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"Dangerous Spillovers:

The Effects of *303 Creative v. Elenis* on Discrimination Against Interracial Couples"

Ronen Avraham

University of Texas Law School & Tel Aviv University Law School

Note: It is expected that you will have reviewed the speaker's paper before the seminar. The body of the attached paper is 34 double-spaced pages. The remainder of the paper consists of appendices that can be skipped or examined as desired.

Dangerous Spillovers:

The Effects of *303 Creative v. Elenis* on Discrimination Against Interracial Couples

Tamar Kricheli Katz, Ronen Avraham and Daniel Statman

Abstract

In *303 Creative LLC v. Elenis*, the Supreme Court ruled in favor of a web designer who refused to create wedding websites for same-sex couples, citing First Amendment free speech protections. This article examines the effects of this decision through a field experiment measuring discrimination in the wedding web design industry shortly after the ruling.

We find that exposure to the *303 Creative* decision significantly reduced designers' willingness to provide services to all couples. Notably designers penalized interracial couples even more than LGBTQ+ couples. While 84% of designers responded to a request from an interracial couple when they had not been informed of the ruling, only 51% responded when they had been informed.

Even among designers who responded to requests, sentiment analysis reveals that those informed about the ruling expressed more negative sentiments and greater reluctance to engage with LGBTQ+ and, notably, interracial heterosexual couples, reflecting a subtler form of bias. These findings corroborate concerns raised by the dissent in *303 Creative* about the decision's potential spillover effects—namely, its impact beyond LGBTQ+ couples to other protected groups. We discuss the implications of these findings for understanding how the Supreme Court may legitimize discriminatory market practices.

Introduction

In *303 Creative LLC v. Elenis*,¹ the Supreme Court ruled in favor of Christian web designer Lorie Smith, who declared that she would refuse to create wedding websites for LGBTQ+ couples due to her religious beliefs. In a 6-3 decision authored by Justice Gorsuch, the Court held that web design qualifies as 'pure speech' and that applying Colorado's Anti-Discrimination Act to compel Smith to create same-sex wedding websites would violate the First Amendment's Free Speech Clause. In her dissent, joined by Justices Kagan and Jackson, Justice Sotomayor expressed concern that the decision could be interpreted as granting not only web designers but businesses in general

¹ 143 S. Ct. 2298 (2023).

a constitutional right to discriminate against LGBTQ+ clients.² She further warned that the logic of the decision could extend to discrimination against other protected minority groups, particularly interracial couples. While the majority opinion addressed some of the dissent’s concerns, it did not directly respond to the concern that its logic permits service providers offering expressive services—such as web designers creating wedding websites—to discriminate against interracial couples. Related empirical concerns were raised by Justices Sotomayor and Kagan during oral arguments, where they warned that more expressive service providers could refuse to provide services to interracial couples if such refusals were permitted.

While various normative papers have criticized the logic of the decision and warned that it could equally permit discrimination against interracial couples and other protected minority groups,³ our focus in this paper is on the empirical concerns, more precisely on the concern that the decision would lead to increased discrimination against interracial couples.

Shortly after the *303 Creative* ruling was published, we conducted a field experiment to examine the spillover effects of the decision on interracial couples in the wedding web design industry. We found that being informed about the ruling affected the treatment of all couples: exposure to the ruling increased the likelihood of non-responses to requests from all couples in our field

² *303 Creative LLC v. Elenis*, 143 S. Ct. 2298, 2322 (2023) (“Today, the Court, for the first time in its history, grants a business open to the public a constitutional right to refuse to serve members of a protected class.”)

³ See, e.g., Kenji Yoshino, *Rights of First Refusal*, 137 Harv. L. Rev. 244 (2023) (contending that the shift in *303 Creative* from the free exercise context to the free speech context increases the vulnerability of anti-discrimination laws by removing the ability to weigh speech-based refusals against the harm they cause, potentially protecting refusals to serve interracial couples under the same rationale); see also Robert Post, *Public Accommodations and the First Amendment: 303 Creative and "Pure Speech"*, 2023 Sup. Ct. Rev. 251, 294 (2024) (critiquing the Court's reasoning in *303 Creative*, arguing that its definition of "pure speech" is doctrinally flawed and that the appropriate distinction is not between speech and conduct but between commercial speech and public discourse, with only the latter warranting heightened First Amendment protection); Ian Ayres & Jennifer Gerarda Brown, *A Legislative Response to 303 Creative*, 134 Yale L.J. F. 1 (2025) (proposing that state legislatures enact implied warranties of nondiscrimination as default rules to mitigate the discriminatory impact of the *303 Creative* decision); Hila Keren, *Beyond Discrimination: Market Humiliation and Private Law*, 95 U. Colo. L. Rev. 87 (2024) (arguing that *303 Creative* extends the scope of dignitary harm by embedding exclusionary signals in the marketplace, creating broader social and economic consequences for marginalized groups); Craig Konnoth, *Discrimination Denials: Are Same-Sex Wedding Service Refusals Discriminatory?*, 124 Colum. L. Rev. 1 (2024) (criticizing the Court's distinction in *303 Creative* between access and content); Grace Vedock, *Public Accommodations Parlance*, 123 Mich. L. Rev. 1 (2024) (analyzing the evolving language and legal interpretations surrounding public accommodations laws in light of *303 Creative* and its implications for future civil rights litigation).

experiment—white heterosexual couples, white gay men, and interracial heterosexual couples. Yet, we found that when designers were informed about the ruling, interracial couples were penalized significantly more than other couples in our experiment in terms of response rate. In our field experiment, whereas 84% of designers responded to a request initiated by an interracial couple when they had not been informed about the ruling, only 51% responded when they had been informed. Moreover, interracial couples faced an additional significant penalty when designers did respond to them; the responses from web designers contained significantly more negative sentiments compared to those received by white heterosexual couples.⁴ Like interracial heterosexual couples, white gay men also received significantly more negative responses from designers than white heterosexual couples when designers were informed about the decision.

We offer three main contributions in this paper. First, we demonstrate that the *303 Creative* decision resulted in a spillover effect, increasing discrimination against interracial couples by web designers in terms of response rates. Second, we make a methodological contribution by moving beyond response rates to analyzing the sentiments expressed in responses, providing deeper insight into the nature of discrimination and the expression of bias. Third, we highlight how the subtle nature of these discriminatory practices—service providers ignoring requests or responding “positively”, yet with negative sentiments expressing a lower willingness to provide services—makes detection challenging. As a result, it remains unclear when discrimination against interracial couples and other protected minority groups will be addressed in court, leaving unresolved questions about the applicability of the free speech doctrine to refusals of various services for these groups. Given the likely delay before the Court resolves these doctrinal questions, our empirical findings—showing how real market participants interpret *303 Creative*—are especially important.

In Part I of the paper, we describe the *303 Creative* decision and outline the concerns raised by the dissenting justices and legal scholars that the ruling’s logic could extend to discrimination against

⁴ We assessed sentiment by prompting OpenAI’s GPT model to interpret and classify the tone of designers’ messages. Evaluating sentiment, rather than solely analyzing response rates, offers deeper insight into discrimination, which can be subtle and unintentional. Bias may emerge through unwelcoming language or dismissive tones. Unlike traditional sentiment analysis, which relies on predefined lexicons or rigid classification models, our approach used GPT to provide context-aware assessments, capturing shifts in tone beyond simple positive, negative, or neutral categorizations.

other protected minority groups, particularly interracial couples. We further discuss the empirical concern and its implications—that the decision could increase discrimination by expressive service providers against interracial couples. Part II discusses the possible mechanisms through which Supreme Court rulings—such as the *303 Creative* decision—might legitimize discriminatory market practices. In Part III, we explain why the specific nature of the discriminatory practices we examine—namely, when service providers ignore requests or respond with negative sentiments and a lower willingness to provide services—makes detection challenging. In Part IV, we describe the methodology of our field experiment, and in Part V, we present the results. Part VI discusses the implications of our findings both for discrimination against interracial couples in the provision of expressive services and for our broader understanding of how Supreme Court rulings might legitimize discriminatory market practices.

I. The 303 Creative Decision

Lorie Smith, the owner of 303 Creative LLC, planned to expand her graphic design business to offer custom wedding websites. She anticipated that Colorado's Anti-Discrimination Act (CADA) would require her to create websites for same-sex weddings, if asked to do so, which she believed would conflict with her personal view that marriage should be between a man and a woman. In response, Smith filed a lawsuit seeking an injunction to prevent the state from compelling her to design wedding websites for same-sex couples that contradicted her religious beliefs about marriage.

Under CADA, businesses are prohibited from denying services based on certain protected characteristics, including sexual orientation. The law applies broadly to public accommodations, covering most public-facing businesses in Colorado. In court, Smith and the state agreed on several facts, including that she was “willing to work with all people regardless of classifications such as race, creed, sexual orientation, and gender” and that she would “gladly create custom graphics and websites” for clients of any sexual orientation. Nonetheless, she refused to create content that conflicted with her religious convictions.

Smith argued that Colorado’s anti-discrimination law violated her religious freedom, as she believed marriage could only be between a man and a woman. She also contended that creating wedding websites constituted expressive speech, protected under the First Amendment, as the sites would reflect her views on marriage.

The district court ruled against Smith, denying her request for an injunction, and the Tenth Circuit affirmed the decision. The Supreme Court, however, reversed the lower courts' rulings. In a 6-3 decision authored by Justice Gorsuch, the Court held that Colorado could not force Smith to create expressive designs that conflicted with her beliefs. In its decision, the Court distinguished between Smith's professional own website design services and commercial products, categorizing the former as 'pure speech'. Citing *Hurley v. Irish-American Gay, Lesbian, and Bisexual Group of Boston*⁵, *Boy Scouts of America v. Dale*⁶, and *Snyder v. Phelps*⁷, the majority concluded that when pure speech is involved, "the First Amendment protects an individual's right to speak his mind regardless of whether the government considers his speech sensible and well-intentioned or deeply 'misguided,' and likely to cause 'anguish' or 'incalculable grief.'"

Colorado argued that Smith's refusal to create certain wedding websites was based on the protected characteristics of customers and was therefore not a matter of speech but rather a denial of a commercial service. The Court rejected this argument, concluding that Smith's work was not merely a commercial product but pure expressive speech. The majority emphasized that the First Amendment prohibits the government from compelling individuals to express views that conflict with their beliefs, regardless of the motives behind or the perceived harm from those views.

In her dissenting opinion, joined by Justices Kagan and Jackson, Justice Sotomayor expressed concern that the decision could be interpreted as granting many private businesses a constitutional right to discriminate against LGBTQ+ clients. She further warned that the ruling might permit discrimination against other protected minority groups—specifically interracial couples.

Although the consequences of today's decision might be most pressing for the LGBT community, the decision's logic cannot be limited to discrimination on the basis of sexual orientation or gender identity. The decision threatens to balkanize the market and to allow the exclusion of other groups from many services. A website designer could equally refuse to create a wedding website for an interracial couple, for example. How quickly we forget that opposition to interracial marriage was often because "'Almighty God . . . did not intend for the races to mix.'"⁸

⁵⁵ 515 U.S. 557, 574 (1995).

⁶ 530 U.S. 640, 660–61 (2000).

⁷ 562 U.S. 443, 456 (2011).

⁸ 303 *Creative*, 143 S. Ct. at 2342 (Sotomayor, J., dissenting) (omission in original) (quoting *Loving v. Virginia*, 388 U.S. 1, 3 (1967)).

