03/07/tampa-bay-buccaneers-cheerleaders-get-825000-in-wage-lawsuit-settlement/?utm_term=.e37dbbbd9364, [https://perma.cc/7VU2-MVK6].

[93] *See* Marrero, *supra* note 78.

[94] *See id*.

[95] *See* John C. Ensslin, *Jets to pay $324,000 to cheerleaders to settle lawsuit over wages*, NORTHJERSEY.COM, Jan. 26, 2016, https://www.northjersey.com/story/sports/nfl/jets/2016/01/26/jets-to-pay-324000-to-cheerleaders-to-settle-lawsuit-over-wages/94423508/, [https://perma.cc/92B4-53VX] (on file with the Harvard Law School Library).

leaders claimed that the provided uniforms and flat $150 wage they were paid per game did not adequately compensate them for the amount of hours they spent practicing and learning routines, or performing other work as cheerleaders.[96] The cheerleaders again claimed their compensation did not amount to minimum wage.[97] And just as in the Bengals and Buccaneers cases, the Jets cheerleaders worried about community backlash from their claim. One of the cheerleader's lawyers explained that the women were not named in the lawsuit to protect them from repercussions from their suit, including potential stalkers.[98] The Jets cheerleaders also claimed they were not reimbursed for the costs associated with "conforming to the image required of the cheerleading squad," such as hair and make-up expenses.[99] Though the specifics of their claims and arguments differ, the Jets cheerleaders' claims mirror the earlier Bengals and Buccaneers cheerleaders' claims in several notable aspects.

The Jets cheerleaders' lawsuit also ended in similar fashion. The Jets and cheerleaders settled the lawsuit for $324,000. Depending on if the individual cheerleaders worked one or two seasons and whether they participated in the two seasons' cheerleader calendars, each plaintiff received between $2,559 and $5,913.[100] According to a statement released by the Jets after the parties reached an agreement, the Jets continued to deny any wrongdoing,[101] much like the Bengals and Buccaneers.

In January 2016, New Jersey Senator Loretta Weinberg sponsored Bill Number 819 to New Jersey's 217th Legislature. The bill proposed extending employment benefits and protections to cheerleaders for professional sports teams.[102] To accomplish this goal, the bill would require professional sports team to deem their cheerleaders employees.[103] This classification would ensure New Jersey labor laws that govern "minimum wage and hours, the time and mode of payment, workers' compensation, unemployment compensation, temporary disability benefits, family temporary disability leave, civil rights protections, and the gross income tax" protect cheerleaders.[104] Officially, the bill was introduced in response to claims brought by cheerleaders throughout the United States that they are ex-

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[96] *See id.*
[97] *See id.*
[98] *See id.*
[99] *Id.*
[100] *Id.*
[101] *See id.*
[102] *See* N.J. Senate Bill S819, 217th Leg., 2016 Sess. (N.J. 2016).
[103] *Id.*
[104] *Id.*

ploited when teams require that they be designated as independent contractors.[105] Senator Weinberg hoped the bill would "start calling attention to how these women. . .are underpaid and not protected."[106] The bill gained bipartisan support, but later died in the Senate Labor Committee.[107] Despite the lack of legislative success, the Jets cheerleaders' claim against their team represents another instance in which cheerleaders succeeded in court by fairly negotiating a settlement agreement with their team.

b) Oakland Raiders

Even before Brenneman first filed her complaint against the Bengals, a class of cheerleaders from the then-Oakland Raiders filed a class-action lawsuit against their employer. The cheerleaders, known as the Raiderettes, filed a class action lawsuit in January 2014 in Alameda County Superior Court against the Oakland Raiders. The class, which represented more than 100 current and former Raiders cheerleaders, alleged many of the same employment law violations later alleged by the classes discussed above. The Raiders allegedly paid the cheerleaders less than minimum wage (less than $5 per hour), did not pay overtime, required the cheerleaders to pay for expenses the team's employment rules required them to incur, and did not pay the cheerleaders as frequently as required by law.[108] Specifically, the cheerleaders received only a single paycheck for $1,250 per season from the team, nine months after their first practices.[109] Additionally, the cheerleaders claimed the team did not provide them with meal or rest breaks as required during work shifts lasting longer than eight hours.[110] The team also deducted pay for minor rule infractions, such as forgetting to bring the correct set of pom-poms to practices, forgetting the correct workout clothes, or forgetting a yoga-mat.[111] The cheerleaders' employment contracts required them to attend a number of mandatory events for which they received no compensation, including practices two to three times per week, fittings, meetings, workouts, and photo sessions, including a photo session for a swimsuit calendar.[112]

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[105] *See id.*
[106] Ensslin, *supra* note 96.
[107] *See* N.J. Senate Bill S819, 217th Leg., 2016 Sess. (N.J. 2016).
[108] *See* Robin Abcarian, *Oakland Raiders break all kinds of labor laws, cheerleader suit says*, LOS ANGELES TIMES, Jan. 24, 2014, *available at* http://www.latimes.com/local/abcarian/la-me-ra-20140124-story.html#page=1, [https://perma.cc/4QUK-ES2U].
[109] *See id.*
[110] *See id.*
[111] *See id.*
[112] *Id.*

The suit alleged each cheerleader was required to attend ten charity, corporate, or community events per season. However, if a cheerleader could not attend their assigned event, they were contractually forbidden from asking another cheerleader to cover their event assignment.[113] Further, if a cheerleader arrived to the event less than fifteen minutes before its start time, she was required to attend an additional event.[114] If a cheerleader did not attend her required amount of such events, she was punished not through docked pay, but by being required to try-out for her job again: the cheerleader must undergo preliminary cheerleader auditions for the next season.[115] Finally, the Raiders also dictated certain grooming requirements for their cheerleaders. The team required each cheerleader use a hairstylist selected by the team.[116] The team also required the cheerleaders to wear a selected hair color and style.[117] Perhaps not surprisingly, the cheerleaders themselves also paid to fulfill these grooming requirements. Cheerleaders could also face pay deductions for wearing the wrong color nail polish.[118] Similar to the lawsuits above, the cheerleaders' attorneys (as well as the Raiders) chose to withhold the plaintiff-cheerleaders' last names from the lawsuit to protect them from unwanted attention.[119]

The cheerleaders' lawsuit focused on employment and labor law violations. However, it is worth noting here a few of the Raiders' rulebooks provisions unrelated to work requirements or pay. The rulebook includes instructions for the cheerleaders to avoid married men in the front office and not date players.[120] Cheerleaders are also instructed to "avoid parties where their 'reputations' could be 'ruined' if they were sexually assaulted by players."[121] These rulebook provisions can be characterized as patronizing and misogynistic, especially within the context of a contract that required cheer-

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[113] *See id.*
[114] *See id.*
[115] *See id.*
[116] *Id.*
[117] *Id.*
[118] *See* Robin Abcarian, *Cheerleaders' wage-theft lawsuit to cost Oakland Raiders $1.25 million*, Los Angeles Times, Sep. 4, 2014, *available at* http://www.latimes.com/local/abcarian/la-me-ra-raiders-settle-cheerleader-lawsuit-20140904-column.html, [https://perma.cc/RLC4-JBE3].
[119] *See* Abcarian, *supra* note 109.
[120] Robin Abcarian, *An extraordinary win for the Raiders cheerleaders*, Los Angeles Times, Jul. 11, 2014, *available at* http://www.latimes.com/local/abcarian/la-me-ra-a-major-victory-for-nfl-cheerleaders-20140709-column.html, [https://perma.cc/8GCF-FRDD].
[121] *Id.*

leaders to sit for a swimsuit calendar photo shoot for no additional compensation.

