Abstract
The shooting bias hypothesis aims to explain the disproportionate number of minorities killed by police. We present the evidence mounting in support of the existence of shooting bias and then focus on two dissenting studies. We examine these studies in light of Biddle and Leuschner’s (2015) “inductive risk account of epistemically detrimental dissent” and conclude that, although they meet this account only partially, the studies are in fact epistemically and socially detrimental as they contribute to racism in society and to a social atmosphere that is hostile to science as scholars working on issues of racism come under attack. We emphasize this final point via recourse to Kitcher’s “Millian argument against the freedom of research.”

1 Introduction
On average, three people a day fall victim to fatal police shootings in the US, a disproportionate number when compared to other wealthy nations (Peeples 2019). The killings of Fanta Bility (8), Michael Brown (18), Andre Hill (47), Breonna Taylor (26), Daunte Wright (20), among other African American persons, have recently sparked notable public outrage, giving rise to mass protests, COVID pandemic notwithstanding, and leading to the emergence of social movements, such as Black Lives Matter. Mounting cases of police brutality against Blacks, and in many cases...
even fatal shootings, resonate with the historic racial discrimination that African Americans have suffered in this country. In particular, the idea that racial biases are a driving factor in the fatal shootings, also known as shooting bias, has become a strong hypothesis for explaining the disproportionate number of African Americans killed by police. Recently, however, we have seen the emergence of studies denying the existence of this bias.

In this paper, we aim to show that research questioning the existence of shooting bias is epistemically and socially detrimental. In previous work, we have examined the cases of denialist research on anthropogenic climate change (Biddle & Leuschner, 2015) and gender bias in academia (Leuschner & Fernández Pinto, 2021). However, in contrast to these two clearly denialist cases, the situation regarding shooting bias seems more complex. In order to analyze it adequately, we proceed as follows: In Sect. 2, we first give a brief overview of the mounting evidence in support of the existence of shooting bias among police officers, especially but not exclusively in the US, and then we introduce two studies by James et al., (2016) and Fryer (2019) that question the existence of such bias. Although the authors confirm that there is widespread racism in non-lethal police use of force, they claim that their research could not reveal racial bias in officers’ shooting decisions. They stress their own surprise about this finding and suggest that it could be a consequence of successful shooting trainings the officers are required to pass.\footnote{1}

Yet, while we do not question the authors’ good intentions, we consider the studies highly problematic, as will be pointed out in Sect. 3. The authors make questionable generalizations. Moreover, they present the studies in a way that makes it easy for right-wing groups and media to misuse them. Unsurprisingly, the studies have been embraced and disseminated by powerful right-wing media outlets such as Breitbart and Fox News, and white-supremacist websites such as stormfront.org. Therefore, the studies have been both epistemically and socially detrimental as they have contributed to a social atmosphere in which anti-racist campaigns and scholars working on relevant topics have come under attack (see, e.g., AAUP 2018).

However, the studies differ from those cases of dissent where well-established scientific findings are bluntly denied, as we explain in Sect. 4. In order to make this difference clear, we will apply Biddle and Leuschner’s \textit{Inductive Risk Account of Epistemically Detrimental Dissent} (Biddle & Leuschner, 2015) to this case.

Finally, we consider the normative consequences of this issue by drawing on Kitcher’s \textit{Millian Argument against the Freedom of Research} (Kitcher, 2001, ch. 8). Again, we identify a crucial difference to Kitcher’s case study to the extent that research on shooting bias has epistemically useful potential and, hence, in principle ought to be pursued. Ultimately, the issue is that it seems to be important that findings are interpreted and communicated more carefully than is the case in the given studies.