Similar concerns were raised by the dissenting Justices during the *303 Creative* oral arguments. Justice Sotomayor, during the proceedings, asked Ms. Kristen Waggoner, who represented Lorie Smith:

How about people who don't believe in interracial marriage or about people who don't believe that disabled people should get married? Where's the line? I choose to serve whom I want. If I disagree with their personal characteristics, like race or disability, can I choose not to sell to those people?

Ms. Waggoner responded that, in her opinion, it was unlikely that businesses would discriminate against interracial couples:

In the context of race, it's highly unlikely that anyone would be serving Black Americans in other capacities but only refusing to do so in an interracial marriage context.

To this, Justice Kagan remarked:

Well, it's not impossible.⁹

Similar objections were later raised by scholars who argued that the decision could be interpreted as granting “expressive” businesses the right to discriminate against protected minority groups when providing expressive services.¹⁰ Robert Post offered a troubling example of how the *303 Creative* decision could enable racial discrimination, describing a case in which “the owners of a traditional advertising agency firmly believe in white supremacy and refuse to accept Black clients”.¹¹

The dissenting justices additionally cautioned that many other types of services—beyond web design—could be classified as expressive and thus protected by the First Amendment. The majority opinion dismissed some of these warnings as “pure fiction.”

The dissent even suggests that our decision today is akin to endorsing a “separate but equal” regime that would allow law firms to refuse women admission into partnership, restaurants to deny service to Black Americans, or businesses seeking employees to post something like a “White Applicants Only” sign. ... Pure fiction all.¹²

⁹ Transcript of Oral Argument at 13–14, *303 Creative LLC v. Elenis*, 143 S. Ct. 2298 (2023) (No. 21-476).

¹⁰ Kenji Yoshino, *Rights of First Refusal*, 137 Harv. L. Rev. 244, 263 (2023); Robert Post, *Public Accommodations and the First Amendment: 303 Creative and “Pure Speech,”* 2023 SUP. CT. REV. 251, 294 (2024).

¹¹ Robert Post, *Public Accommodations and the First Amendment: 303 Creative and “Pure Speech,”* 2023 SUP. CT. REV. 251, 294 (2024).

¹² *303 Creative*, 143 S. Ct. at 2319.

The majority further explained that the *303 Creative* case differed from many of the examples discussed by the dissent, as it involved pure speech (web design is “expressive”) rather than merely the sale of a commercial product. Nonetheless, the majority conceded that determining which expressive activities are protected by the First Amendment in future cases may present “difficult questions.”¹³

Note, however, that while the majority opinion addressed one type of spillover—namely, concerns about which services qualify as expressive—it did not directly address another: the concern that the decision's logic may permit discrimination by service providers offering expressive services—such as web designers creating wedding websites—against interracial couples.

Indeed, it is difficult to imagine the Court reaching a decision similar to *303 Creative* if Smith’s refusal had involved interracial couples seeking a wedding website.¹⁴ The oral arguments before the Court suggest that some of the majority justices may distinguish between cases involving religious objections to same-sex marriage and what they perceive as outright racial discrimination against interracial couples. For examples, during oral argument, Justice Alito suggested that it would be unfair to “equate opposition to same-sex marriage with opposition to interracial marriage” because “honorable people” might object to same-sex marriages.¹⁵

However, the decision does nothing to distinguish between the two. To the contrary, its logic suggests that all cases involving expressive services—such as those concerning couples seeking wedding website design—would be considered pure speech, regardless of whether the clients are same-sex or interracial couples.

¹³ *“Instead of addressing the parties’ stipulations about the case actually before us, the dissent spends much of its time adrift on a sea of hypotheticals about photographers, stationers, and others, asking if they too provide expressive services covered by the First Amendment. ... But those cases are not this case. Doubtless, determining what qualifies as expressive activity protected by the First Amendment can sometimes raise difficult questions. But this case presents no complication of that kind. The parties have stipulated that Ms. Smith seeks to engage in expressive activity. And the Tenth Circuit has recognized her services involve ‘pure speech.’... Nothing the dissent says can alter this—nor can it displace the First Amendment protections that follow.”* *303 Creative*, 143 S. Ct. 2298, 2319 (2023).

¹⁴ Kenji Yoshino, *Rights of First Refusal*, 137 Harv. L. Rev. 244, 263 (2023).

¹⁵ Transcript of Oral Argument at 81, *303 Creative*, 143 S. Ct. 2298 (No. 21-476); see also Carlos A. Ball, *First Amendment Exemptions for Some*, 137 Harv. L. Rev. F. 46 (2023) (arguing that there are reasons to believe that the Court’s conservative Justices will find ways of distinguishing exemptions sought by business owners grounded in a refusal to provide wedding-related services to same-sex couples and refusals grounded in racial prejudice).

As a result, anti-discrimination laws could not compel service providers to offer these services to all clients. Indeed, Alexander Volokh has argued that for the purposes of the doctrine established in *303 Creative*, race is no different from sexual orientation,¹⁶ and that “doctrinally, a person’s liberty interest in saying something racist is the same as their interest in saying something anti-gay: the question is merely whether they’re being made to say something they don’t want to say”.¹⁷

It is important to note that although Smith’s objection to providing services and to Colorado’s anti-discrimination law was rooted in religious beliefs, the Court limited its review to the free speech claim and held that applying CADA to compel her to create same-sex wedding websites violated the First Amendment. In contrast, in two previous cases involving refusals to serve same-sex customers due to religious beliefs, the Court narrowly based its decisions on the free exercise clause: In *Masterpiece Cakeshop v. Colorado Civil Rights Commission*¹⁸ the Supreme Court ruled in favor of a baker who refused to bake a wedding cake for a same-sex couple due to his religious beliefs. And in *Fulton v. City of Philadelphia*¹⁹ the Supreme Court ruled unanimously in favor of a Catholic foster care agency that refused to certify same-sex couples as foster parents on religious grounds.

Kenji Yoshino argues that the Court’s shift toward a free speech framework is particularly concerning because free speech exemptions differ significantly from free exercise ones. In the free exercise context, the Court has consistently held that racial discrimination is unconstitutional even when rooted in religious belief or practice (e.g., *Newman v. Piggie Park Enterprises*, 390 U.S. 400 (1968); *Bob Jones University v. United States*, 461 U.S. 574 (1983)). By contrast, the decision in *303 Creative* suggests that no similar limitation applies in the context of pure speech. Although earlier free speech and free association cases rejected constitutional exemptions from anti-discrimination laws involving racial or gender discrimination, *303 Creative* appears to mark a shift in this approach—at least for service providers engaged in what the Court deems ‘pure speech.’

¹⁶ Alexander Volokh, *The First Amendment Right to Affirmative Action*, SSRN (2024), <https://ssrn.com/abstract=4736762>.

¹⁷ *Id.* at 42.

¹⁸ 138 S. Ct. 1719 (2018).

¹⁹ 141 S. Ct. 1868 (2021).

Our paper contributes to the debate on the normative implications of the *303 Creative* decision²⁰ by empirically examining how being informed about the ruling affects the willingness of web designers to provide wedding website design services to same-sex and interracial couples. These potential direct and spillover effects have yet to be empirically tested. Understanding how service providers respond to learning about the decision—and whether spillover effects occur—is particularly important given the warnings issued by the dissenting justices, scholars, and concerns about the evolving legal doctrine.

Exploring the implications of the *303 Creative* decision for the specific nature of discrimination we examine—web designers ignoring requests or responding with negative sentiments and a lower willingness to provide services—is especially significant, as such discriminatory practices are difficult to detect. Consequently, it remains unclear if and when discrimination against interracial couples and other protected minority groups will ever be addressed in court, leaving unresolved questions about the applicability of the free speech doctrine to refusals of various “expressive” services for these groups.

II. The Effects of Supreme Court Rulings on Behavior

The Court’s decision in *303 Creative* and its potential spillover effects on interracial couples trigger questions about how the law affects behavior. Numerous studies have explored how the law, including court decisions and statutes, can shape behavior. One rich body of literature examines legal incentives, documenting the impact of sanctions and rewards on behavior.²¹

²⁰ See, e.g., Robert Post, *Public Accommodations and the First Amendment: 303 Creative and "Pure Speech"*, 2023 Sup. Ct. Rev. 251, 294 (2024) (critiquing the Court’s reasoning in *303 Creative*, arguing that its definition of “pure speech” is doctrinally flawed and that the appropriate distinction is not between speech and conduct but between commercial speech and public discourse, with only the latter warranting heightened First Amendment protection); see also Ian Ayres & Jennifer Gerarda Brown, *A Legislative Response to 303 Creative*, 134 Yale L.J. F. 1 (2025) (proposing that state legislatures enact implied warranties of nondiscrimination as default rules to mitigate the discriminatory impact of the *303 Creative* decision); Kenji Yoshino, *Rights of First Refusal*, 137 Harv. L. Rev. 244 (2023) (contending that the shift in *303 Creative* from the free exercise context to the free speech context increases the vulnerability of anti-discrimination laws by removing the ability to weigh speech-based refusals against the harm they cause, potentially protecting refusals to serve interracial couples under the same rationale); Hila Keren, *Beyond Discrimination: Market Humiliation and Private Law*, 95 U. Colo. L. Rev. 87 (2024) (arguing that *303 Creative* extends the scope of dignitary harm by embedding exclusionary signals in the marketplace, creating broader social and economic consequences for marginalized groups); Grace Vedock, *Public Accommodations Parlance*, 123 Mich. L. Rev. 1 (2024) (analyzing the evolving language and legal interpretations surrounding public accommodations laws in light of *303 Creative* and its implications for future civil rights litigation).

²¹ Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. Pol. Econ. 169 (1968) (developing an economic model of crime and deterrence, arguing that individuals weigh expected costs and benefits when deciding whether to engage in unlawful behavior); Jack P. Gibbs, *Assessing the Deterrence Doctrine: A Challenge for the*

Another substantial body of work investigates how legal norms influence moral judgments and preferences.²² The law is often perceived as evidence of a social consensus about what is right or wrong, shaping individuals' moral evaluations accordingly.²³

Moving closer to our present concern, studies in social psychology have offered insights into how the law can influence people's tendency to discriminate. Individuals may be more likely to engage in discriminatory behavior after learning about a court decision that legitimizes such conduct. Psychologists Chris Crandall and Amy Eshleman²⁴ propose a justification-suppression model to explain how discrimination is expressed. According to this model, prejudices are initially suppressed by beliefs, values, and social norms that deem their expression inappropriate. Discrimination emerges through a two-stage process: first, an automatic prejudice forms, leading individuals to evaluate others negatively based on group membership. In the second stage, this prejudice manifests as discriminatory behavior only when suppression processes—such as social norms and personal standards—fail to inhibit it. Building on this model, one could predict that legal norms, conveyed through court decisions, may, under certain conditions, legitimize discrimination. When a court decision permits discrimination in some specific contexts, not only

Social and Behavioral Sciences, 22 *Am. Behav. Sci.* 653 (1979) (critically evaluating the effectiveness of deterrence theory in the social sciences and highlighting inconsistencies in empirical findings); *Philip J. Cook, Research in Criminal Deterrence: Laying the Groundwork for the Second Decade*, 2 *Crime & Just.* 211 (1980) (reviewing empirical studies on deterrence and proposing a research agenda to refine models of legal incentives and behavior modification); *Uri Gneezy & Aldo Rustichini, Incentives, Punishment, and Behavior*, in *Advances in Behavioral Economics* 572 (2004) (demonstrating through experimental studies that monetary incentives can sometimes have counterintuitive effects, including undermining intrinsic motivation and increasing undesirable behaviors).