About a week after the lawsuit was filed, the Raiders had no comment.[122] However, in July, the Raiders provided their cheerleaders with a new contract. The new contract provided the cheerleaders with a $9 per hour wage, plus overtime.[123] Under the new contract, the cheerleaders would also be reimbursed for some of the mandatory expenses discussed above.[124] The cheerleaders' total expected compensation rose from the single check of $1,250 to $3,200 per season.[125] The cheerleaders would be paid twice each month going forward.[126] Under the new contract, the Raiders would no longer deduct wages for the minor rule infractions addressed above. After the team announced the new contract, a few fellow cheerleaders texted Lacy, the lawsuit's named plaintiff, that the new contract was "awesome."[127] Still, Lacy doubted she would ever be truly thanked for her lawsuit.[128] Many of her fellow cheerleaders shunned Lacy after she filed the lawsuit.[129] Caitlin, a different Raiders cheerleader who filed a separate lawsuit while still working as a cheerleader, similarly felt that even her fellow cheerleaders did not appreciate her action against the team.[130] Regardless of their individual reactions towards the lawsuits, the cheerleaders benefitted from the lawsuits' generating enough pressure to force the Raiders to provide a fairer contract, compliant with employment and labor laws, for its cheerleaders.

In September 2014, the Raiders and the cheerleaders settled the lawsuit for $1.25 million. The settlement agreement came as the result of mediation between the parties and required the team pay between $2,500 and $6,000 to any cheerleader who worked for the team since the 2010-2011 season, depending on the seasons worked.[131] Lacy and a fellow cheerleader, Sarah, who joined the lawsuit after its original filing, each received an additional $10,000 for bringing the lawsuit.[132] Both Lacy and Leslie Levy, one of the attorneys representing the cheerleaders, felt the settlement agreement was fair. Levy noted the agreement demonstrated to teams that they are "not

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[122] Abcarian, *supra* note 109.
[123] Abcarian, *supra* note 121.
[124] *See id.*
[125] *See id.*
[126] *Id.*
[127] *Id.*
[128] *Id.*
[129] *Id.*
[130] *See id.*
[131] Abcarian, *supra* note 119.
[132] *See id.*

above the law."[133] Indeed, the Raiders cheerleaders' lawsuit likely provided an impetus and model for the lawsuits against the Bengals, Buccaneers, and Jets discussed above.[134]

C. Claims Brought in the Midst of the #MeToo Movement Consist of Discrimination and Harassment Claims

In January 2017, Bailey Davis posted a photo of herself to her private Instagram account. The New Orleans Saints, Davis' employer, fired Davis after seeing the photo posted of Davis in a one-piece outfit.[135] The Saints claimed that Davis' action in posting the photo violated the employment rules governing Davis and the rest of the Saints' cheerleaders that prohibit cheerleaders from appearing nude, seminude, or in lingerie.[136] The team also questioned whether Davis had violated another rule when she attended a party with Saints players; however, the team admitted to Davis that it did not have proof she was at the party in question.[137] Though Davis denied violating either of these rules and had set her Instagram according to the team's required privacy settings, the Saints fired her after three seasons with the team.[138] In response, and in the middle of the viral #MeToo movement[139], Davis filed a complaint with the Equal Employment Opportunity Commission (EEOC). Davis' EEOC complaint alleged that the Saints' rules for its cheerleaders differed from its rules for its players and that the rules for cheerleaders reflect outdated views towards women.[140] Davis' EEOC claim is based on the NFL's personal conduct policy, which prohibits unlawful employment discrimination based on sex.[141] Davis argues cheerleaders should be considered NFL personnel for purposes of coverage under this policy and

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[133] *Id*.

[134] A similar lawsuit against the Buffalo Bills as well as Caitlin's lawsuit against the Raiders and the NFL were also pending at the time of the settlement. *See id*.

[135] *See* Ken Belson, *How an Instagram Post Led to an N.F.L. Cheerleader's Discrimination Case*, The New York Times, Mar. 25, 2018, *available at* https://www.nytimes.com/2018/03/25/sports/saints-cheerleader.html, [https://perma.cc/K8AT-92AP].

[136] *See id*.

[137] *See id*.

[138] *See id*.

[139] For an explanation of the #MeToo movement, *see* https://metoomvmt.org/about/. For a timeline of the viral #MeToo movement inspired by Tarana Burke's work, *see* Christen A. Johnson & KT Hawbaker, *#MeToo: A timeline of events*, Chicago Tribune, Oct. 11, 2018, *available* at https://www.chicagotribune.com/lifestyles/ct-me-too-timeline-20171208-htmlstory.html, [https://perma.cc/Y7EM-REPY].

[140] *See* Belson, *supra* note 136.

[141] *See id*.

that the cheerleaders' rules violate the policy because they apply only to women.[142]

The New York Times compiled a number of rules and regulations that demonstrate the different standards the Saints require of cheerleaders and players. According to the *New York Times'* sources, the Saints' anti-fraternization policy "requires cheerleaders to avoid [in person or online] contact with players."[143] However, players are not required to do the same toward cheerleaders. For example, cheerleaders may not dine in the same restaurant as a player.[144] If a cheerleader enters a restaurant and a player is already in that restaurant, the cheerleader must leave; in fact, if a player enters a restaurant after a cheerleader, she has the duty to leave.[145] Cheerleaders may not speak to players in any detail.[146] According to Davis' mother, Lora Davis, a longtime choreographer for the Saints' cheerleading squad, the cheerleaders are told that "anything beyond 'hello' and 'great game' is too personal."[147] The cheerleaders also must follow various rules regarding social media. Cheerleaders may not post photos of themselves wearing Saints gear, must maintain certain privacy settings, and must block players from following them.[148] Again, players do not have any of these restrictions on their social media. The Saints maintain their rules are in place in order to protect women from unwanted attention from players.[149] Still, the lopsided rules leave one to question who the restrictions truly protect, and who they burden.