\footnote{1 Note, however, that there is an important difference with regard to the studies’ acknowledgement of racial bias among police officers more generally. While James et al., (2016) seem rather committed to the idea of police officers being victims (despite acknowledging that their test persons held implicit racial biases), Fryer (2019) firmly stresses daily racism in police actions.}
2 Dissenting studies on shooting bias

The shooting bias hypothesis has become a fundamental explanation for the disproportionate number of minorities killed by police. And, while there has been a dearth of accurate reporting by police departments in the past (Klinger, 2012), in recent years, improvement has been made in the documentation of shooting bias. The accumulated evidence ranges from results of simulation and experimental studies (e.g., Correll et al., 2007; Kahn & Davies, 2017), as well as meta-analysis of such studies (e.g., Mekawi & Bresin, 2015), to analysis of available databases of police shootings (e.g., Ross, 2015), to anecdotal evidence collected through interviews (e.g., Bolton & Feagin, 2004). The hypothesis has been supported even by the conservative FBI homicide report (cf. Lind, 2016). However, a simulation study conducted by James et al., (2016) and an analysis of police reports by Fryer (2019) both claim that they could not reveal any racial bias in officers’ shooting decisions. Thus, they dissent from a very well-confirmed and established consensus on this issue.

2.1 The dissenting simulation study by James et al., (2016)

Lois James and her colleagues Stephen M. James and Bryan J. Vila at Washington State University conducted a study on racial bias in police shootings with 80 police officers in decision-making simulations. Previous simulation studies conducted in university labs unanimously found that police and non-police participants were quicker to “shoot” Black suspects than white suspects.2 “However, after extensive training with the program, in which the race of the suspect was unrelated to the presence of a weapon, the officers were able to eliminate this bias” (Plant & Peruche, 2005, p.180; see also, Correll & Keesee, 2009; Correll et al., 2007; Plant et al., 2005; Sadler et al., 2012). James and her colleagues hold that this type of simulation fails to recreate real world scenarios, though; e.g., they use “shoot” and “don’t shoot” buttons instead of gun triggers. Thus, they claim that the results lack external validity (James et al., 2016, p. 460). Using what they call “state-of-the-art simulators similar to those used by law enforcement agencies in the United States and around the world to conduct deadly force judgment and decision-making training” (p. 461), James et al., (2016) aim to test the shooting bias hypothesis in a better, more realistic simulation, which would count as a proxy for police encounters with armed and unarmed subjects.

The study was published in the peer-reviewed journal Criminology & Public Policy in 2019, titled: “The Reverse Racism Effect: Are Cops More Hesitant to Shoot Black Than White Suspects?” As the title suggests the paper concludes that “…officers were slower to shoot armed Black suspects than armed White suspects, and they were less likely to shoot unarmed Black suspects than unarmed White suspects” (2019, p. 457), even when the police officers tested positive for implicit racial biases in the Implicit Association Test (IAT).

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2 Please note that the simulation studies we are referring to in this paper are lab simulations conducted with real people in simulated settings at universities, which are very different from the computer simulations models that philosophers of science are more used to examine.
2.2 The dissenting empirical study by Fryer (2019)

Economist Roland Fryer conducted another study on the shooting bias hypothesis that was first distributed in 2016 as a working paper by the *National Bureau of Economic Research* (Fryer 2016) and was then published in 2019 in the *Journal of Political Economy* titled “An Empirical Analysis of Racial Differences in Police Use of Force.” Acknowledging the obstacles of conducting this type of study due to lack of data, the study draws on four different data sets: (i) data from New York City Police Department’s Stop, Question, and Frisk program, (ii) the Police-Public Contact Survey (PPCS), (iii) summaries of reports of police weapon discharges from six US cities (Austin, Dallas, Houston, Denver, Seattle, and Jacksonville) and ten counties (nine large Florida counties, and Los Angeles County), from which Fryer and his team generate an “officer involved shooting” (OIS) data set, and (iv) a random sample of arrest reports from the Houston Police Department (Fryer, 2019, pp. 1212–1213). The most comprehensive set of officer-involved shootings data was gained from (iv) (Fryer, 2019, p. 1224). Fryer presents his conclusions as follows:

On nonlethal uses of force, there are racial differences—sometimes quite large—in police use of force, even after accounting for a large set of controls designed to account for important contextual and behavioral factors at the time of the police-civilian interaction. Interestingly, as use of force increases from putting hands on civilians to striking them with a baton, the overall probability of such an incident occurring decreases dramatically, but the racial difference remains roughly constant. Even when officers report that civilians have been compliant and no arrest was made, blacks are 21.2% more likely to endure some form of force in an interaction. Yet, on the most extreme use of force—officer-involved shootings—we are unable to detect any racial differences either in the raw data or when accounting for controls. (Fryer, 2019, p. 1258)

In other words, the study claims that, while there is racial bias in police non-lethal uses of force, this is not the case when the force involves lethal shootings. In *The New York Times*, Fryer calls this “the most surprising result of his career” (Bui & Cox, 2016).