²² *Leonard Berkowitz & Nigel Walker, Laws and Moral Judgments*, 30 *Sociometry* 410 (1967) (examining the relationship between legal rules and moral perceptions, arguing that laws shape individuals' moral evaluations of behavior); *Cass R. Sunstein, Social Norms and Social Roles*, 96 *Colum. L. Rev.* 903 (1996) (exploring the role of law in reinforcing or challenging social norms, emphasizing the interaction between legal frameworks and informal societal expectations); *Robert J. MacCoun, Drugs and the Law: A Psychological Analysis of Drug Prohibition*, 113 *Psychol. Bull.* 497 (1993) (analyzing how drug laws shape public attitudes and behaviors through deterrence, stigma, and moral messaging); *Matthew B. Kugler & Lior Jacob Strahilevitz, The Myth of Fourth Amendment Scrutiny*, 84 *U. Chi. L. Rev.* 1747 (2017) (arguing that courts overestimate the level of constitutional scrutiny applied to Fourth Amendment cases and that public perceptions of privacy rights are shaped by legal rhetoric); *Oren Bar-Gill & Chaim Fershtman, Law and Preferences*, 20 *J.L. Econ. & Org.* 331 (2004) (theorizing that legal norms can directly shape individual preferences and behaviors, beyond simple deterrence effects); *Catherine Albiston & Shelley Correll, Law's Normative Influence on Gender Schemas: An Experimental Study on Counteracting Workplace Bias Against Mothers and Caregivers*, 49 *Law & Soc. Inquiry* 916 (2024) (providing empirical evidence that legal interventions can reshape gender norms in the workplace, counteracting bias against mothers and caregivers).

²³ See *Leonard Berkowitz & Nigel Walker, Laws and Moral Judgments*, 30 *Sociometry* 410 (1967) (finding that individuals adjust their moral evaluations in response to changes in legal status or perceived social consensus).

²⁴ *Christian S. Crandall & Amy Eshleman, A Justification-Suppression Model of the Expression and Experience of Prejudice*, 129 *Psychol. Bull.* 414 (2003).

are penalties removed, but the suppression of prejudice may also weaken, allowing discrimination to surface when prejudice is triggered.

In the context of service provision to same-sex couples, Netta Barak-Corren provides real-world evidence suggesting that Supreme Court rulings permitting refusals to serve same-sex couples on religious grounds reduce service providers' willingness to serve same-sex couples compared to opposite-sex couples.²⁵ We contribute to the existing literature by examining the effects of a court decision on discrimination in a different domain—hence the concept of "spillovers." Specifically, we focus on the impact of *303 Creative*, which addressed same-sex couples, on discrimination against interracial ones.

Another contribution of our study is methodological—expanding the range of measurable behavioral effects that a Court decision, like *303 Creative* can trigger. We tested not only whether designers responded to messages from different types of couples but also the sentiments conveyed in their responses. We assessed sentiment by prompting OpenAI's GPT model to interpret and classify the tone of the designers' messages. Evaluating sentiment, rather than focusing exclusively on response rates, provides deeper insight into discrimination, which is not always explicit or intentional. Bias can emerge in more subtle ways, such as unwelcoming language or dismissive tones. By incorporating this qualitative approach to sentiment assessment, we achieve a more nuanced understanding of how bias influences interactions beyond the mere act of responding.

²⁵ Netta Barak-Corren examines the impacts of the 2018 Supreme Court decision in *Masterpiece Cakeshop v. Colorado Civil Rights Commission*, 138 S. Ct. 1719 (2018). The decision favored a baker who refused service to a same-sex couple based on his religious beliefs. Using a before-and-after research design, Barak-Corren shows that the decision significantly reduces the willingness of wedding vendors to serve same-sex couples as opposed to opposite-sex couples, even among those vendors who had previously been willing to do so. See Netta Barak-Corren, *Religious Exemptions Increase Discrimination Toward Same-Sex Couples: Evidence from Masterpiece Cakeshop*, 50 J. Legal Stud. 75 (2021).

In a more recent study, Barak-Corren provides further evidence for this phenomenon. She focuses on the 2021 Supreme Court decision in *Fulton v. City of Philadelphia*, 141 S. Ct. 1868 (2021), in which the Court determined that religious foster care agencies could rely on their religious commitments in refusing adoption services to same-sex couples. Although the decision was relatively specific to the facts at hand, it has resulted in substantial behavioral and legal effects beyond its narrow holding. After the decision, foster care agencies became less responsive to same-sex couples, and public support for religious agencies rejecting adoption requests on the basis of their religious beliefs increased. See Netta Barak-Corren & Tamir Berman, *Constitutional Consequences*, 99 N.Y.U. L. Rev. 785 (2024).

III. The Nature of Discrimination in Service Provision

Discrimination in service provision is often subtle and difficult to detect, as it is typically manifested through behaviors such as ignoring requests, delaying responses, or responding with less enthusiasm—often invoking the “I’m too busy” excuse.²⁶ Unlike Lorie Smith’s case, where she openly challenged Colorado’s anti-discrimination law before it had been enforced against her, most service providers do not publicly declare an intent to discriminate. Instead, they may simply fail to respond to service requests, delay their response, express reluctance, or convey negative sentiments when replying to certain customers. Smith’s situation was fundamentally different: she had never refused service to a specific customer, as she had never been asked to design a same-sex wedding website. Instead, she proactively sought a preemptive court ruling, arguing that compliance with the law would compel her to express a message that conflicted with her religious beliefs. She further distinguished herself by publicly drafting a statement explaining her refusal to serve same-sex weddings—framing her stance as one of religious conviction rather than as a case-by-case service decision. This explicit approach contrasts sharply with the more covert, day-to-day discrimination, commonly observed in service industries.²⁷

For most affected individuals, discriminatory practices by service providers—such as web designers refusing requests based on race or sexual orientation—are difficult to prove, and sometimes even to recognize. Unlike employees facing unequal pay or wrongful termination, who can compare their treatment to that of coworkers or rely on direct interactions with their employer, customers lack access to similar points of comparison.²⁸ They typically have no knowledge about how other clients are treated, whether similar requests are being accepted or denied, or what criteria

²⁶ See also Netta Barak-Corren, *Religious Exemptions Increase Discrimination Toward Same-Sex Couples: Evidence from Masterpiece Cakeshop*, 50 J. Legal Stud. 75 (2021) (documenting that service providers disproportionately ignored requests from same-sex couples after the *Masterpiece Cakeshop* decision, effectively denying service without issuing explicit refusals).

²⁷ See Robert Post, *Public Accommodations and the First Amendment: 303 Creative and “Pure Speech”*, 2023 Sup. Ct. Rev. 251, 6 (2024) (explaining that Smith was not an ordinary plaintiff because she sought a preemptive ruling without ever having refused service or been subject to enforcement of the law).

²⁸ See also Devah Pager & Bruce Western, *Identifying Discrimination at Work: The Use of Field Experiments*, 68 J. Soc. Issues 221 (2012) (arguing that field experiments reveal patterns of discrimination that may otherwise go undetected, particularly in hiring and employment, where structural barriers limit individuals’ ability to recognize and challenge unequal treatment).

guide a provider's decisions. This lack of transparency makes it challenging to identify discrimination, let alone take action against it.

Although some instances of discrimination have been identified and challenged in court, many of these cases involve large institutional plaintiffs and defendants, relying on broad statistical evidence rather than individual experiences. For example, in *Bank of America v. City of Miami*,²⁹ the City of Miami sued Bank of America and Wells Fargo for discriminatory mortgage lending practices that led to disproportionate foreclosures in minority communities, reducing property values and tax revenues. Similarly, in *Texas Department of Housing and Community Affairs v. Inclusive Communities Project, Inc.*,³⁰ statistical analysis demonstrated that Texas's housing agency disproportionately allocated tax credits in a manner that reinforced segregation—favoring predominantly Black inner-city neighborhoods while withholding credits from predominantly white suburban areas. These cases relied on systemic evidence rather than individual claims of discrimination.

By contrast, individual customers discriminated against by smaller businesses rarely have the means to detect or challenge unfair treatment. Unlike municipalities or advocacy groups that can use statistical analysis to expose patterns of bias, individual consumers are typically aware only of their own service request and have no formal mechanisms to track or report discrimination. As a result, covert forms of bias—such as ignoring requests, selectively citing unavailability, or offering less favorable service—often go unnoticed and unchallenged, allowing discrimination in service provision to persist largely undetected.

There have been some exceptions in which individual plaintiffs successfully gathered evidence and proved discrimination in court. In *Barfield v. Commerce Bank, N.A.*,³¹ a Black customer, Barfield, attempted to exchange a large bill for smaller denominations at a Kansas bank but was refused on the pretext that he did not hold an account—despite white individuals successfully exchanging bills without issue. To confirm the discriminatory policy, Barfield enlisted a white friend, a white journalist, and his father to conduct similar exchanges, gathering comparative evidence of racial bias.

²⁹ 581 U.S. 189, 193 (2017).

³⁰ 576 U.S. 519, 526 (2015).

³¹ 484 F.3d 1276, 1278 (10th Cir. 2007).

In the context of discrimination against interracial couples by web designers, it is unlikely that service providers like Lorie Smith would explicitly declare their refusal to serve such couples. As a result, it remains uncertain when or how such discrimination will be detected and challenged in court. For this reason, it is particularly important to assess empirically how service providers react to the ruling in *303 Creative*.

IV. Testing for Spillovers: A Field Experiment

We conducted a two-stage field experiment in January 2024 on an online marketplace for freelance services that connects freelancers—such as wedding web designers—to individuals seeking such services.

In the first stage, we primed web designers with one of two conditions: a control condition or the ‘court decision’ condition. In the second stage, we contacted the same designers while presenting as marrying couples and requested assistance in creating a wedding website. The couples varied in their presented race, gender, and sexual orientation, falling into one of three conditions: white heterosexual, white gay men, or interracial heterosexual. The interracial heterosexual couples were presented as white women and Black men.

In the first stage, research assistants compiled a list of 600 web designers from the marketplace by searching within the ‘website development’ category. The RAs then randomly assigned the web designers to the experimental conditions. We sent messages containing information about the court decision through the platform to approximately half of the 600 designers (randomly assigned to the ‘court decision’ condition). The remaining designers were allocated to the control condition and were contacted only later, during the second stage.

The messages were sent from a new account we created, titled ‘Web Designers’ Info.’ Participants in the ‘court decision’ condition received a message in which the *303 Creative* decision was mentioned and concisely explained. To avoid making framing decisions that could mitigate the effects, we opted for a short, straightforward description based on how the decision was described on Wikipedia.

We wrote to designers:

We wanted to bring to your attention a recent legal development that holds significant implications for our industry. On June 30, 2023, the U.S. Supreme Court ruled in the case of *303 Creative LLC v. Elenis*, determining that Colorado lacked the authority to compel Christian website designer Lorie Smith to provide services to LGBTQ+ couples seeking wedding websites. The Court held that Smith's web designs constitute a form of speech, and the state cannot coerce her into creating a design that goes against her personal beliefs.

In their dissent opinion, three Justices expressed the concern that the decision would give private businesses a constitutional right to discriminate against LGBTQ+ clients.

We then explained:

We wanted to share this information with you as it could have an impact on our industry. We believe it's crucial to be aware of legal developments that may shape our professional landscape.

Importantly, the description of the decision only addressed LGBTQ+ couples with no mention of race or interracial couples.

In the second stage, we contacted all 600 web designers through new accounts we opened on the platform (see Appendix I for the experimental materials) with an initial request for the design of a wedding website.

We wrote to designers:

We are eagerly reaching out as we embark on the exciting journey of planning our wedding. In our search for a special touch to our celebration, we came across your work and were captivated by your creative flair. The prospect of collaborating with you on a unique wedding website truly excites us.