Kristin Ware, a cheerleader for the Miami Dolphins, also felt as if her employment rules treated her differently than her peers. Ware was a cheerleader for the Dolphins for three seasons, until spring 2017. In April 2018, Ware filed a complaint with the Florida Commission on Human Relations claiming she was subjected to a hostile work environment.[150] The complaint alleges Ware was discriminated against because of her gender and religion.[151] Before her final season with the team, Ware posted a photo on social media of herself being baptized.[152] Ware contends that after she posted the

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[142] *See id.*
[143] *Id.*
[144] *See id.*
[145] *See id.*
[146] *See id.*
[147] *Id.*
[148] *See id.*
[149] *See id.*
[150] *See* John Branch, *Another Former N.F.L. Cheerleader Files a Complaint*, THE NEW YORK TIMES, Apr. 12, 2018, *available at* https://www.nytimes.com/2018/04/12/sports/football/nfl-cheerleaders.html, [https://perma.cc/6UC3-78CW].
[151] *See id.*
[152] *Id.*

photo, she became "a target of discipline, ridicule, harassment and abuse" from the Dolphins' cheerleading director, cheerleading coaches, and cheerleading representatives.[153] Ware also recounted that cheerleading coaches mocked her after learning she was a virgin due to her religious beliefs.[154] At a fashion show where cheerleaders modeled bikinis, Ware was dressed in angel wings, a choice made by the cheerleading officials that she saw as mocking her virginity.[155] Ware's first step was to complain to the Dolphins' human resources department.[156]

When her coaches continued to treat her poorly, she filed her complaint with the Florida Commission on Human Relations. Ware's complaint states that she was treated differently than players who similarly expressed their faith publicly, such as by praying with opposing players on the field after games or posting religious-themed posts on social media.[157] Ware's complaint requested monetary damages, but focused on her request that the Dolphins, the NFL, and all NFL teams update their employment policies to treat cheerleaders and players equally, and to stop intimidating cheerleaders for expressing their religious beliefs.[158] Ware demanded arbitration and a hearing with NFL Commissioner, Roger Goodell.[159] In response to Ware's complaint, the Dolphins released a statement confirming they do not discriminate based on gender, race, or religion, and they are committed to a "positive work environment."[160] The NFL's spokesman issued a similar statement confirming the NFL supports fair employment practices and believes cheerleaders have the right to work in a harassment and discrimination-free workplace.[161] The statement asserted the NFL would work with the teams "in sharing best practices and employment-related processes that will support club cheerleading squads within an appropriate and supportive workplace."[162]

In response to the NFL's statement, Ware and Davis' lawyer, Sara Blackwell, came up with a unique settlement proposal: Blackwell proposed settling both women's complaints against the NFL and the teams for just $1

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[153] *See id.*
[154] *See id.*
[155] *See id.*
[156] *See id.*
[157] *See id.*
[158] *See id.*
[159] *See id.*
[160] *Id.*
[161] *See id.*
[162] *See id.*

in exchange for a "four-hour, 'good faith' meeting."[163] The proposed meeting was to be between Goodell, league lawyers, Ware, Davis, and at least two additional NFL cheerleaders from different teams in order to create binding rules for cheerleaders for all NFL teams, including non-retaliation requirements.[164] The proposal asserted that the league should agree to the meeting if it is sincerely committed to the aspirations contained in its previously released statement summarized above.[165]

By the time the NFL received Blackwell's request for a meeting, perhaps it realized it could no longer ignore the cheerleaders' employment conditions. In the weeks surrounding Ware's complaint, *The New York Times* published a report based on interviews with dozens of professional cheerleaders. The report detailed numerous accounts of cheerleaders being exposed to grotesque employment conditions and sexual harassment while on the job. For example, a former Redskins cheerleader recounted receiving a specific assignment from her team. When she and five fellow cheerleaders arrived at the address the Redskins provided, they realized they had arrived at a fan's private home.[166] Inside, a group of seven men waited for the cheerleaders. The homeowner asked the cheerleaders which of them were single and which were married, before the cheerleaders performed a two-minute dance routine in the home's basement.[167] The cheerleaders declined the men's invitation to drink alcohol with them and passed the afternoon awkwardly mingling with the men or walking around the home while the men watched an NFL game.[168]

The report detailed other instances of the Redskins sending cheerleaders on similarly uncomfortable employment assignments. An interview with five other Redskins cheerleaders uncovered details of a 2013 team calendar photoshoot trip to Costa Rica. When the cheerleaders first arrived at the resort, Redskins officials took their passports.[169] Some cheerleaders were forced to pose topless or in nothing but body paint for the photo shoots

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[163] *See* John Branch, *Former N.F.L. Cheerleaders Offer to Settle for $1 and a Meeting With Goodell*, THE NEW YORK TIMES, Apr. 24, 2018, *available at* https://www.nytimes.com/2018/04/24/sports/football/nfl-cheerleaders.html, [https://perma.cc/5WK7-7XVP].

[164] *See id.*

[165] *See id.*

[166] *See* Macur, *supra* note 3.

[167] *See id.*

[168] *See id.*

[169] *See* Juliet Macur, *Washington Redskins Cheerleaders Describe Topless Photo Shoot and Uneasy Night Out*, THE NEW YORK TIMES, May 2, 2018, *available at* https://www.nytimes.com/2018/05/02/sports/redskins-cheerleaders-nfl.html, [https://perma.cc/94QJ-STPJ].

while being viewed up-close by a group of all-male sponsors and ticket holders.[170] One evening on the trip ended with nine of the cheerleaders being told they had been selected by the male sponsors to be their "personal escorts at a nightclub."[171] The cheerleaders felt it was mandatory to participate, even after the end of a fourteen-hour workday.[172]

The Redskins cheerleaders' director and choreographer denied that the trip to the nightclub was mandatory or that sponsors selected the women to attend.[173] However, the *New York Times* reports detailed reports from other teams' cheerleaders of similarly shocking employment conditions. A former Cowboys cheerleader recalled a visiting fan shouting at her, "I hope you get raped!" while she and her squad waved and smiled at fans.[174] The cheerleader explained that once fans get drunk and "yell things," the cheerleaders are supposed to "take it" because it's "part of the job."[175] Some cheerleaders noted that teams are aware of how cheerleaders are treated, but instead of acting to prevent the harassment, they teach cheerleaders to reply politely.[176] The Cowboys taught cheerleaders how to respond to offensive comments or inappropriate touching while on the job. The cheerleaders were taught to never be mean, to not upset fans, and to be courteous and sweet by addressing inappropriate conduct with such responses as, "that's not very nice."[177] One Cowboys cheerleader found that if cheerleaders objected to such behavior, they would be dismissed.[178]