However, it is important to consider the data sets used to reach each respective conclusion. Regarding the non-lethal uses of force, the findings stem from both the PPCS and the analysis of the Stop, Question, and Frisk program from New York City, according to which “blacks and Hispanics are more than 50% more likely to have an interaction with police that involves any use of force” and where it is found that “as the intensity of force increases (…), the probability that any civilian is subjected to such treatment is small, but the racial difference remains surprisingly constant” (p. 1213).

As already indicated, these results on non-lethal uses of force contrast with those on lethal uses and, more specifically, with those on fatal shootings. Results on lethal uses of force are mainly gained from the detailed arrest reports provided by the Houston Police Department:
In stark contrast to nonlethal uses of force, we find that, conditional on a police interaction, there are no racial differences in officer-involved shootings on either the extensive or intensive margin. Using data from Houston—where we have both officer-involved shootings and a randomly chosen set of potential interactions with police in which lethal force may have been justified—we find, after controlling for suspect demographics, officer demographics, encounter characteristics, suspect weapon, and year fixed effects, that blacks are 27.4% less likely to be shot at by police relative to nonblack, non-Hispanics. (Fryer, 2019, p. 1214).

The author then acknowledges that “[t]his coefficient is measured with considerable error and is not statistically significant,” but adds that “[t]his result is remarkably robust across alternative empirical specifications and subsets of the data,” and that even after “[p]artitioning the data in myriad ways, we find no evidence of racial discrimination in officer-involved shootings” (p. 1214).

3 Conceptual and methodological shortcomings of the dissenting studies

The studies by James et al., (2016) and Fryer (2019) have been criticized for several methodological problems that we will now present.

3.1 Shortcomings of James et al., (2016)

Roussell et al., (2017) published a rejoinder to the James et al., (2016) simulation study, highlighting some important methodological critiques. Their main objection is that the study conducted by James and her colleagues shows a “substantive lack of knowledge” regarding race and racism in the US. In particular, they object to James et al.’s claim of reverse racism, clarifying that “reverse racism” refers to the idea that “the Civil Rights Movement not only ended the subordination of communities of color in all aspects of social life but also simultaneously led to a similar subordination of Whites” (p. e6). Moreover, they highlight the use of this term and concept by white supremacists against racial equality. Indeed, the use of this concept in the title of their paper by James et al. alone reflects a lack of understanding of race and racism as well as their role in US society, which Roussell et al. judge to be the main shortcoming of James et al.’s paper.3 Accordingly, they claim that James and her colleagues are confusing prejudice, i.e., individual racial bias, with the more systemic and structural issue of racism.

3 In December 2019, James and her colleagues published a correction of their piece, admitting that: “We did not account for the deeply controversial racial context surrounding the term within race/racism scholarship, and its implication that subordination of communities of color no longer occurs or has been replaced by subordination of whites. In hindsight, our use of the term to describe officers fearing the consequences of being perceived as biased and modifying behavior accordingly would have been better titled ‘The Counter Bias Effect’” (p. 361).
One could argue in favor of James et al. that they were unfortunate in choosing the wrong concept, i.e., “reverse racism,” but that their conclusion still holds, i.e., police officers act as utility-maximizers and avoid shooting Blacks as they are afraid of the consequences that this might have on their careers due to the growing awareness of racism in society. However, Roussell et al. take issue with this possibility as well. According to them, even if police officers are aware of the stigma associated with shooting Blacks, it does not follow that such an awareness plays a role in their decision to fire, especially when “data strongly suggest that police are rarely punished for use of force” (Roussell et al., 2017, p. e8). In addition, the utility-maximizer hypothesis would require officers to reconcile two contradictory but related claims: First, that the decision to shoot is made in milliseconds and, second, that police officers have the time to take political and career matters into account in this extremely short period of time (pp. e8-e9).