We then asked if we could "discuss the possibility of working together and delve into more details" and mentioned that we were keen to hear about the designer's "creative process and, in turn, share insights into our wedding theme and style." We concluded by thanking the designer for their time and said we were "looking forward to the potential of bringing our vision to life with your expertise".

The initiating couples varied only by the presentation of race, gender, and sexual orientation (using different accounts on the platform and different first names in the message). We used first names that are statistically associated with a gender and a race.³²

One-third presented as a white heterosexual couple, one-third presented as white gay men, and one-third presented as an interracial heterosexual couple (a Black man and a white woman). Altogether, we contacted 600 web designers who were randomly allocated to one of the following six conditions (100 designers per condition):

- *303 Creative* decision made salient, a heterosexual white couple
- *303 Creative* decision made salient, a heterosexual interracial couple
- *303 Creative* decision made salient, a gay white couple (men)
- Control, a heterosexual white couple
- Control, a heterosexual interracial couple
- Control, a gay white couple (men)

Research assistants manually collected additional data about the designers, including their perceived race and gender (when available from their photos), and their rating on the platform.³³

V. Proving Dangerous Spillovers: The Dissent Was Right

As explained above, in the second stage we contacted 600 different web designers. Within less than 5 seconds, we received responses from eight of them, which we understood to be automatic

³² We used the following first names in our study: Abigail, Claire, Emily, Hilary, Hunter, Jake, Katelyn, Laurie, Logan, Matthew, Megan, Meredith, Ryan, Sarah, Scott, Seth, Stephanie, Todd, Zachary, Damell, DeAndre, DeShawn, Dustin, Ebony, Jamal, Kareem, KeyShawn, Lamar, Terell, and Tyron. In Table 1A in Appendix I, we present the list of names used with the estimated percentages of individuals perceived as white for each first name, as adopted from Konstantinos Tzioumis, *Demographic Aspects of First Names*, 5 Sci. Data 1 (2018).

³³ The original study design and data collection included three experimental conditions: a control condition, a condition in which the majority decision was briefly described, and a condition in which both the majority and dissenting opinions were briefly presented. One of our initial objectives was to compare the effects of the two latter conditions. However, after data collection, we realized that only the condition describing both the majority and dissenting opinions explicitly stated that discrimination against gay customers was the central issue addressed by the Court. This made it impossible to compare the results between the above conditions. Relatedly, we recognized that it was impossible to isolate the specific effects of the dissent from those of the decision itself. Therefore, in this analysis, we focus on data collected only in two conditions: the control condition and the condition that described the decision and its broader context while also addressing the dissenting opinion. Full results for all three conditions are presented in Appendix II. For the preregistration of the study design and hypotheses, see: https://aspredicted.org/see_one.php (AsPredicted #156330).

messages. Therefore, we removed them from our sample and were left with 591 web designers in our sample.

A. Response Rates

Of these 591 designers, 79.36% (469) responded. Among the 300 web designers in the control group, 87.54% responded, whereas only 71.09% of the 291 in the treatment groups (who received information about the court decision) replied.

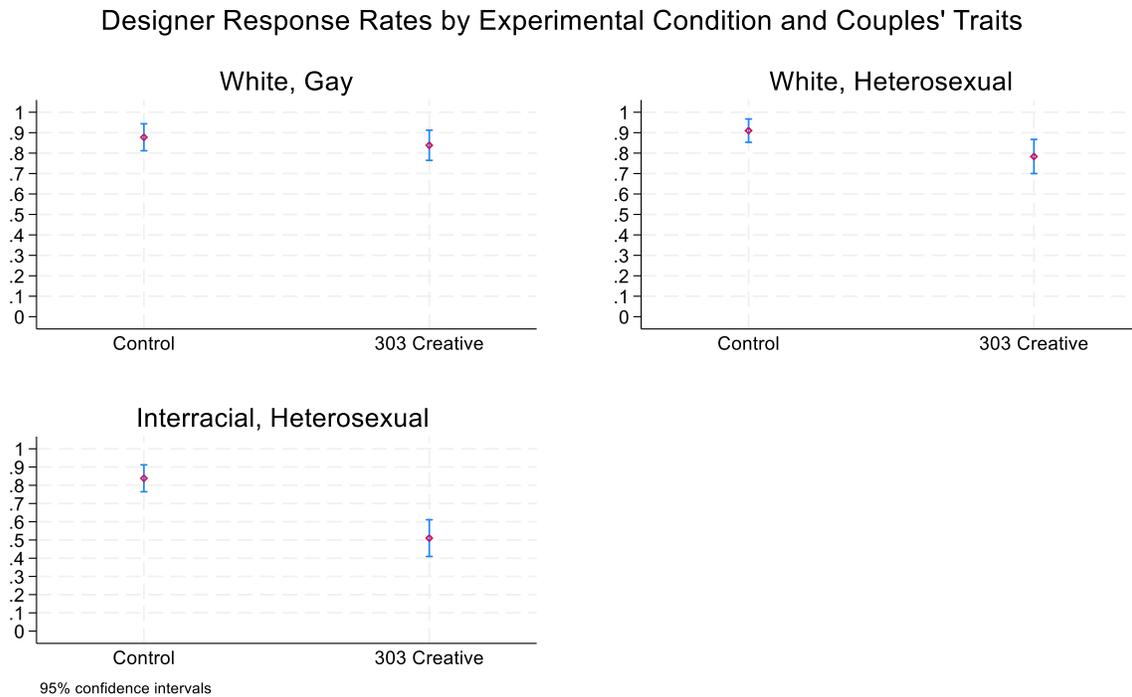
In Table A2 in Appendix I, we describe the sample of designers that were contacted by the couples, and in Table 1, we present the response rates of designers by experimental condition and couples' traits.

Table 1: Designer Response Rates, by Experimental Condition

	<u>Control</u> (N=300)	<u>Court Decision</u> (N=291)
White, heterosexual	0.91	0.78
White, gay men	0.88	0.84
Interracial, heterosexual	0.84	0.51***
Observations=591, p-values for the difference in proportion from the control condition		
*z<0.1, **z<0.05, ***z<0.01		

In Figure 1, we present the same information (the response rates of designers) by experimental condition.

Figure 1



We find that being exposed to information about the ruling in a separate, earlier message resulted in a statistically significant reduction in web designers' response rates to interracial couples requesting their services. In the control group, 84% of designers responded to the couple's request; however, when exposed to the court decision, only about 51% responded ($z < 0.01$).

For white gay couples and white heterosexual couples, the differences in response rates between the two experimental conditions were not statistically significant. Yet, in an LPM regression model (reported below), we find that all couples were penalized when designers were informed about the decision. However, interracial couples faced an additional penalty when designers were made aware of the ruling. This suggests that while the court decision influenced overall responsiveness, interracial couples experienced a further decline in response rates, indicating an additional negative impact.

In Table 2, we present the results of three regression models predicting designers' responses. In all models, the omitted experimental condition is the control condition, and the omitted couple category is a heterosexual white couple.

Model 1 includes only the experimental conditions and couples' traits. Model 2 additionally accounts for the number of customers' reviews of the designers and the average ratings of the designers. Model 3 further controls for the perceived race and gender of designers, where demographic information was available online. Because this demographic data was only available for designers with profile photos, the sample size in Model 3 is significantly smaller.

Table 2: LPM Regression Models Predicting Whether A Designer Responds

	(1)	(2)	(3)
Court decision	-0.126** (0.055)	-0.110** (0.055)	-0.040 (0.078)
Gay, white	-0.032 (0.055)	-0.032 (0.054)	-0.061 (0.080)
Heterosexual, interracial	-0.072 (0.055)	-0.070 (0.054)	-0.070 (0.082)
Court decision X Gay, white	0.087 (0.077)	0.074 (0.077)	-0.009 (0.116)
Court decision X Heterosexual, interracial	-0.202*** (0.077)	-0.217*** (0.077)	-0.243** (0.115)
Designer's Rating		0.020** (0.008)	0.041*** (0.013)
Number of reviews		0.000 (0.000)	0.000 (0.000)
Woman designer			0.021 (0.049)
Non-white designer			-0.032 (0.049)
Constant	0.910*** (0.038)	0.824*** (0.050)	0.745*** (0.080)
R-squared	0.107	0.118	0.129
Adjusted R-squared	0.099	0.108	0.096
Observations	591	591	252
Standard errors in parentheses			
*p<0.1, **p<0.05, ***p<0.01			

In Models 1 and 2, we find that when designers were informed about the court decision in the preliminary message, they were at least 11 percentage-points less likely to reply compared to designers in the control group ($p < 0.05$). In other words, we find that being informed about the ruling reduced responsiveness to all couples, perhaps because designers understood the ruling as providing a license to reject anyone.

Nonetheless we find that interracial couples were additionally penalized. Across all three models, we observe that when couples were presented as interracial heterosexual couples, designers exposed to the court decision in the preliminary message were at least 20 percentage-points less likely to reply compared to designers exposed to the court decision and the couples were presented as white heterosexual couples ($p < 0.01$).

The differences in the effects of being informed about the decision between designers contacted by gay and designers contacted by heterosexual white couples are not statistically significant. We discuss possible explanations for this apparent puzzle in the conclusion section.

Finally, in Model 3, we find that the effects on interracial couples of being informed about the decision remain similar in magnitude and statistical significance even when the model is estimated only on the sample of designers for whom race and gender information was available. We also find that the effects of the race and gender of the designers are statistically non-significant and do not drive the main results we observe. In an unreported analysis, we find that effects of the interactions between the demographic traits of designers and experimental conditions are also statistically non-significant.

Note that the platform collects and publishes information regarding designers' response rates. Thus, designers are incentivized to respond to each and every message they receive from potential clients (even when they are unavailable to provide service). Not replying to clients, therefore, goes against the monetary incentives of designers on the platform.

B. *Sentiment and Unwillingness to Provide Service*

To better understand the effects of being exposed to the court's decision, we now turn to analyze the content of the messages received by designers when they did reply. Altogether, the sample includes 388 messages sent by web designers.

To systematically analyze the content of the messages we received from designers, we utilized OpenAI. We programmed GPT to code each message for sentiments associated with the message. This process was automated using Python in Google Colab. We employed the following prompt:

'This message was received by a web designer in response to a request from a couple who are about to get married. For research purposes, please evaluate the sentiment expressed in this message (on a scale of 1-100, where 100 represents the strongest positive sentiment). Please provide your response as a number.'

This resulted in a sentiment measure with an average of 81.4 and a standard deviation of 17.54.

Unlike traditional sentiment analysis, which relies on predefined lexicons or machine learning models trained to classify emotional tone in text, our approach used GPT to interpret responses based on context. Rather than assigning numerical sentiment scores or categorizing responses strictly as positive, negative, or neutral, GPT provided context-aware assessments that captured shifts in tone.

In Table 3, we provide examples of the different messages received by designers and how GPT coded the sentiments associated with them. We randomly chose five examples that received an average sentiment score of 94-100 (90th percentile) and five that received an average sentiment score below 60 (10th percentile).