Faced with mounting public pressure resulting from these detailed accounts of employment conditions, as well as Ware and Davis's claims, perhaps the NFL felt action was necessary to supplement its statement. The NFL agreed to meet with Blackwell to discuss improving workplace conditions for cheerleaders, but did not agree to do so in exchange for a settlement.[179] The meeting was held in August 2017 as part of the NFL's "renewed effort [during] this offseason" to address cheerleaders' employ-

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[170] *See id.*
[171] *See id.*
[172] *See id.*
[173] *See id.*
[174] *See* Macur, *supra* note 3.
[175] *See* id.
[176] *See* id.
[177] *See* id.
[178] *See* id.
[179] *See* Chelsea Howard, *NFL agrees to meet with lawyer of former cheerleaders to discuss workplace discrimination*, SPORTING NEWS, May 5, 2018, http://www.sportingnews.com/us/nfl/news/nfl-cheerleaders-redskins-saints-bailey-davis-kristan-ware-roger-goodell-discrimination-racy-photo/qdf2v83yniav1uq3wt6bz4ps0, [https://perma.cc/7AJL-KBLZ] (on file with the Harvard Law School Library).

ment conditions.[180] Blackwell met with two NFL lawyers and the NFL's Senior Vice President of Social Responsibility. While she acknowledged the NFL does not have control over team-controlled employment issues, she found the meeting "extremely productive" and reported the NFL representatives were interested, supportive, and sought her recommendations.[181] The NFL's statement noted they similarly found the meeting productive and they supported Blackwell's dedication to cheerleaders' employment conditions.[182] It is unclear whether this meeting has resulted in improved employment conditions for cheerleaders thus far. However, the meeting can at least serve as the NFL's acknowledgment of the issue and can hopefully act as an impetus for positive change.

III. Conclusion

In 1995, cheerleaders for the Buffalo Bills took steps to ensure fair and legal employment conditions for themselves. For the first time in NFL history, the Buffalo cheerleaders unionized its team's squad.[183] The union effort demanded equal pay and better treatment, and was motivated by cheerleaders who were "tired of being used and abused."[184] Unfortunately, the union was short-lived, as the cheerleading squad lost its sponsorship and funding the year after it unionized.[185] A different sponsor agreed to fill in, but only after the squad complied with its condition they de-unionize.[186] Following the flood of unpaid wages claims in 2014 and 2015 discussed above, Claudia Harke's article argued the Raiders cheerleaders' claims could spur a conceptual change in terms of cheerleaders' employment status such that cheerleaders could protect themselves in the workplace through unioni-

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[180] *See* A.J. Perez, *NFL officials meet with lawyer seeking to improve cheerleader work conditions*, USA Today, Aug. 30, 2018, *available at* https://www.usatoday.com/story/sports/nfl/2018/08/30/nfl-cheerleaders-lawyer-discuss-discrimination-working-conditions/1150457002/, [https://perma.cc/6WBS-F94S].

[181] *See id*.

[182] *See id*.

[183] *See* Christina Floozy, *NFL Cheerleaders Need a Union*, VICE, Aug. 20, 2018, https://www.vice.com/en_us/article/8xb7qz/nfl-cheerleaders-need-a-union, [https://perma.cc/54VK-BNLQ] (on file with the Harvard Law School Library).

[184] Michelle Ruiz, *Sex on the Sidelines: How the N.F.L. Made a Game of Exploiting Cheerleaders*, Vanity Fair, Oct. 4, 2018, *available* at https://www.vanityfair.com/style/2018/10/nfl-cheerleaders-history-scandal, [https://perma.cc/92NA-K3V8].

[185] *See id*.

[186] *See id*.

zation.[187] And following Ware and Davis' recent lawsuits and cheerleaders' reports of harassment in the workplace, Christina Floozy wrote an article bemoaning the inadequacies of piecemeal individual and impact litigation, and suggesting a league-wide union could remedy the unfair employment practices cheerleaders face.[188] Despite the arguments for unionization, there is no perceptible evidence that current cheerleaders are seriously considering a league-wide unionization drive. For now, it seems that the meeting between the NFL and Blackwell, as well as the public's renewed attention to cheerleaders' employment conditions, may serve as cheerleaders' greatest chance at receiving fair and legal employment standards.

[187] *See* Claudia Harke, *Pom Poms, Pigskin & Jiggle Tests: Is it Time for the National Football League Cheerleaders to Unionize?*, 30 WIS. J.L. GENDER & SOC'Y 157, 184 (Fall 2015).

[188] *See* Floozy, *supra* note 184.

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Applying Copyright Law to Videogames: Litigation Strategies for Lawyers

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I. Introduction

Over the last 50 years, videogames have become a significant aspect of American history and culture. While primarily serving as a source of entertainment, videogames have also stemmed academic debates,[1] technological developments,[2] pop-culture references,[3] and multi-million-dollar career paths.[4] Videogames are arguably now just as American as baseball, hotdogs, apple pie, and Chevrolet.[5] Because of this place in American culture, videogames have historically intersected with another American "staple:" the American legal system. This intersection is especially present in the realm of

[1] *See, e.g.,* Lauren Goldbeck and Alex Pew, *Violent Video Games and Aggression,* National Center for Health Research, http://www.center4research.org/violent-video-games-can-increase-aggression/, [https://perma.cc/7NCQ-MZCZ] (last visited Apr. 15, 2018) (on file with the Harvard Law School Library).

[2] *See, e.g.,* David M. Ewalt, *Nintendo's Wii Is a Revolution*, Forbes, (Nov. 13, 2006), https://www.forbes.com/2006/11/13/wii-review-ps3-tech-media-cx_de_1113wii.html#6cb7a5b275bb, [https://perma.cc/QJ5N-D6P8] (on file with the Harvard Law School Library).

[3] *See, e.g., Meet the Voice Behind 'It's-a Me, Mario!',* Great Big Story, https://www.greatbigstory.com/stories/it-s-me-mario-meet-the-voice-behind-a-nintendo-legend, [https://perma.cc/MUA3-SK3A] (last visited Apr. 13, 2018).

[4] *See, e.g., Abayomi Jegede, Top 11 Richest Gamers in the World*, Trendrr, Jan. 22, 2019, https://www.trendrr.net/4210/top-11-richest-gamers-world-famous-net-worth-highest-paid-video-game-players/, [https://perma.cc/TNZ2-BJEQ] (on file with the Harvard Law School Library).

[5] *See* Chevrolet Philippines, *1975 Chevy TV ad: Baseball, Hotdogs, Apple Pie & Chevrolet,* YouTube, Sep. 19, 2011, https://www.youtube.com/watch?v=yYXfdnhh2Mo.

copyright law, which has long had a significant influence on the videogame industry.