Finally, there are still concerns regarding the external validity of simulation studies. Even if James et al. have in fact made important improvements with respect to previous simulations, it is still the case that research participants are aware that they are in a virtual research environment, in which their decisions could still differ from those in real life situations.

Of course, lab simulations are a standard technique in psychological studies on various issues, including implicit bias, and this problem is inherent in all such simulation studies. However, this then gives even more rise to the question of why this regular problem is not addressed sufficiently. Indeed, it is actually somewhat troubling that the technical equipment of the study is praised to such a degree that one can almost forget that these experiments are still just that: simulations. As Terrill (2016, p. 492) notes, conducting such experiments, technical perfection notwithstanding, is “not the same as being in a real-life ‘field’ setting”, also mentioning that an observer effect is a highly likely factor in such a simulation:

Although the authors note [...] that the subjects ‘had no idea suspect race was a factor in the experiment,’ such an assertion is probably somewhat naïve. [...] To think that the officers showed up and participated in a simulator study at a laboratory, as part of a research study with university professors, and did not suspect race was a factor, or even the primary factor being examined, is a stretch. (Terrill, 2016, p. 493)

Furthermore, in reality, the participating police officers from Spokane (WA) had been, on average, “involved in just two shootings per year over the last several years. Thus, the number of shooting scenarios presented in the simulator research and that which is experienced on the street vary widely” (Terrill, 2016, p. 494). Finally, Terrill notes that “the authors have studied a total of just 116 police officers from a single agency in the upper Northwest,” which makes generalizability of the results even more questionable as “results may be completely different if officers from larger urban cities, or smaller rural areas, are studied” (ibid.).

To summarize, James et al.’s (2016) study presents a clear misunderstanding of “reverse racism” and what the concept entails, and fails to acknowledge the limi-
tions of lab simulations, particularly, when conducted in such a small and restricted population.

3.2 Shortcomings of Fryer (2019)

Fryer’s (2019) study also exhibits important shortcomings. The two most problematic are already acknowledged by Fryer himself in 2018, before his study was published: “There are two important fault lines [in my study…]: (i) the endogeneity of police-civilian contact and (ii) the reliability of police department reports” (2018, p. 231).

Point (i) means that it may not be enough to show, as Fryer (2019) aims to, that there is no difference in the number of decisions to shoot Blacks vs. whites in a given police encounter. This is because racial differences could already play a role in the probability of having an interaction with the police in the first place, so that Blacks have a higher prior probability of becoming involved in a—potentially lethal—encounter with the police (Fryer, 2018, p. 231). In fact, Blacks are stopped and frisked for minor misdemeanors more often than whites, while those whites who are stopped, are far more likely to be serious criminals and, therefore more likely to be shot. As already noted, this is also confirmed by the data Fryer received from both the PPCS and the NYC Stop and Frisk program. Consequently,

> finding that the rate at which blacks are shot is comparable to the rate at which whites are shot is not proof of no discrimination but rather of the fact that they’re being discriminated against because arrested blacks were less threatening. We should expect a much lower rate of shooting, not a comparable rate of shooting. (Loury, 2020, p. 242)

With respect to point (ii), as explained in the previous section, Fryer (2019) obtains his conclusion against shooting bias among police officers from arrest reports provided by the Houston Police Department. Given the fact that most of the cities that provided the data for Fryer’s OIS data were a part of the Obama administration’s Police Data Initiative, that the most relevant records were obtained only from one of those departments, and that all data rely on the information that police officers were willing to provide, it is clear that Fryer’s data set is far from a representative account of police shooting behavior in the US. This lack of representativeness of the data becomes even more pressing considering that the Houston Police Department was led by Charles McClelland until 2016. Being an African-American himself, he has explicitly fought against racism in both society and the police:

McClelland received widespread kudos from his officers for his fairness and accessibility, even as he disciplined or fired more officers than his predecessor, Harold Hurtt. (Since 2010, for example, the department has fired 67 officers and disciplined thousands more.) […] “I knew and had felt the pain and discrimination of being a minority growing up and being abused by the police,” said McClelland. “The police were the enforcers of the Jim Crow laws.” (Barned-Smith, 2016).
Thus, in a nutshell, it is not a stretch to suppose that the Houston Police Department, led by chief officer McClelland, is not representative for US police departments on the whole. However, this specific quality of the Houston data is not mentioned by Fryer in his paper (he merely thanks McClelland for discussion and debate in the acknowledgement). This seems especially problematic because the data may actually indicate the effectiveness of an anti-racist policy at police departments. Therefore, taking the specific background of the Houston data into account might lead not only to a more adequate interpretation of the data, but also to a more adequate normative conclusion for policy-making (namely that anti-racist policies at police departments can be effective as demonstrated in Houston).

In sum, Fryer’s study only clearly and explicitly confirms the influence of racial bias within the police force. Just like James et al., (2016), he cannot dispel the well-confirmed consensus that racial bias plays a role in shooting encounters in the US. Thus, neither James et al.’s (2016) simulation study nor Fryer’s (2019) study based on police reports offer any reliable evidence to support the idea that there is no such thing as shooting bias.

In the remainder of the paper, we now discuss whether this makes the studies epistemically and socially problematic and, if so, why.

4 The inductive risk account of Epistemically detrimental dissent (IndRA) and dissenting research on shooting bias

One might assume that dissent, and hence also dissent from the existence of shooting bias, is something that is intrinsically epistemically valuable. Recent work in science studies, however, has revealed some of the limitations of such a one-fits-all view of dissent. In particular, the manufacture of doubt by powerful stakeholders has become a major concern. Studies on the tobacco industry’s manipulation of science (Proctor, 2012), the pharmaceutical industry’s tactics to conceal unfavorable results and play out favorable outcomes (McGarity & Wagner, 2008), the chemical industry’s manipulation of public knowledge of toxic substances and waste (Michaels, 2008), and the denial of climate change (Oreskes & Conway, 2010), all show how economic interests can play a crucial and detrimental role in the organization, development, and public communication of science, and how in many such cases these powerful stakeholders have achieved this through coopting and manipulating the epistemic aims of science (Fernández Pinto, 2017).

How the manufacture of doubt emerged has been documented in science studies, but the issue of why it is epistemically problematic remains unclear (Fernández Pinto, 2015). In order to bridge this gap, Biddle & Leuschner (2015) provide an “inductive risk account of epistemically detrimental dissent” (IndRA), arguing that dissent from a hypothesis $H$ is epistemically detrimental, if each of the following obtains:

1. The non-epistemic consequences of wrongly rejecting $H$ are likely to be severe.
2. The dissenting research constituting the objection violates established conventional standards.
3. The dissenting research involves intolerance of producer risks at the expense of public risks.
4. Producer risks and public risks mainly fall upon different parties.\(^4\) (Biddle & Leuschner, 2015, p.273)

Biddle & Leuschner (2015) initially propose the IndRA conditions by way of analyzing climate change denial. They emphasize that what makes dissent meeting these four criteria epistemically detrimental is that it contributes to a social atmosphere in which doubt is constantly shed on climate scientists’ reputation and their credibility (Oreskes & Conway, 2010, pp. 248–254; Mann 2012; Kitcher 2011). This has epistemically detrimental effects: not only are climate scientists forced to respond to a seemingly endless tirade of unnecessary and unhelpful objections, but they also often fear broaching certain topics and are reluctant to defend hypotheses as forcefully as they would believe to be appropriate (Biddle & Leuschner, 2015; Biddle et al., 2017). Climate scientists have stated that they were not prepared to respond “to such intimidation tactics” when they first entered science (Mann 2012, p.151); that they have become “reluctant to make strong claims about the scientific evidence”; or that they now tend to “err on the side of conservatism” (Oreskes & Conway, 2010, pp. 264–265) preferring to “keep a low profile and go with the flow” (Bradley 2011, p. 137) in order to safeguard against attacks. This has affected the broader field of climate science, not just the individual scientists: climate change and its impacts have been systematically underestimated (Brysse et al., 2013; Freudenburg & Muselli, 2010; Lewandowsky et al. 2015; Leuschner 2018).