Table 3: Messages Received by Designers and the Sentiment Scores Coded by GPT (Examples)

<u>Message</u>	<u>Sentiment score</u>
“Hello Weddingdream202 Thanks for messaging me. I have read through your message so how do you want me to help you on this???”	55
“dont do websites”	10.33
“okay”	45
“Okay what can i help you with?”	51.2
“Is this project available now?”	49
“Hello Sarah and Ryan, Congratulations on your upcoming wedding! I'm thrilled about the possibility of creating a unique wedding website for you. Let's discuss your theme and style preferences. Feel free to share any specific ideas, and we can schedule a time to explore the creative process together. Looking forward to it! Best regards, Alina”	94.67
“Congratulations to you in advance for your wedding ! I'm so excited to get your project done. Are you there so we can discuss further about your project?”	94.33
“Dear Emily and Jake, Thank you for reaching out about your wedding website! I'm so flattered that you've chosen to consider me for this special project. I'm a big believer that a wedding website should reflect the couple's unique personality and style, and I'd love to work with you to create something that truly captures who you are. I appreciate you taking the time to share some information about your wedding theme and style, and I'm excited to discuss the possibilities with you in more detail. I'm available to chat at your convenience, and I'm looking forward to hearing more about your vision.”	95
“Hey Megan and Zachary! What an exciting time of your lives! I am thrilled that you are considering me for creating your dream wedding website.”	94.87

“Hello Laurie and Ryan, Congratulations on your engagement and upcoming wedding! It's a joyous time, and we're truly honored that you're considering us to add a special touch to your celebration with a unique wedding website. We're thrilled about the possibility of collaborating with you. Your vision for a wedding that reflects your personal style and theme is exactly the kind of project we love to immerse ourselves in. Bringing your story to life through a creative and bespoke digital experience is an exciting prospect for us. To dive deeper into your ideas and discuss how we can best serve your needs, we would appreciate it if you could share some initial details about your wedding theme, style, and any specific elements or inspirations you have in mind for your website. This will help us tailor our approach and ensure that our creative process aligns perfectly with your vision. Thank you for reaching out and for considering our services for such a meaningful occasion. We're looking forward to the opportunity to contribute to making your wedding day as beautiful and memorable as you've imagined. Best, Dustin”

Unfortunately, the platform blocked a few of the accounts we created before we downloaded the actual texts we received as responses. As a result, our sample has some missing messages. Specifically, we are left with only 8 messages received from designers in the ‘court decision’ condition that were sent to couples who were presented as gay white men. Therefore, results regarding this experimental condition and type of couples should be treated with caution.

In Table 4, we report the sentiment scores by experimental condition and couple type.

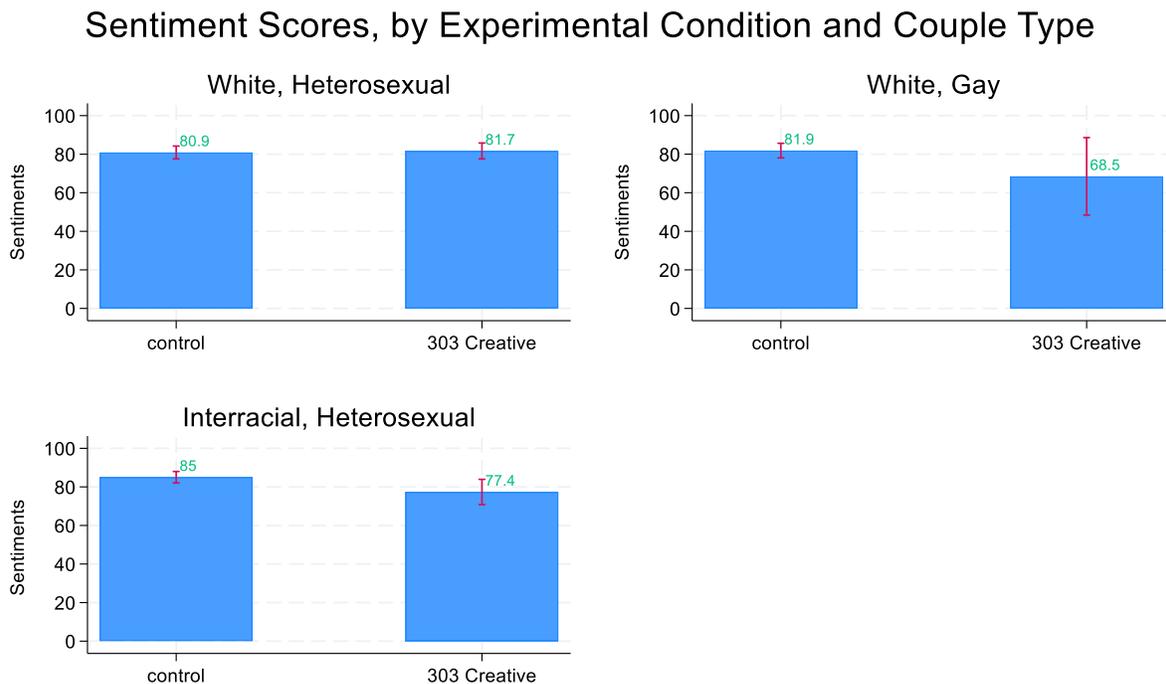
Table 4: Sentiment Scores by Experimental Condition and Couple Type

	<u>Control</u>	<u>Court Decision</u>
White, heterosexual	80.89 (15.89)	81.67 (17.6)
White, gay men	81.86 (17.65)	68.5** (24.04)
Interracial, heterosexual	85.01 (13.46)	77.36** (23.05)

Observations=388, p-values for the difference in proportion from the control condition
 *p<0.1, **p<0.05, ***p<0.01

In figure 2, we present the sentiment scores by experimental condition.

Figure 2



In the *court decision* condition, when designers did reply, both white gay couples and interracial heterosexual couples received messages with significantly less positive sentiment compared to white heterosexual couples ($p < 0.05$).

In Table 4, we present the results of OLS regression models predicting sentiment scores in the messages sent to couples. Similar to Table 2, Model 1 includes only the experimental conditions and couples' traits. Model 2 additionally accounts for the number of reviews and the average ratings of designers. Model 3 further controls for the perceived race and gender of designers, where demographic information was available.

Table 4: OLS Regression Models Predicting Sentiment Scores

	(1)	(2)	(3)
Court decision	0.782 (2.742)	0.524 (2.754)	-1.598 (4.123)
Gay, white	4.123 (2.666)	4.153 (2.668)	2.945 (4.344)
Heterosexual, interracial	4.123 (2.666)	4.153 (2.668)	2.945 (4.344)
Court decision X Gay, white	-14.143** (6.995)	-13.980** (7.007)	0.773 (10.676)
Court decision X Heterosexual, interracial	-8.435** (4.162)	-8.319** (4.169)	-2.214 (6.473)
Designer's Rating		-0.371 (0.468)	-0.986 (0.799)
Number of reviews		-0.002 (0.002)	-0.001 (0.003)
Woman designer			-3.182 (2.837)
Non-white designer			0.291 (2.841)
Constant	80.889***	82.561***	87.176***
Observations	388	388	179
Standard errors in parentheses			
*p<0.1, **p<0.05, ***p<0.01			

We find that gay couples were penalized in terms of sentiment when the court decision was made salient (Models 1 and 2, $p < 0.05$). Likewise, interracial couples were penalized in terms of sentiment when the court decision was made salient (Models 1 and 2, $p < 0.05$). We do not find significant differences in sentiment for white heterosexual couples by experimental condition.

Additionally, in Model 3, adding controls for the perceived race and gender of designers—where demographic information was available—substantially reduces our sample size. As a result, the effects of the experimental conditions become statistically non-significant. The demographic traits themselves also have no statistically significant effect on the sentiments.

Finally, in an unreported analysis, we tested the effects of the experimental conditions on sentiment scores as coded by our research assistants. The differences in sentiment by experimental condition and couple type are similar in magnitude and statistical significance to those obtained when analyzing the sentiment coding generated by GPT.

Note that the analysis of sentiment effects is based on a selected sample—couples who received a response from designers. As shown in Table 2, response rates varied by experimental condition, and interracial couples were the least likely to receive a response to begin with. And yet, even when interracial couples receive a response, they faced a penalty in the sentiment of the messages they received.

Our design raises the question of whether the observed effects should be interpreted as discrimination against interracial couples specifically, rather than as general discrimination against Black couples. Building on the early work by Gaddis (2017), which guided our original choice of names, we empirically tested whether the names we selected function as comparable proxies for race in terms of perceived racial congruence. We were particularly concerned with the congruence of the names chosen to signal being a White woman.

To address this concern, we conducted a short Prolific survey in July 2025 with 100 American participants. Respondents were asked to rate, on a scale from 1–100, the perceived race of each first name we used. Specifically, we explained: “For research purposes, we are studying people’s perceptions of others’ race—specifically, whether they associate certain first names with Black or

White people.” We then asked: “On a scale from 1 to 100, please indicate your perception of each name: 1 = White, 100 = Black.”

The findings indicate that the names we selected are indeed comparable and valid proxies for race in terms of congruence. This suggests that our design did not merely capture discrimination against Black customers, but rather discrimination plausibly operating through the interracial pairing of names. While our study cannot fully rule out the possibility of anti-Black bias, the survey provides stronger evidence that participants at least recognized the couples as mixed. Specifically, names such as *Abigail*, *Claire*, and *Emily* were overwhelmingly perceived as White (mean ratings 13–16), whereas names such as *Darnell*, *DeAndre*, *Jamal*, and *KeyShawn* were overwhelmingly perceived as Black (mean ratings 80–89). A handful of names—especially of White men (e.g., *Dustin* at ~24, *Matthew* at ~21)—fell in a “middle range.” Importantly, however, for the interracial couples in our study, we used names of White women and Black men, and those names were overwhelmingly categorized as intended. Additionally, a statistical analysis of our data confirms that no single name is driving the observed results.

Thus, the overall pattern shows a strong and consistent separation between names perceived as White and those perceived as Black. Accordingly, the likelihood that our findings reflect bias against interracial couples specifically—rather than anti-Black bias more generally—is increased by this validation step (for a similar validation, using a slightly different survey question and list of names, see Gaddis 2017). Even if this interpretation is mistaken, however, the central results of the paper remain: we still find evidence of spillover effects from gay couples to Black individuals, even if not specifically to interracial couples.

Finally, we note that discrimination against interracial couples may still be similar in magnitude to discrimination against Black couples (which we do not directly test in our experiment). We acknowledge this limitation and suggest it as an important avenue for future research.

VI. Discussion

Our findings suggest that being informed about the ruling affected the treatment of all couples: exposure to the ruling increased the likelihood of non-responses to requests from all couples in our field experiment—white heterosexual couples, white gay men, and heterosexual interracial

couples. —perhaps because designers understood the ruling as providing a license to reject anyone. Yet, we find that when designers were informed about the ruling, interracial couples were penalized significantly more than other couples in our experiment in terms of response rate. In our field experiment, whereas 84% of designers responded to a request initiated by an interracial couple when they were not informed about the ruling, only 51% responded when they were informed about the ruling. Moreover, interracial couples faced an additional significant penalty when designers did respond to them; the responses from web designers contained significantly more negative sentiments compared to those received by white heterosexual couples. Like interracial couples, white gay couples received responses that conveyed more negative sentiment than those received by white heterosexual couples when designers were informed about the decision.

Examining sentiment, rather than focusing solely on response rates, is important for two reasons. First, the platform incentivizes all designers to respond, so they have an incentive to reply even when they are unwilling to provide service. However, the tone and content of their messages may reveal their reluctance or at least ambivalence about doing so. Second, prejudice against members of certain groups is not always overt or conscious. It often manifests in subtle ways, such as through less welcoming language or dismissive responses. By analyzing sentiment, we gain a more nuanced understanding of how bias operates in real online market interactions.

Our findings reveal the ways in which discrimination in service provision manifests in routine interactions between service providers and customers. In our study, web designers either ignored service requests or responded with negative sentiments and a lower willingness to provide services. By contrast, Smith's case was fundamentally different. She challenged Colorado's anti-discrimination law before it had ever been enforced against her. She had never been asked to design a same-sex wedding website, nor had she denied service to any specific customer. Instead, she sought a preemptive court ruling in advance, arguing that compliance with the law would force her to express a message that conflicted with her religious beliefs. She further distinguished herself by publicly drafting a statement explaining her refusal to provide services for same-sex weddings, framing her stance as a matter of religious conviction rather than a case-by-case service decision.