This paper will explore the development of copyright law as applied to videogames, and will also discuss how attorneys can best advise their clients under this system. It will begin by discussing the early history of the videogame industry. Next, it will explore the development of copyright law, followed by contemporary issues raised by recent judicial rulings. Finally, it will review suggested legal practices, with an emphasis on providing optimal outcomes for clients.

II. Early History

The history of videogames can be traced back to the earliest iterations of modern computers. Initially, videogames were developed by computer programmers and other scientists as side projects.[6] Not only did videogames serve as a means of personal entertainment for employees working in the lab, but they also helped these scientists test and understand the computing power of the machines they were working on.[7] This trend first began in the 1940's and lasted through the 1960's.[8] Videogames proved to be extremely popular within these laboratory settings. Technological limitations restricted videogames to individual computers or networks; thus, they remained mostly unknown to the general public. In 1967, however, the path of videogames forever changed when Ralph Baer introduced his videogame prototype, "The Brown Box."[9] "The Brown Box" was a videogame console capable of playing multiple videogames on a home television set, providing the general public with the first glimpse of the modern videogame system.

Although "The Brown Box" was considered the first modern videogame, the system was never commercially released. Instead, Baer elected to license his prototype design to the company Magnavox, who released the first commercially available home console, the Odyssey, in 1972.[10] The Odyssey allowed users to play 28 different videogames from the comfort of their homes.[11] Unfortunately for Magnavox, the Odyssey was a financial failure, as Americans were instead becoming enamored with another vide-

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[6] *See Video Game History,* History, Aug. 21, 2018, https://www.history.com/topics/history-of-video-games, [https://perma.cc/VR8C-J7CB] (on file with the Harvard Law School Library).

[7] *See id.*

[8] *See id.*

[9] *See id.*

[10] *See id.*

[11] *See id.*

ogame, *Pong.* Created by the company Atari, *Pong* was an arcade style, two-dimensional game that was similar to the sport, table-tennis.[12] In this game, a player would either play with another player or with a "computer" and would take turns serving and returning the ball. Should the ball get past the players paddle, the other player would score a point. The first player to score eleven points won the game. *Pong* was immensely popular, and firmly established Atari as the early industry leader within the videogame industry.[13] With this popularity, however, came a price, for Atari soon found itself as the defendant in a copyright suit brought forth by Magnavox. In its complaint, Magnavox alleged that the Atari developers had copied the idea for *Pong* from a tennis-like game available to play on the Odyssey.[14] According to Magnavox, the *Pong* developers were first exposed to the Odyssey game during a demonstration held in early 1971.[15]

The case, however, was ultimately settled out of court and therefore never proceeded to trial.[16] Per the terms of the settlement, Atari had to pay a licensing and royalty fee to Magnavox in exchange for the continued production and sale of *Pong* games.[17] This case marks an important moment in videogame history. Prior to this lawsuit, it was unclear if copyright protection could even be afforded to videogames.[18] While the settlement ultimately left this question unanswered, it suggested the notion that, at the very least, videogame developers could use the threat of a lawsuit to induce settlements with potential infringers. Thus, developers were potentially afforded some means of protection for their creative endeavors.

III. Evolution of Copyright Doctrine

A. Updating the Statutory Framework

Following this initial lawsuit, Magnavox continued its litigation practices by strictly enforcing the copyrights it held.[19] Magnavox mostly lever-

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[12] *See* Rudie Obias, *11 Times Videogames Led to Lawsuits,* Mental Floss, Feb. 19, 2014, http://mentalfloss.com/article/55078/11-times-video-games-led-lawsuits, [https://perma.cc/HXM7-XW2Z] (on file with the Harvard Law School Library).

[13] *See id.*

[14] *Id.*

[15] *Id.*

[16] *Id.*

[17] *See Video Game History,* History, Aug. 21, 2018, https://www.history.com/topics/history-of-video-games, [https://perma.cc/3SND-VYTR] (on file with the Harvard Law School Library).

[18] *Id.*

[19] *See id.*

aged the videogame designs featured in the Odyssey and successfully netted over $100 million dollars as a result of settlements with other videogame developers.[20] While none of these cases ever went to trial, Magnavox had firmly established a standard for videogame developers: if you copy the design of another videogame, you will be subjected to a copyright infringement lawsuit.

For the most part, this strategy worked, as the gaming industry subsequently saw many lawsuits settled involving game developers suing the designers of "clones" and other "knock-offs" of their popular games.[21] As for the suits that went to trial, the developers were not so fortunate. The Federal Copyright Act of 1976 failed to adequately address computer programs, and as a result, courts were inconsistently applying copyright law in videogame-related cases.[22] Other computer-related industries were similarly affected by these judicial inconsistencies, which prompted Congress to investigate the matter.[23] Ultimately, Congress determined that copyright law needed to be amended to ensure future growth in the tech sector, and did so by adding computer programs to the Act in 1980.[24] These programs were classified as "literary works," and the original works of authorship within the underlying code were afforded the full protection of United States copyright law.[25] For the videogame industry, this meant that the underlying source code of a game and its subsequent mechanics were afforded copyright protection.

B. Judicial Developments

Further copyright protection was subsequently afforded to the videogame industry by the judiciary, which began classifying videogames as "audiovisual works."[26] Such classifications were in addition to the statutory protections already provided by Congress, and provided additional means for copyright holders to protect their games from unlawful exploitation by infringers. Under this new doctrinal framework, so long as the aesthetic look of a videogame appeared similar to another game, a suit for copyright infringement could be sustained. While the ideas for the games themselves, such as a tennis game, a game involving a spaceship fighting aliens, or a car

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[20] *See id.*
[21] *See id.*
[22] *See* Deborah F. Buckman, Annotation, *Intellectual Property Rights in Video, Electronic, and Computer Games*, 7 A.L.R. Fed. 2d 269, 2 (2005).
[23] *See id.*
[24] *See id*.
[25] *See id.*
[26] *See id.* at 2, 4–5.

racing game, were not afforded copyright protection, the underlying visual elements expressing those ideas were covered and protected by this new legal framework.[27] In some instances, courts would go even further, and grant copyright protection to entire games.[28] From an attorney's standpoint, this new copyright doctrine made advising clients relatively easy; so long as a client did not create a game that had the same underlying code or contained visually similar elements as another game, no litigation would occur. At the same time, if a client owned and developed a videogame, any game that appeared to be copying said game could be sued for copyright infringement.