Beyond climate change, the IndRA conditions have also proven useful in identifying denialist research as epistemically detrimental in cases of research on social biases. Through an examination of recent studies denying the existence of gender bias in the academy (Ceci & Williams, 2011; Ceci et al., 2014; Williams & Ceci, 2015), we have shown that these investigations meet the four IndRA conditions and, therefore, are prone to producing similarly problematic consequences as in the case of climate change denialism (Leuschner & Fernández Pinto, 2021). They contribute to both widely-shared sexism in society and a social atmosphere that is hostile to science, as scholars investigating gender bias have been attacked (cf. AAUP 2018).

Thus, we wish to examine here whether the studies by James et al. and Fryer that question the existence of shooting bias among police officers also meet the four IndRA conditions and, thus, ought to be considered epistemically detrimental.

\(^4\) Following our work on gender bias in academia (Leuschner & Fernández Pinto, 2021), we avoid the original statistical terminology of “producer and consumer risks” (see, e.g., Pearson 1933), given that there are no clear producers and consumers in the case at hand. Instead, we prefer the more general wording of “risks of making type I and type II errors.” Nomenclature notwithstanding, this is not supposed to hide the fact that the risks of making type I and type II errors are typically borne by different social groups, i.e., they tend to reflect power relations in society. In the case of research on the shooting bias, the risk of making a type I error (i.e., a false positive error) mainly concerns white people, while the risk of making a type II error (i.e., a false negative error) mainly pertains to Black people. We take then that talking about “risks of making type I and type II errors” is a broader terminology than talking about “producer and consumer risks” (for a more detailed explanation, see Leuschner 2018, pp.1257–1258). We thank an anonymous referee of this journal for recommending the clarification of this point.
For the case at hand, we consider the first condition to be clearly met, for the social, ethical, and political consequences of wrongly believing that shooting bias does not exist, when it actually does, are very likely to be severe, e.g., such belief could lead to ignoring or dismissing racial inequalities in the treatment of African Americans by the police and the human suffering that such inequalities entail, and it could impair the implementation of measures examining these problems, bringing them to light, and counteracting them.

The second of the IndRA conditions that the dissenting party violates established conventional standards is also fulfilled, although an important clarification must be made. As we have seen, James et al., (2016) and Fryer (2019) exhibit a number of methodological shortcomings, including non-representativeness (they are based on data from only a few departments, based on major cities, with similar institutional cultures), the ignorance of potential alternative explanations (implicit biases lead to police encounters with Black persons more often than with white persons), and, in the case of James et al.’s simulation study, an observer effect seems likely (i.e., test persons are probably aware that race is a factor in the experiments), and the method of simulations as such seems questionable (as real-life situations present challenges under duress and time constrains not accurately simulated in the lab studies) (Terrill, 2016; Lind, 2016; Roussell et al., 2017). Still, one could maintain that these are merely common methodological choices that, albeit flawed, are not in and of themselves, violations of conventional scientific standards.

Indeed, as de Melo-Martín & Intemann (2018) explain, determining what standard practices in a scientific community are, is not always straightforward. However, following our previous work, we consider that “limiting the scope of a scientific study accurately is a well-established scientific standard, which, if violated, leads others to believe something that has actually not been sufficiently proven in the study” (Leuschner & Fernández Pinto, 2021, 582–583).

Although James et al. and Fryer acknowledge some of the methodological problems in their studies, they exaggerate the strength of their evidence, which makes these studies a case of what Martin Carrier calls “false advertising”: the studies are actually insufficient in investigating the central issue they purportedly address (i.e., the existence of a shooting bias in the US). Instead of a transparent approach, this “incongruity is concealed and glossed over in the interpretation of the results” (Carrier, 2018, 162). James et al. and Fryer present their findings as evidence questioning the existence of shooting bias. Both studies make unwarranted generalizations in their conclusions and present their results in a way that leads others to believe something that has not actually been proven sufficiently in the studies. For this reason, we also consider condition 2 to be met.