Scholars have noted this atypical nature of Smith’s discriminatory behavior and questioned its similarity to real-world service provider behavior.³⁴ Our empirical findings support this critique, highlighting the undetectable ways in which discrimination operates in practice and the challenges to enforcement that might arise even when discrimination is legally prohibited. Unlike Smith, most service providers do not publicly declare an intent to serve only people of a certain race, religion, sexual preference and so on. Instead, they either ignore service requests or respond with negative sentiments and lower willingness to provide services, making enforcement efforts significantly more difficult.

What explains the spillover effect of the *303 Creative* decision on web designers' behavior toward interracial couples? Recall that in our field experiment, the decision was described as only affecting the refusal to provide services to same-sex couples; possible implications for interracial couples were never mentioned.

One possibility is that *303 Creative* was interpreted as removing a previously anticipated penalty for *all* forms of discrimination.³⁵ However, this explanation appears less plausible given our experimental design. The risk of detection in our study was very low, as web designers could simply ignore service requests without facing legal consequences. Additionally, we measured web designers' sentiment and willingness to provide services, both of which are difficult for individual customers to detect.

Another explanation is the expressive effect of *303 Creative*.³⁶ Perhaps the decision signaled a shift in perceived social norms, making service refusal seem more normatively acceptable—not

³⁴ See Hila Keren, *303 Creative v. Elenis: What’s Wrong with Preemptive Litigation of Discrimination?*, SSRN (2023), <https://ssrn.com/abstract=4436350> (arguing that preemptive litigation, as in *303 Creative v. Elenis*, is problematic because it lacks concrete instances of denied service, making it difficult to assess real-world implications for discrimination and allowing businesses to challenge antidiscrimination laws without actual disputes); see also Robert Post, *Public Accommodations and the First Amendment: 303 Creative and “Pure Speech”*, 2023 Sup. Ct. Rev. 251, 6 (2024) (contending that Smith’s behavior was legally and practically distinct from typical service provider discrimination, as she publicly announced her intent to refuse service and framed it as compelled speech rather than an act of bias).

³⁵ See Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. Pol. Econ. 169 (1968) (developing an economic model of crime and deterrence, arguing that individuals weigh expected costs and benefits when deciding whether to engage in unlawful behavior).

³⁶ See, e.g., Richard H. McAdams, *An Attitudinal Theory of Expressive Law*, 79 Or. L. Rev. 339 (2000) (arguing that laws influence behavior not only through deterrence but by expressing societal attitudes that shape individual beliefs).

only in the context of same-sex couples but also in the context of interracial couples. It is possible that the focus on free speech was interpreted by web designers—as dissenting justices and scholars have warned—as granting public accommodations greater latitude to refuse to provide expressive services to all customers, including interracial couples.

In our experiment, the effects—measured in terms of response rates—for white gay couples were significantly smaller than the effects for interracial couples. Relatedly, the effects for white gay men were not significantly different from the effects for white heterosexual interracial couples. One possible explanation is that same-sex marriage and LGBTQ+ rights were central to the *303 Creative* decision, which may have heightened conscious awareness of the social norms against discrimination toward same-sex couples, particularly since both the majority and dissenting opinions were briefly described in the messages to designers. As a result, this awareness restrained the expression of discrimination, consistent with the justification-suppression model, which suggests that social and legal norms can inhibit prejudiced behavior.³⁷ In other words, web designers may have been more attuned to the conflicting social and moral norms—expressed in both the majority and dissenting opinions—regarding service refusals for same-sex couples, leading some of them to avoid discriminatory behavior. In contrast, the social norms against discrimination toward interracial couples, which were peripheral to the decision and were not mentioned in our messages to designers, were less consciously salient, allowing implicit biases to play a larger role in decision-making. As a result, these norms did not restrain the expression of discrimination. Another related possibility is that our brief description of the dissent in the messages sent to designers highlighted the concern that the decision could grant web designers a constitutional right to discriminate against LGBTQ+ clients. As a result of this concern being made salient, discrimination against white gay men was suppressed by web designers whereas discrimination against interracial couples was not.

A second explanation is that the recent increase in same-sex marriages in the U.S. has expanded the market for web designers specializing in wedding websites. The nationwide legalization of

and actions); see also Cass R. Sunstein, *Social Norms and Social Roles*, 96 Colum. L. Rev. 903 (1996) (exploring how legal norms interact with social norms to influence behavior and the roles individuals occupy in society).

³⁷ See Chris Crandall & Amy Eshleman, *A Justification-Suppression Model of the Expression and Experience of Prejudice*, 129 Psychol. Bull. 414, 414–16 (2003) (arguing that prejudice is typically suppressed by social norms and personal beliefs but can emerge when justification weakens suppression mechanisms).

same-sex marriage in *Obergefell v. Hodges*,³⁸ played a crucial role in driving this demand. Relatedly, research have found that same-sex married couples, on average, report higher household incomes than their opposite-sex counterparts,³⁹ positioning them as a financially attractive clientele for businesses in the wedding industry. It is possible that prejudice exists against both groups, and that the differences in socio-economic status of the two groups explain the difference in designers' responses.

Finally, a third possible explanation is that web designers on the platform, at the time of the experiment (January 2024), did not hold biased attitudes against same-sex couples to the same degree as they did against interracial couples. This could be attributed to the successes of the gay rights movement in the United States.⁴⁰ The LGBTQ+ rights movement has achieved significant milestones over the past century, particularly in recent decades. Notable advancements include the decriminalization of homosexual activity,⁴¹ which marked a landmark shift in the legal recognition of LGBTQ+ rights; the ability for LGBTQ+ individuals to serve openly in the military,⁴² signifying a major institutional change; and the nationwide legalization of same-sex marriage,⁴³ representing one of the most critical victories in the fight for LGBTQ+ equality. These legal victories have been accompanied by a broader societal shift toward acceptance and equality for the LGBTQ+ community, including a rapid increase in support for marriage equality since the early 2000s. However, while survey data indicate growing support for LGBTQ+ rights, variations persist across demographic groups, political ideologies, and geographic regions.⁴⁴ This societal shift toward

³⁸ 576 U.S. 644 (2015).

³⁹ Brian Glassman, *Same-Sex Married Couples Have Higher Income than Opposite-Sex Married Couples*, U.S. Census Bureau (Sept. 17, 2020), <https://www.census.gov/library/stories/2020/09/same-sex-married-couples-have-higher-income-than-opposite-sex-married-couples.html> (finding that same-sex married couples, on average, have higher household incomes than opposite-sex married couples).

⁴⁰ Linda R. Hirshman, *Victory: The Triumphant Gay Revolution* (2012) (chronicling the legal and cultural battles of the gay rights movement and its significant advancements).

⁴¹ *Lawrence v. Texas*, 539 U.S. 558 (2003).

⁴² Don't Ask, Don't Tell Repeal Act of 2010, Pub. L. No. 111-321, 124 Stat. 3515 (codified at 10 U.S.C. § 654 (2010)).

⁴³ *Obergefell v. Hodges*, 576 U.S. 644 (2015).

⁴⁴ See, e.g., Amy Adamczyk & Yen-Chiao Liao, *Examining Public Opinion About LGBTQ-Related Issues in the United States and Across Multiple Nations*, 45 Ann. Rev. Soc. 401 (2019) (analyzing trends in public opinion regarding LGBTQ+ rights and identifying factors influencing societal attitudes); see also Andrew R. Flores, *National Trends in Public Opinion Toward LGBT People and Rights in the United States*, Williams Inst. (2014) (examining over 325 national surveys to assess public attitudes toward LGBTQ+ individuals and legal protections); Pew Research Center, *Gender, Family and Marriage: Same-Sex Marriage and Religion*, Pew Rsch. Ctr. (Dec. 17, 2019), <https://www.pewresearch.org/politics/2019/12/17/5-gender-family-and-marriage-same-sex-marriage-and-religion/>

greater acceptance of LGBTQ+ rights might explain why web designers in our study who were informed about the *303 Creative* decision were less likely to discriminate against same-sex couples than interracial couples. Taken together, these possible explanations may account for the smaller measured effect for white gay couples in our experiment compared to the effect for interracial couples. However, future research is needed to determine which of these explanations best explains differences we observed.

Our findings are also a good reminder of how the order in which legal issues are adjudicated can shape how precedent develops, influencing both judicial reasoning and broader societal interpretations of the law. Had the first case to reach the Court involved racial discrimination rather than LGBTQ+ rights, the legal framework for evaluating refusals of service in the context of expressive businesses might have evolved differently. Given the Court's longstanding rejection of race-based discrimination under the Free Exercise Clause (*Newman v. Piggie Park Enterprises, Inc.*,⁴⁵ *Bob Jones University v. United States*⁴⁶), a case centered on interracial couples may have resulted in a stronger reaffirmation of public accommodation laws and a narrower reading of First Amendment exemptions.⁴⁷ This, in turn, could have constrained the legal reasoning used in *303 Creative*, potentially limiting its applicability beyond same-sex couples and religious freedoms. Instead, by deciding *303 Creative* first, the Court established a precedent in which expressive service providers could not be compelled to provide service.

The results of our study reflect a dynamic in which court decisions are interpreted by the actors to whom the law applies. Some web designers understood the ruling as applying to refusals to provide expressive services to interracial couples. Nonetheless, discriminatory behavior in this context—where service providers either ignore service requests or respond with negative sentiments and lower willingness to provide services—is difficult to detect. It is unlikely that service providers—web designers and others—would explicitly declare their refusal to serve interracial couples and other protected minority groups. Therefore, it remains unclear when discrimination against

(examining public opinion on same-sex marriage and religious beliefs, highlighting variations in support across demographic and political groups).

⁴⁵ 390 U.S. 400 (1968).

⁴⁶ 461 U.S. 574 (1983).

⁴⁷ Kenji Yoshino, *Rights of First Refusal*, 137 Harv. L. Rev. 244, 263 (2023).

interracial couples will be detected and addressed in court, leaving questions regarding the applicability of the free speech doctrine to refusals by expressive service providers to interracial couples and other protected minority groups unresolved.

Our study has some limitations. Most notably, because of the field experimental design, we could not exclude from the control condition those who had heard about the decision before the study. Nonetheless, if designers in the control condition were aware of the decision, this would lead to an underestimation of the effects in our experiment. Additionally, although we have collected data on the perceived race and gender of the designers, we could not collect data on the specific location of the designers, and therefore could not account for heterogeneous effects in the responses of designers by location. In addition, we did not study the long-term effects of learning about the decision, a study which is very hard to execute.⁴⁸ Consequently, the results should be interpreted as merely indicative of potential spillover effects of the court decision, rather than as clear proof of their enduring impact.

Our design does not allow us to empirically disentangle the effects of being informed about the majority ruling from being informed about the majority opinion and the dissent. Recall that in the results we report, web designers were exposed to both brief information about the majority opinion and information about the dissent. One possibility is that presenting the opinions of the dissenting justices could mitigate the impact of the majority opinion by highlighting and legitimizing additional viewpoints, thereby decreasing the perceived legitimacy of discrimination. Another possibility is that presenting the dissenting opinions, especially in a polarized society, might exacerbate the effects of the majority opinion by emphasizing the controversy between the majority and dissenting justices and reinforcing existing ideological divisions.

Studies have explored why and when judges dissent, the effects of dissenting opinions on current and future decisions,⁴⁹ and the impact of dissent on public opinion. Previous research has yielded

⁴⁸ See Matthew B. Kugler & Lior Jacob Strahilevitz, *The Myth of Fourth Amendment Scrutiny*, 84 U. Chi. L. Rev. 1747 (2017) (analyzing the impact of *Riley v. California*, 573 U.S. 373 (2014), and finding that while public expectations of privacy briefly increased after the ruling, the effect was minimal and short-lived, suggesting that legal decisions may not produce lasting shifts in public perceptions).