Unfortunately for copyright holders, courts became rather strict in regards to what constituted actual copyright infringement. While courts consistently prevented the unauthorized sale,[29] duplication,[30] or alterations of games,[31] they were much less likely to afford protections under the "expressive elements" framework previously discussed. The most notable case in this line of judicial reasoning involved another Atari game, *Asteroids*.[32] In this particular game, a player controlled a spaceship and was tasked with having the ship survive by destroying asteroids. When an asteroid was destroyed, it would break into smaller pieces, which subsequently moved at different speeds and in different directions until the pieces became so small that they would disappear. The player would then receive points based on how many asteroids were destroyed before losing a life. After releasing this game in 1979, Amusement World released a similar game titled *Meteors*. The design and gameplay of *Meteors* were noticeably similar to *Asteroids*, prompting Atari to sue for copyright infringement.[33] Although the court found that the two games did, in fact, share many similar features, it ultimately found in favor of Amusement World.[34] Citing creative limitations given the underlying idea of the game and technical restrictions of computing technology, the court concluded that the games were different enough to be distinguished by the average consumer, and thus did not constitute infringement.[35]

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[27] *See, e.g.*, *Midway Mfg. Co. v. Bandai-America, Inc.*, 546 F. Supp. 125 (D.N.J. 1982).
[28] *See, e.g.*, *id.*
[29] *See, e.g.*, *id.*
[30] *See, e.g.*, *Atari, Inc. v. JS & A Grp., Inc.*, 597 F. Supp. 5 (N.D. Ill. 1983).
[31] *See, e.g.*, *Midway Mfg. Co. v. Artic Int'l, Inc.*, 704 F.2d 1009 (7th Cir. 1983).
[32] *See Atari, Inc. v. Amusement World, Inc.*, 547 F. Supp. 222 (D. Md. 1981).
[33] *Id.* at 224.
[34] *Id.* at 224–225, 230.
[35] *Id.* at 230.

This opinion is important because it introduced the legal copyright doctrines of merger and *scènes-à-faire* into videogame copyright law.[36] Both doctrines respectively work to limit copyright protection afforded to a work by either merging an idea and expression together such that copyright protection is limited or by preventing protection for expressions necessary to convey an idea.[37] In its decision, the court broadly applied both doctrines to *Meteors*, laying the groundwork for future judicial ruling along comparable lines of reasoning.[38]

Similar findings were subsequently found involving other games, most notably those involving a karate game,[39] a horseracing game,[40] and a fighting game,[41] thus solidifying the federal judiciary's restrictive interpretation on copyright infringement claims. From the mid-90's onwards, the judiciary made it essentially impossible for a videogame copyright holder to win a lawsuit against a potential infringer; the litigation costs were just too high when compared to the expected outcome.[42]

Attorneys were accordingly forced to adapt to this new approach to videogame copyright law as well. Those representing new developers could now advise clients that they had more or less full freedom to derive creative and artistic inspiration from previously released videogames without the ominous threat of copyright litigation. Meanwhile, attorneys representing videogame copyright holders were much more limited in the advice they could provide. These lawyers were forced to strategically concentrate their efforts on cases that would satisfy the courts strict interpretation of copyright infringement, all while counseling their clients on the financial risks that would be incurred should litigation be sought.[43] The inherent financial imbalance between the copyright holder, often an established videogame developer, and an alleged infringer, a small development team with a few employees, still made the threat of litigation a viable strategy for copyright holders. Alleged infringers could not afford the costs of fully litigating the case, and given the rarity of actual copyright litigation, were often reluctant to test the merits of their non-infringement argument. As a result, most

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[36] *Id.* at 228.
[37] *Id.*
[38] *Id.* at 228–30.
[39] *See Data E. USA, Inc. v. Epyx, Inc.*, 862 F.2d 204 (9th Cir. 1988).
[40] *See Rodesh v. Disctronics, Inc.*, No. 91-55694, 1993 U.S. App. LEXIS 26255 (9th Cir. Sep. 30 1993).
[41] *See Capcom U.S.A., Inc. v. Data E. Corp.*, No. C 93-3259 WHO, 1994 U.S. Dist. LEXIS 5306 (N.D. Cal. Mar. 16, 1994).
[42] *See* Buckman, *supra* note 22.
[43] *See id.*

copyright cases were settled between the mid-90's up and through the mid-2000's, but the overall scarcity of these lawsuits still resulted in the release of countless "clones" of formerly released games.[44]

C. Application of Doctrine

The judicial development of copyright law in the years following the initial lawsuit between Magnavox and Atari allows for an interesting intellectual hypothetical. Given the details of that particular case, it is quite possible to conclude that the lawsuit would have been decided in favor of Atari had the case gone to trial. First, it was unclear at the time if copyright law even applied to computer programs, as Congress had not amended the Copyright Act yet.[45] Second, if the assumption is made that the law and related doctrine as developed by the mid-1990's would have been applied by the courts, then Atari still would still have won the case. The underlying idea of *Pong* is not protectable under copyright law, just the expression of that idea. Although Atari freely admitted that its developers were inspired by the tennis game Magnavox developed, no such copying of Magnavox's protected material actually occurred.[46] Atari developers simply used their inspiration to create their own unique game, with their own unique code, when they developed *Pong*.[47] These facts, when coupled with the limited ways in which a two-dimensional table tennis game can be expressed and other technological limitations provides even more evidence in favor of Atari. It is therefore highly unlikely that Magnavox would have emerged victorious had the two parties ultimately gone to trial.

IV. New Developments

A. Recent Cases

Recent judicial developments may be once again changing the application of copyright law to the videogame industry. In a 2012 opinion, a court held that the videogame *Mino,* developed by the company Xio Interactive, was infringing on the copyright of another game, *Tetris,* owned by Tetris

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[44] *See* Obias, *supra* note 12.

[45] *See* Buckman, *supra* note 22.

[46] *See Video Game History,* History, Aug. 21, 2018, https://www.history.com/topics/history-of-video-games, [https://perma.cc/B4E3-KNMA] (on file with the Harvard Law School Library).

[47] *Id.*

Holding.[48] *Tetris* is a widely popular puzzle-game that involves players dropping various arrangements of 4-block shapes onto a plane. The shapes respectively stack, and when an entire line is filled by these blocks, the line disappears and points are earned. *Mino* uses these same mechanics, including the layout of the plane, the shapes, and the speeds at which they fall.[49] However, like other games discussed above, *Mino* developers claimed that they were merely "inspired" by *Tetris,* as independently developed the code, mechanics, and images for *Mino.*[50] Given the strict application of copyright law previously discussed, Xio Interactive believed that its game would not constitute as an infringement on the copyright of *Tetris.* The court, however, elected to not apply a broad application of the merger or *scènes-à-faire* doctrines in its decision, thus diverting from the decisions of previous cases.[51] In its opinion, the court cited technical capabilities of computers as no longer being a limiting factor in copyright protection, and that multiple means of expressing the underlying idea of *Tetris* were available to the *Mino* developers.[52]

The outcome of *Tetris Holding* is far from dispositive. Xio Interactive elected to forgo the appeals process, so no subsequent appellate history exists.[53] As such, it remains to be seen whether the positions advanced by the holding reflect the view of the entire Third Circuit, or if the particular facts of this case make it an outlier to otherwise consistent copyright jurisprudence. Because the case was later cited in another decision by the District of New Jersey,[54] it seems rather unlikely that the *Tetris* case was an outlier. Instead, *Tetris Holding* may be marking the development and adoption of new videogame copyright doctrine by the District of New Jersey, and perhaps, the Third Circuit.