However, the case becomes opaque with respect to conditions 3 and 4. The third IndRA condition states that the dissenting research involves intolerance of type I errors at the expense of type II errors, and the fourth condition that risks of type I and type II errors clearly fall upon different parties.

On the one hand, the risks of type I errors are, in this case, thrust particularly upon the police, e.g., to lose public trust, to feel pressured into explaining themselves, to implement costly countermeasures, and to make extensive structural changes in their organization. In the most extreme case, officers could even put themselves in danger
by “holding back or being hesitant in potentially deadly encounters because they are afraid of the consequences”, as James et al. emphasize (2016, p. 20). In addition, type I errors can also contribute to a more general distrust of the police when they are perceived as acting with racist motives. This lack of community support could also put their lives in danger.

Risks of type II errors, on the other hand, target Black citizens in particular in this case, e.g., unnecessary loss of life or lifelong injuries in addition to the suffering this will entail for their families and communities. Furthermore, type II errors can also contribute to reinforcing racism in society, since the use of force might be perceived as justified, although it is actually racist. Therefore, this could perpetuate racism in police violence and beyond.5

This indicates that condition 4 is met. However, there are aspects where this does not hold. Consider, for instance, the most extreme case as stressed by James et al., if officers were to put themselves in danger by becoming overly hesitant to shoot, even in dangerous situations. This would have negative consequences for them, independent of whether the shooting bias exists or not. Thus, we suggest that, by and large, condition 4 holds, although this is not a clear-cut issue.

As for condition 3, the situation is even more complicated because both studies acknowledge that the officers, as a rule, hold racial biases that influence their decisions in non-lethal actions. Fryer even stresses the impact that such racism has on society. For instance, in his conclusion, he states:

Much more troubling, because of their frequency and potential impact on minority belief formation, is the possibility that racial differences in police use of nonlethal force have spillovers on myriad dimensions of racial inequality. If, for instance, blacks use their lived experience with police as evidence that the world is discriminatory, then it is easy to understand why black youths invest less in human capital or black adults are more likely to believe that discrimination is an important determinant of economic outcomes. Black Dignity Matters. (Fryer, 2019, p. 1259)

Thus, we wish to stress that the authors of the dissenting studies, and Fryer in particular, acknowledge both the negative impact of racial bias in police use of force and, to some degree, also the methodological limitations of their study designs. Nevertheless, the authors arrive at unwarranted contrarian conclusions regarding the existence of shooting bias on the basis of false advertising. This indicates that, with respect to shooting bias, they do in fact prefer type II over type I errors.

In sum, conditions 1 and 2 of the IndRA hold for the given case, but conditions 3 and 4 only partially. This indicates that the case differs from cases of epistemically detrimental dissent we have investigated more recently, such as denial of anthropogenic climate change (Biddle & Leuschner, 2015; Biddle et al., 2017; Leuschner, 2018) or gender bias denial (Leuschner & Fernández Pinto, 2021). James et al. and Fryer do not bluntly deny that racism is widespread among police officers. Moreover,

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5 We thank an anonymous referee for supplementing our list of potential consequences of type I and type II errors for the police force and the Black community respectively.
by pointing to the methodological problems of their studies they also concede that their findings are certainly not the end of the story.

Still, in overinterpreting their findings with respect to the shooting bias, they are guilty of “false advertising”. This makes the studies epistemically problematic as they contribute to a social atmosphere in which scientists investigating racism in society come under attack (AAUP 2018; Boytchev, 2021; Brooks, 2021). Moreover, they are socially problematic as they impede (or at least serve as a pretext to delay) policies that might help to overcome shooting bias. As long as studies keep being produced on both sides of the spectrum, leading to the impression that the controversy is alive and well, policies to counteract shooting bias are less likely to be implemented and are more easily marginalized.