⁴⁹ See, e.g., Lee Epstein, William M. Landes & Richard A. Posner, *Why (and When) Judges Dissent: A Theoretical and Empirical Analysis*, 3 J. Legal Analysis 101 (2011) (analyzing the factors influencing judicial dissents, including ideological diversity, workload, and institutional considerations); see also James L. Gibson, Gregory A. Caldeira & Lester Kenyatta Spence, *Why Do People Accept Public Policies They Oppose? Testing Legitimacy Theory with a*

mixed evidence regarding the influence of dissent on legitimacy and public perception. Some studies have found no effect of dissent on public opinion,⁵⁰ while others suggest that unanimity might bolster support for court decisions.⁵¹ However, recent studies suggest that dissents may enhance the legitimacy of court decisions by reinforcing perceptions of procedural justice.⁵²

Whereas our design does not allow us to address this effect, our findings suggest that being informed about the ruling increased discrimination against interracial couples even when the concerns raised by the dissent—regarding discrimination against LGBTQ+ clients—were made salient. Future research should therefore contribute to this growing body of literature by examining the effects of dissent on the legitimization of discrimination.

Survey-Based Experiment, 58 Pol. Res. Q. 187 (2005) (examining how dissenting judicial opinions affect public acceptance of court rulings and perceptions of judicial legitimacy).

⁵⁰ See, e.g., James L. Gibson, Gregory A. Caldeira & Lester Kenyatta Spence, *Why Do People Accept Public Policies They Oppose? Testing Legitimacy Theory with a Survey-Based Experiment*, 58 Pol. Res. Q. 187 (2005) (finding that judicial dissents do not significantly affect public acceptance of court decisions); Thomas R. Marshall, *The Supreme Court as an Opinion Leader: Court Decisions and the Mass Public*, 15 Am. Pol. Q. 147 (1987) (concluding that unanimity or dissent in Supreme Court decisions has little impact on public opinion); Steven A. Peterson, *Dissent in American Courts*, 43 J. Pol. 412 (1981) (observing that dissenting opinions do not substantially influence public perceptions of judicial legitimacy).

⁵¹ See James R. Zink, James F. Spriggs II & John T. Scott, *Courting the Public: The Influence of Decision Attributes on Individuals' Views of Court Opinions*, 71 J. Pol. 909 (2009) (finding that the unanimity of Supreme Court decisions and adherence to precedent significantly affect public acceptance of court rulings); see also Michael F. Salamone, *Judicial Consensus and Public Opinion: Conditional Response to Supreme Court Majority Size*, 67 Pol. Res. Q. 320 (2014) (finding that unanimous Supreme Court decisions do not uniformly enhance public support, and that the effect of consensus varies depending on individual predispositions).

⁵² See, e.g., Henrik Litleré Bentsen, *Dissent, Legitimacy, and Public Support for Court Decisions: Evidence from a Survey-Based Experiment*, 53 Law & Soc'y Rev. 588 (2019) (demonstrating that judicial dissents do not necessarily diminish public support for court decisions and may, in certain contexts, enhance perceptions of procedural fairness).

Appendix I

Table A1: Estimated Percentage of Individuals Perceived as White by First Name

First Name	Estimated % White
Abigail	91.00%
Claire	89.80%
Emily	88.30%
Hilary	85.50%
Hunter	80.10%
Jake	79.40%
Katelyn	77.20%
Laurie	75.60%
Logan	74.30%
Matthew	72.90%
Megan	71.50%
Meredith	70.20%
Ryan	68.90%
Sarah	67.50%
Scott	66.10%
Seth	64.80%
Stephanie	63.40%
Todd	62.00%
Zachary	60.70%

Damell	15.30%
DeAndre	12.90%

DeShawn	10.50%
Dustin	58.30%
Ebony	8.70%
Jamal	7.40%
Kareem	6.20%
KeyShawn	5.10%
Lamar	4.90%
Terell	3.80%
Tyron	2.70%

Source: Tzioumis (2018)

Table A2: Descriptive statistics

	<u>Mean/S</u> <u>D</u>	<u>N</u>
Response (binary)	0.79	591
Designer's Rating	3.92 (1.98)	591
Number of reviews	49.62 (318.02)	591
Woman designer	0.52	333
Non-white designer	0.45	255
Observations	591	

Materials

First message

Court decision condition:

Hello [Designer's Name],

We hope this message finds you well.

We wanted to bring to your attention a recent legal development that holds significant implications for our industry.

On June 30, 2023, the U.S. Supreme Court ruled in the case of *303 Creative LLC v. Elenis*, determining that Colorado lacked the authority to compel Christian website designer Lorie Smith to provide services to LGBTQ+ couples seeking wedding websites. The Court held that Smith's web designs constitute a form of speech, and the state cannot coerce her into creating a design that goes against her personal beliefs.

In their dissent opinion, three Justices expressed the concern that the decision would give private businesses a constitutional right to discriminate against LGBTQ+ clients.

We wanted to share this information with you as it could have an impact on our industry. We believe it's crucial to be aware of legal developments that may shape our professional landscape.

Best regards,

Web designers' info

Second message

Hello there!

We trust this message finds you well.

We're [Michael and John], eagerly reaching out as we embark on the exciting journey of planning our wedding. In our search for a special touch to our celebration, we came across your work and were captivated by your creative flair.

The prospect of collaborating with you on a unique wedding website truly excites us. Could we please discuss the possibility of working together and delve into more details? We're keen to hear about your creative process and, in turn, share insights into our wedding theme and style.

Thank you for taking the time to consider our inquiry. We're looking forward to the potential of bringing our vision to life with your expertise.

Best regards,

[Michael and John]

Appendix II

In this appendix, we report the results for the three experimental conditions, as originally preregistered. The experiment included three conditions: a control condition (no first message), a *court decision* condition, and a *court decision + dissent* condition.

In the *court decision* condition, designers received the following message:

“We wanted to bring to your attention a recent legal development that holds significant implications for our industry. On June 30, 2023, the U.S. Supreme Court ruled in the case of *303 Creative LLC v. Elenis*, determining that Colorado lacked the authority to compel Christian website designer Lorie Smith to provide services to LGBTQ+ couples seeking wedding websites. The Court held that Smith’s web designs constitute a form of speech, and the state cannot coerce her into creating a design that goes against her personal beliefs.”

We then added:

“We wanted to share this information with you as it could have an impact on our industry. We believe it’s crucial to be aware of legal developments that may shape our professional landscape.”

Designers in the *court decision + dissent* condition received a similar message from the same account. The description of the majority opinion was identical, but the message also included the following description of the dissenting opinion:

“In their dissent, three Justices expressed concern that the decision would give private businesses a constitutional right to discriminate against LGBTQ+ clients.”

Note that both messages referred exclusively to LGBTQ+ couples. Neither the majority nor the dissenting opinions referenced issues related to race or interracial couples.

Importantly, while the *court decision + dissent* condition was identical to the *court decision* condition in its description of the majority opinion, it also included:

1. A description of the dissenting opinion.
2. The use of the term *discrimination* in describing the majority ruling, a term that was absent from the original majority opinion description.

Because of these two differences, we are concerned that comparing the *court decision* and *court decision + dissent* conditions may not be a clean comparison. The *court decision + dissent* condition arguably provides a more complete or interpretive account of the majority opinion, particularly through the framing of the decision as legitimizing “discrimination against LGBTQ+ couples.” We regret this.

In the manuscript, we chose to focus on differences between the *control* condition and the *court decision + dissent* condition, as we believe the description in the latter condition more accurately reflects the implications of the ruling than the *court decision* condition.

Results

Altogether, in the second stage we contacted 900 different web designers. Within less than 5 seconds, we received 15 responses from fifteen of them, which we understood to be automatic messages. Therefore, we removed them from our sample and were left with 885 web designers in our sample.

Of the total contacted designers, 76% (672) responded. Out of the web designers in the control group, 88% have replied. Out of the web designers who received information about the court decision, only 69% replied back, and out of the web designers who received information about the decision and the dissent, 71% have replied.

In Table A3, we report the descriptive statistics for the designers in our sample, and in Table A4, their response rates by condition, and later by the type of couple initiating the request for a website.

Table A3

Descriptive statistics		
	<u>mean/sd</u>	<u>N</u>
Designer's response (Did the designer respond?)	0.759	885
Designer's Rating	3.885 2.011	885
Number of reviews	50.306 278.892	885
Female designer	0.549	567
Non-white designer	0.427	403
Observations	885	

Table A4

Response rates, by experimental condition and type of couple			
	<u>Contorl</u>	<u>Court Decision</u>	<u>Court Decision & Dissent</u>
All couples	0.88	0.69***	0.71***
White, heterosexual	0.91	0.62***	.0.78**
White, gay men	0.88	0.77**	0.84
Interracial, heterosexual	0.84	0.69***	0.51***
Observations=885, , p-values for the difference in proportion from the control condition (Pearson's χ^2)			
*p<0.1, **p<0.05, ***p<0.01			

In figure A1 we present the response rate of designers by experimental condition (n=885).

Figure A1



Across the three types of couples, we found the highest response rates in the control condition. Being exposed to the court decisions in a separate email resulted in a statistically significant reduction in the tendency of web designers to respond to all types of couples. However, for interracial couples, being exposed to both the decision and the dissent led to a significant decrease in the tendency of web designers to respond, compared to being exposed only to the decision. In other words, unlike white heterosexual and gay couples, for interracial couples, having designers exposed to dissent in addition to the majority opinion resulted in a further decline in the designers' tendency to respond. We further analyze the mechanism that might generate this effect of the dissent on the tendency to respond to interracial couples after we discuss the sentiments in the messages received by designers.

These patterns are reflected in the results of OLS regression models predicting whether designers respond. In Table A5, we present the results of six regression models predicting the responses of designers. Models 1 and 2 are estimated on the sample of designers who were addressed by a couple presenting as white heterosexual. Models 3 and 4 are estimated on a sample of couples presented as white gay men. Models 4 and 5 are estimated on a sample of couples presented as

interracial heterosexual couples. In Models 1, 3, and 5, we control for the experimental condition (the omitted condition in the models is the control condition in which no preliminary email was sent to the designers). In Models 2, 4, and 6, we additionally control for designers' ratings on the platform and the number of previous bookings.

Table A5

OLS Regression Models Predicting Whether Designers Responded, by the Traits of Couples and Experimental Conditions						
	(1)	(2)	(3)	(4)	(5)	(6)
	hetero, white	hetero, white	gay, white	gay, white	hetero, interracial	hetero, interracial
Court decision	-0.291*** (0.058)	-0.279*** (0.058)	-0.112** (0.054)	-0.112** (0.054)	-0.152** (0.064)	-0.147** (0.064)
Court decision & dissent	-0.126** (0.058)	-0.111* (0.058)	-0.039 (0.054)	-0.039 (0.054)	-0.328*** (0.064)	-0.322*** (0.064)
Designer's Rating		0.014 (0.011)		0.010 (0.011)		0.013 (0.014)
Number of reviews		0.000 (0.000)		0.000 (0.000)		0.000 (0.000)
Constant	0.910*** (0.040)	0.845*** (0.061)	0.878*** (0.038)	0.837*** (0.059)	0.838*** (0.045)	0.778*** (0.071)
N	294	294	295	295	296	296
Standard errors in parentheses						
* p<0.1, **p<0.05, ***p<0.01						

In Model 1, we find that when couples were presented as white heterosexual, designers who were exposed to the court decision in the preliminary email were 29% less likely to reply compared to the designers in the control group ($p<0.01$). Nonetheless, when designers were exposed to both the decision and the dissent in a preliminary email, they were only 13% less likely to respond compared to designers in the control group ($p<0.5$).