Another judicial development of note involved a dispute between the companies Spry Fox and 6Waves, in which 6Waves was alleged to have infringed on the copyright of the Spry Fox game, *Triple Town*.[55] These two companies developed games with the essentially same gameplay and mechanics, but which were themed differently, as *Triple Town* was suburb

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[48] Tetris Holding, LLC v. Xio Interactive, Inc. 863 F. Supp. 2d 394 (D.N.J. 2012).

[49] *Id.* at 411.

[50] Id. at 397.

[51] *Id.* at 412.

[52] *Id.*

[53] *See id.* at 394.

[54] *See Granger v. ACME Abstract Co.*, 900 F. Supp. 2d 419, 425 (D.N.J. 2012).

[55] *See Spry Fox LLC v. LOLApps Inc.*, No. 2:12-CV-00147-RAJ, 2012 WL 5290158, at 1 (W.D. Wash. 2012).

themed, while 6Wave's game, *Yeti Town,* was mountain themed.[56] In examining the protectable expressive elements of both games, a court determined that the protected elements were "substantially similar enough" to move the case forward to discovery. In its ruling to deny 6Wave's motion to dismiss, the court also highlighted the factors expressed in the *Tetris* case, namely, computing capabilities and range of expressions available.[57] While the case ultimately settled, it marked another potential diversion from the established application of copyright law to videogames.[58]

B. Application of Doctrine

Returning again to the lawsuit between Magnavox and Atari, the hypothetical introduction of these new developments would make Magnavox, and not Atari, the winner of this lawsuit. The two games were clearly substantially similar, and as noted previously, Atari openly admitted that it used the Magnavox tennis game in the development of *Pong.* Atari, however, could have defended itself by applying the traditional doctrine of videogame copyright law by arguing for broad interpretations of the merger and *scènes-à-faire* doctrines. Specifically, the argument would be based around creative limitations in how the idea of a tennis game could be expressed and restrictions on computer technology. Had the court applied the reasoning in *Tetris Holdings,* that computer technology cannot be argued as a limitation when infringing on a copyright, then these arguments put forth by Atari would probably not have sufficed. By applying *Tetris Holdings,* the court could have reasoned that advancements in computing technology when compared to early generations (i.e. those in the 1950's and 1960's) made it so that there were multiple means of expressing the underlying idea. The court therefore, could have determined that by creating *Pong,* a game substantially similar to Magnavox's own game, Atari infringed on Magnavox's copyright. This result, although hypothetical, highlights the impact that these new judicial developments may have if they ultimately supplant the traditional videogame copyright doctrine.

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[56] *See id* at 6.

[57] *See id* at 6.

[58] *See* Jack Schecter, *Bears Beat Yetis! Another Copyright Defeat for Video Game Clones,*Oct. 24, 2012, SUNSEIN, KANN, MURPHY & TIMBERS, https://sunsteinlaw.com/bears-beat-yetis-another-copyright-defeat-for-video-game-clones/ [https://perma.cc/24LU-ZZGZ] (on file with the Harvard Law School Library).

C. Potential Explanations

The fact that several district courts have, at the very minimum, allowed cases of videogame copyright infringement to proceed to the discovery process may be indicating a greater shift of judicial application of videogame copyright law. While it is unclear why some districts are adopting such polices, one possible explanation may be in the ages of the judges themselves. As highlighted in the beginning of this paper, videogames are a relatively recent phenomenon that a "younger" crop of judges may simply view differently than their more experienced contemporaries. The judge that wrote the opinion for the *Tetris* case was 18 when *Pong* was released,[59] and the judge in the Spry Fox case was 22,[60] meaning that both have spent the majority of their adult lives with videogames being a part of American culture.

A feasible argument, therefore, would be that prolonged exposure to videogames has provided these particular judges with more nuanced opinions on the topic, which in turn has been reflected in their respective judicial opinions. While such a hypothesis cannot be proven without further jurisprudence, it would be interesting to follow future videogame copyright cases, and compare the decisions with the ages of the judges issuing the opinions. If video copyright jurisprudence continues along the lines of the *Tetris Holding,* then this explanation may hold some merit, and will introduce an additional variable in the legal calculus that an attorney must conduct when advising a client.

Another potential explanation for why the pendulum may be swinging back in favor of copyright holders is simply the notion that judicial interpretations of statutory frameworks fluctuate over time. As the general viewpoints of society change, judges tend to reinterpret previous rulings to reflect those changing values. This explanation is slightly different than the one above, in that judges are not reflecting their own values into the opinion, but rather, the values of society. This idea may be a more plausible explanation. Federal judges constantly attempt to keep their individual opinions out of their judicial rulings, as they do not want to be accused of straying from Justice Holmes' renowned dissent in *Lochner v. New York.*[61]

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[59] *See Freda L. Wilson,* WIKIPEDIA, https://en.wikipedia.org/wiki/Freda_L._Wolfson, [https://perma.cc/SW77-7VHX] (Mar. 10, 2019) (on file with the Harvard Law School Library).

[60] *See Richard A. Jones,* WIKIPEDIA, https://en.wikipedia.org/wiki/Richard_A._Jones, [https://perma.cc/TX74-YFGM] (Mar. 10, 2019) (on file with the Harvard Law School Library).

[61] *See generally, Lochner v. New York*, 198 U.S. 45, 74-75 (1905).

This opinion famously set forth the precedent that judges should not input their own opinions into the law, but rather, should allow the general public opinion to rule the day, and continues to be a point of articulation between justices today.[62] The rulings set forth in *Tetris Holding* may be an extension of this theory of adjudication.

V. Applications to Practicing Attorneys

From an advisement and advocacy standpoint, attorneys must be aware of the traditional statutory and judicial interpretations of copyright law, as well as the new developments discussed above. While these new developments introduce more uncertainty into the application of copyright law, a variety of strategies can still be utilized to ensure the optimal outcome for a client.

A. Representing Videogame Copyright Holders

The new developments in copyright law can dramatically expand the legal strategies available to attorneys representing videogame copyright holders. While the tried and true method of threatening litigation against infringers still remains the best tactic, these threats now carry more weight. Not only will the cost of litigation potentially induce the alleged infringer into settling, but the fact that courts have shown an openness in siding with copyright holders only places more pressure on the opposing party.