Likewise, in Model 2, we see that when couples were presented as white gay men, designers who were exposed to the court decision in the preliminary email were 11% less likely to reply compared

to the designers in the control group ($p < 0.05$). Nonetheless, being exposed to the court decision and the dissent did not result in statistically significant differences in the tendency of designers to reply compared to designers in the control group. In other words, whereas being exposed to the decision significantly decreased the response rate to couples who were presented as white gay men, being exposed to the court decision together with the dissent did not significantly affect designers compared to not being exposed to the decision at all.

Finally, in Model 3, we find that when couples were presented as interracial heterosexual couples, designers who were exposed to the court decision in the preliminary email were 15% less likely to reply compared to the designers in the control group ($p < 0.05$). However, when designers were exposed to both the decision and the dissent in a preliminary email, they were 33% less likely to respond ($p < 0.01$).

The results estimated in models 2,4 and 6 present similar patterns in terms of magnitude and statistical significance. In Table A7 at the end of this appendix, we estimate similar OLS regression models on the full sample, incorporating interaction terms between the experimental conditions and couples' types. The patterns are similar in terms of magnitude and statistical significance.

Designers' traits

In Table A8 at the end of this appendix, we provide the results of similar regression models predicting whether designers responded, controlling for the perceived gender and race of designers. Because this data is not available for all designers (only when photos were available and coding for presented race and gender was possible), the sample for these models is significantly smaller. Therefore, we compare them in the table to our baseline models estimated only on the sub-sample that includes the observations that include the presented race and gender of designers. We find that the effects of race and gender are statistically non-significant and do not drive the main results we observe. In an unreported analysis, we find that interactions between the demographic traits of designers and experimental conditions are statistically non-significant.

Sentiments

To better understand the effects of being exposed to the decision and the dissent, we now turn to analyze the content of the messages received by designers when they did reply. In other words, we wish to determine whether responses varied in content by the type of couple and experimental

condition. It's important to note that there is an obvious selection bias in the messages in our data. As we reported, when the decision was made salient, fewer designers responded. Moreover, when the dissent was made salient as well, only interracial couples were additionally penalized. In other words, the sample of messages received by couples presented as interracial heterosexual in the 'court decision and dissent' condition, for example, is a sample that excludes the more biased designers who decided not to respond after being exposed to the decision and dissent.

Unfortunately, the platform blocked a few of the accounts we created before we downloaded the actual texts we received as responses. As a result, our sample has some missing messages for the couple presented as gay white couples in the 'court decision and dissent' condition. Specifically, we are left with only 9 messages received from designers in the 'court decision and dissent' condition that were sent to couples who were presented as gay white men. Therefore, we treat results regarding this experimental condition and type of couples with caution.

Altogether, the sample of messages includes the content of 570 messages that were sent by the web designers. In figure A1 we present the number of messages by experimental condition. To systematically analyze the content of the messages we received from designers, we utilized OpenAI. We programmed GPT to code each message for sentiments associated with the message. This process was automated using Python in Google Colab. We employed the following prompt:

- "This message was received by a web designer in response to a request from a couple who are about to get married. For research purposes, please evaluate the sentiment expressed in this message (on a scale of 1-100, where 100 represents the strongest positive sentiment). Please provide your response as a number."

We repeated this process fifteen times, resulting in fifteen slightly different estimates of sentiments for each of the messages in our dataset.

The Cronbach's Alpha for the sentiment measures created by GPT is 0.98. We then calculated the average sentiment for each participant across the 15 responses generated by GPT. This resulted in a sentiment measure with an average of 81 and a standard deviation of 16.

In figure A2, we present the sentiment measure by experimental condition.

Figure A2



Interestingly, although the sample of messages is biased in favor of less biased designers in the 'court decision' and 'court decision and dissent' conditions, the patterns we observe are similar to the patterns observed when we estimated whether designers responded to couples. In table A9, we report the results of OLS regression models predicting the sentiments in the messages sent to couples.

Similar to Table 1, the models are estimated within the type of couple (Models 1 and 2 on a subsample of couples presented as white heterosexual couples, Models 3 and 4 on a subsample of couples presented as white gay men, and Models 5 and 6 on a subsample of couples presented as interracial heterosexual couples). Note that all samples include only observations where messages by designers were received and are not missing for technical reasons (see above). The models control for the experimental condition and for designers' ratings and number of bookings.

Table A9

OLS Regression Models Predicting Positive Sentiments, by the Traits of Designers and Experimental Conditions						
	(1)	(2)	(3)	(4)	(5)	(6)
	<u>hetero, white</u>	<u>hetero, white</u>	<u>gay, white</u>	<u>gay, white</u>	<u>hetero, interracial</u>	<u>hetero, interracial</u>
Court decision	-1.166 (2.518)	-1.570 (2.536)	-6.571** (3.287)	-6.796** (3.306)	-3.866 (2.687)	-4.224 (2.677)
Court decision & dissent	1.041 (2.388)	0.703 (2.407)	-10.142* (6.032)	-10.486* (6.064)	-6.559** (2.917)	-7.029** (2.911)
Designer's Rating		-0.778 (0.497)		0.437 (0.780)		-0.974 (0.617)
Number of reviews		0.000 (0.005)		-0.002 (0.003)		-0.005 (0.004)
Constant	81.246*** (1.616)	84.444*** (2.609)	82.142*** (1.837)	80.704*** (3.578)	84.509*** (1.810)	89.020*** (3.138)
N	229	229	137	137	204	204
Standard errors in parentheses						
* p<0.1, **p<0.05, ***p<0.01						

We find that gay couples were further penalized in terms of sentiments when the court decision was made salient (Models 2 and 3, $p < 0.05$), and that interracial couples were penalized when the court decision and dissent were made salient compared to the control condition ($p < 0.05$). We do not find significant differences in sentiments for white heterosexual couples by experimental condition. Finally, we find that gay couples were penalized when the court decision and dissent were made salient compared to the control condition. However, note that these differences are marginally significant, and recall that the number of messages in the 'court decision and dissent' condition is only 9.

Finally, for robustness, we also asked a research assistant to code the sentiments associated with each and every message sent by the designers (mean=74.39, SD=13.42, range 30-100). In Figure A4 at the end of this appendix, we present the sentiments as coded by our RA by experimental

condition and type of couples. The differences in sentiments by condition and type of couple are similar in magnitude and statistical significance to those obtained when we analyzed the sentiments coding generated by GPT (results of unreported OLS regression models yield similar results to those obtained with the sentiments coding generated by GPT).

OLS Regression Models Predicting Whether Designers Responded, by the Traits of Couples and Experimental Conditions		
	(1)	(2)
Court decision	-0.291*** (0.059)	-0.283*** (0.059)
Gay, white	-0.032 (0.058)	-0.033 (0.058)
Court decision X Gay, white	0.179** (0.083)	0.172** (0.083)
Court decision & dissent	-0.126** (0.059)	-0.115* (0.059)
Court decision & dissent X Gay, white	0.087 (0.083)	0.080 (0.083)
Hetero, interracial	-0.072 (0.058)	-0.071 (0.058)
Court decision X Hetero, interracial	0.140* (0.083)	0.134 (0.083)
Court decision & dissent X Hetero, interracial	-0.202** (0.083)	-0.211** (0.083)
Designer's Rating		0.013* (0.007)
Number of reviews		0.000 (0.000)
_cons	0.910*** (0.041)	0.855*** (0.050)
N	885	885
Standard errors in parentheses		
* p<0.1, **p<0.05, ***p<0.01		

OLS Regression Models Predicting Whether Designers Responded, by the Traits of Designers and Experimental Conditions

	(1)	(2)	(3)	(4)	(5)	(6)
	<u>hetero, white</u>	<u>hetero, white</u>	<u>gay, white</u>	<u>gay, white</u>	<u>hetero, interracial</u>	<u>hetero, interracial</u>
Court decision	-0.301*** (0.083)	-0.313*** (0.084)	-0.064 (0.081)	-0.093 (0.083)	-0.129 (0.092)	-0.132 (0.094)
Court decision & dissent	-0.060 (0.080)	-0.059 (0.081)	-0.040 (0.087)	-0.045 (0.087)	-0.288*** (0.099)	-0.292*** (0.102)
Female designer		0.072 (0.069)		0.068 (0.071)		-0.004 (0.080)
White designer		-0.069 (0.070)		0.087 (0.070)		-0.024 (0.077)
Constant	0.911*** (0.058)	0.919*** (0.079)	0.864*** (0.057)	0.788*** (0.075)	0.846*** (0.072)	0.864*** (0.097)
N	133	133	123	123	142	142
Standard errors in parentheses						
* p<0.1, **p<0.05, ***p<0.01						

Figure A3: number of messages in the dataset

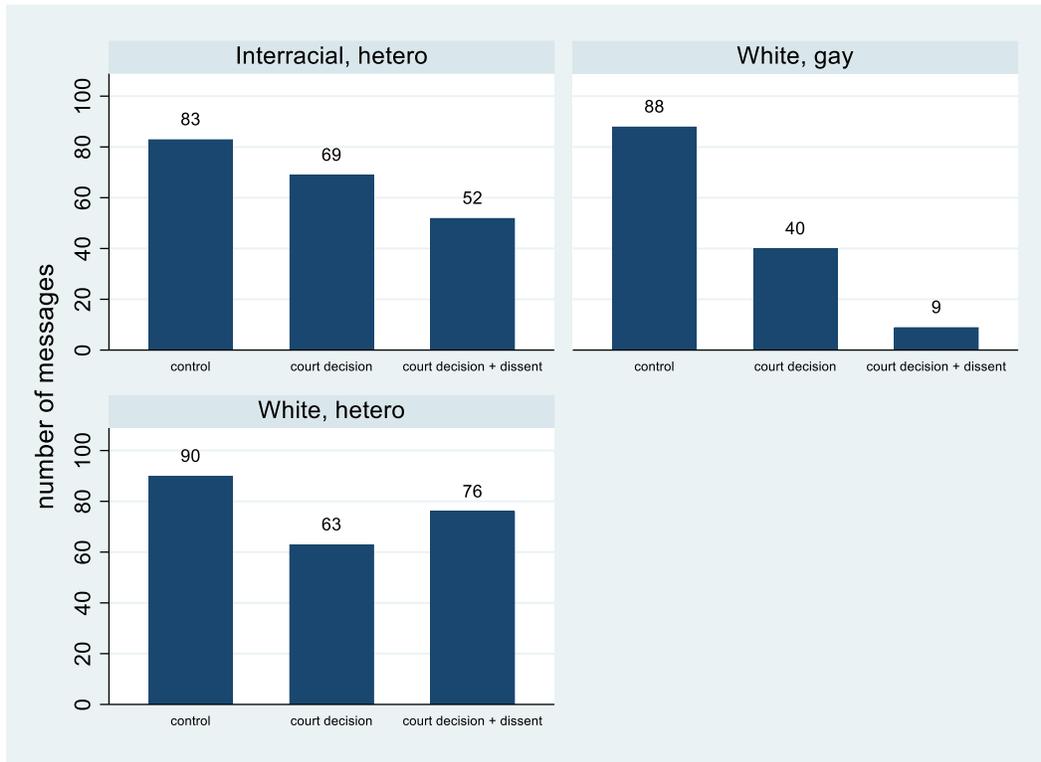


Figure A4: Sentiments (robustness RA coding), by condition