Strategy-wise, a good practice would be for attorneys to advise their clients to register any copyrights they have with the United States Copyright Office. While the Copyright Act automatically affords copyright protection to works created after 1976, registration of the work grants the copyright holder the option to sue for statutory damages.[63] Statutory damages can award a copyright holder up to $150,000 per instance of intentional infringement, and serve as an excellent monetary deterrent towards potential infringers.[64] While holders of non-registered copyrights can still sue for actual damages or profits, these are more difficult to prove in court,

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[62] *See e.g., Romer v. Evans*, 517 U.S. 620 (1996).

[63] 17 U.S.C. § 504(c) (2010).

[64] *See* Richard Stim, *Copyright Infringement: How Are Damages Determined?* Nolo (N.D.), https://www.nolo.com/legal-encyclopedia/copyright-infringement-how-damages-determined.html, [https://perma.cc/Q6DV-8MQV] (on file with the Harvard Law School Library).

and may not provide the same level of deterrence that statutory damages create.[65]

Secondly, attorneys should always bring infringement suits in the Federal District of New Jersey, as this is currently the federal district with the friendliest laws towards videogame copyright holders.[66] Given the transient and national presence of videogames, it is highly probable that the alleged infringer has conducted business within the state, thus making it practically impossible for the infringer to claim a defense under lack of personal jurisdiction[67] or venue.[68]

Lastly, if procedural rules prevent a suit from being brought in the District of New Jersey, then the second-best strategy would be for the client to bring the suit in whichever federal district the Federal Rules of Civil Procedure dictate is proper. While bringing a suit in another district is riskier, *Spry Fox* has shown that other courts are open to adopting the rationale of *Tetris Holdings.*[69] This reasoning, in turn, could persuade the alleged infringer to settle, and thus avoid the risk of having another district adopt the rationale developed by the District of New Jersey. If the lawsuit does proceed to trial, it is possible that such rationale is, in fact adopted, creating another district in which copyright holders can bring an infringement case. Although mired with uncertainty, this strategy is still a worthwhile option for attorneys to suggest to their clients, as it will potentially lead to a favorable outcome and further redefine the judicial application of copyright law.

B. Representing New Videogame Developers

Attorneys representing videogame developers also have several legal tools at their disposal when representing their clients. To avoid any inconsistencies with the strategies discussed above, videogame developers will not be viewed as copyright holders for the purposes of this section.

The first, and perhaps most important step in this representation is for attorneys to advise their clients about the new legal developments of *Tetris Holding* and other similar cases. Doing so will to put the clients on notice regarding what creative liberties they may take when developing a new

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[65] *See id.*

[66] *See Tetris Holding, LLC v. Xio Interactive, Inc.* 863 F. Supp. 2d 394 (D.N.J. 2012).

[67] *See Int'l Shoe Co. v. Washington*, 326 U.S. 310 (1945).

[68] *See* 28 U.S.C. § 1391(b)(3) (2011).

[69] See Spry Fox LLC v. LOLApps Inc., No. 2:12-CV-00147-RAJ, 2012 WL 5290158 (W.D. Wash., Sept. 18 2012).

videogame. While a client may certainly still draw inspiration from a previously published game, a good strategy for a lawyer would be to advise the client to limit the number of inspirational elements used in their new game. By doing so, the *Tetris Holding* line of reasoning would be most likely be inapplicable to their game should they be sued for copyright infringement. Further, if the client is in fact inspired by a previously published game, an attorney should check to see if that game is registered with the Copyright Office. If the game of inspiration is in fact registered, then even more precautions should be taken to avoid the imposition of statutory damages.[70] These precautions may involve changing the art style of the videogame, altering any elements that may be deemed to be too similar to the registered game, or perhaps, maybe even ceasing the development of the game entirely.

Attorneys should also attempt to limit their clients contact with judicial districts that are adopting the *Tetris Holding* style of reasoning. Methods of limiting such contact include not having a principle place of business in that district and engaging in minimal sales in that district. Given the transient nature of videogame sales, however, the later step may be impossible to implement. However, it still serves as a legitimate method of avoiding a lawsuit in that particular federal district.[71]

If the client does find itself being sued in the District of New Jersey, or any other district that is applying *Tetris Holding*, then the attorney should motion to transfer the case to another federal district.[72] The new district should be one that still applies the more traditional method of videogame copyright law, as this method will most likely result in a favorable ruling for the client. Assuming the transfer is granted, the client's argument should be based on why the court should utilize the traditional application of videogame copyright law in deciding the case. This argument would give the client the best chance of winning the lawsuit, and may even prompt the plaintiff to drop the case entirely.

Meanwhile, if the motion for transfer is not granted, a similar argument should still be put forward by the client. When arguing for the traditional application of copyright law, and not the *Tetris Holding* rationale, the attorney must attempt to distinguish *Tetris Holding* as an outlier that should be confined to the facts of the case. The attorney should then subsequently work to separate the facts of the client's game from those of *Tetris Holding* to further reinforce this notion. While this strategy is far from guaranteed suc-

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[70] *See* 17 U.S.C. §504(c) (2011).
[71] *See* 28 U.S.C. §1391 (2011).
[72] *See* 28 U.S.C. § 1404 (2011).

cess, it provides the best probability for a favorable outcome and may nonetheless convince the court to rule in favor of the client.

Litigation, of course, may not be the best option, as an out-of-court settlement may be the most beneficial outcome for the client. Costs associated with litigation can be astronomical in modern times,[73] and settlements do not always spell doom for the videogame developer.[74] Atari serves as a perfect example, because even after its settlement with Magnavox, the company still became one of the preeminent companies in the videogame industry.[75]

VI. Conclusion

Since the advent of modern videogames, copyright law has held a strong influence on the industry and its development of games. As the industry has matured and evolved, so too has judicial application of copyright law. While recent developments in these judicial applications may disrupt long-standing doctrine, it remains to be seen if the federal judiciary is willing to adopt these new standards. Attorneys, therefore, should be aware of the traditional applications as well as these new developments in order to best advise their clients.

A variety of legal strategies exist to help achieve these goals, and will vary depending on whether the client is a copyright holder looking to sue an infringer or videogame developer wanting to minimize legal exposure. In practice, clients tend to fall into both categories, as copyright holders are often videogame developers themselves. Attorneys must be able to recognize and address the individual needs of a client, and apply the appropriate legal strategies that will best satisfy those needs. By following these practices, attorneys representing copyright holders and attorneys representing videogame developers can ensure the most optimal outcomes for their clients.

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[73] *See Litigation Cost Survey of Major Companies,* Duke Law School, May 10, 2010, http://www.uscourts.gov/sites/default/files/litigation_cost_survey_of_major_companies_0.pdf, [https://perma.cc/254X-Q4WW] (on file with the Harvard Law School Library).

[74] *See Video Game History,* History, Sept. 1, 2017, https://www.history.com/topics/history-of-video-games, [https://perma.cc/H8F6-KNJK] (on file with the Harvard Law School Library).

[75] *See id.*