The public impression that there is such a controversy is fostered by the disproportionate media attention that the studies received. James and her colleagues received headlines in venues such as The Washington Post with the article “This study found race matters in police shootings, but the results may surprise you” (Jackman, 2016), and Police 1 (an online platform to deliver information relevant to law enforcement), with the piece “New Washington State University study: Even tired cops are more hesitant to shoot black suspects” (The Force Science Institute 2016). Fryer garnered even more media attention, as many outlets were highly attracted to the fact that an African American economist at Harvard was questioning the existence of shooting bias. The Washington Post starts its article by pointing out:

Roland Fryer Jr. never cared much for the cops. When he was growing up, his family dealt crack in Daytona Beach, Fla., and while Fryer was on his way to becoming a celebrated economist at Harvard University, many of his cousins and closest friends were serving mandatory sentences in prison. During his childhood, encounters with police were fraught with danger. (Ehrenfreund & Guo, 2016)

The New York Times stresses that Fryer is “the youngest African-American to receive tenure at Harvard and the first to win a John Bates Clark medal, a prize given to the most promising American economist under 40” (Bui & Cox, 2016), and the right-wing media outlet Breitbart published an article entitled “Black Harvard Economist Finds No Bias Against Blacks in Police Shootings” (Ciccotta, 2016). All media, traditional and right-wing alike, emphasized the fact that Fryer is African American as a boost to the credibility of his findings—which is particularly ironic given the fact that being Black is otherwise very often treated as if it were an indicator of scientific incompetence (Muhs et al., 2012; PEW 2018). Also, it is important to note that in all of these cases the pieces came out as soon as the working draft of Fryer’s study was made public in 2016, before it had even been peer reviewed.

The enthusiasm with which these studies were embraced, not only in the media but also in social networks, strongly suggests that they supported already entrenched racist beliefs in the general public. This poses the question of what the authors could have done in order to avoid this unwelcome reception. Should they categorically avoid addressing such sensitive topics? With respect to this question, one may be
inclined to think that Kitcher’s “Millian argument against the freedom of research” could be helpful here.

5 Kitcher’s “Millian argument” applied to dissenting research on shooting bias

Drawing upon John Stuart Mill’s arguments for the freedom of expression in the second chapter of his famous work On Liberty (1859), Kitcher (2001, ch. 8) proposes an interesting argument concerning the limits of freedom in scientific inquiry:

To take seriously Mill’s point that the freedom to which we aspire is the freedom to define and pursue our own vision of the good is to recognize the possibility that the unconstrained pursuit of inquiry might sometimes interfere with the most important kind of freedom, at least for some members of society. So we can envisage a Millian argument against freedom of inquiry, one that proceeds by trying to show that certain types of research would be likely to undermine a more fundamental freedom. (Kitcher, 2001, p.95)

As a case study, Kitcher chooses research testing egalitarian hypotheses, such as research on biological, sex and racial differences in cognitive capabilities. Kitcher identifies different epistemic and political asymmetries present in our society with respect to egalitarian hypotheses and claims that such asymmetries render confirming evidence easily acceptable, even when the evidence is weak. Conversely, contradictory evidence is easily dismissible, even when the evidence is strong. Furthermore, confirmatory evidence would only exacerbate extant social biases, worsening the already difficult situation of historically marginalized groups.

If all these conditions are met, there’s a significant probability that the antiegalitarian hypothesis will be taken to be extremely well supported, even though the evidence leaves the issue open with consequent harm to the underprivileged […] If we shouldn’t engage in ventures that can be expected to decrease the well-being of those who are already worse off than other members of society, we should therefore refrain from engaging in [such an area of scholarly research]. (Kitcher, 2001, p.98)

However, the situation seems to be, once again, different in the shooting bias case. Only one of the political and epistemic asymmetries in society described by Kitcher can be found. The impact of pursuing research trying to undermine the shooting bias hypothesis ($H_{sb}$) is politically asymmetrical insofar as:

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6 According to Kitcher, epistemic and political asymmetries can be found in a society when “there are sufficiently powerful inclinations to [support the critique], held by sufficiently powerful people” (2001, p.102), so that criticism, even when flawed, is rapidly embraced, and supported by powerful parties and society at large with negative social consequences (see also Leuschner & Fernández Pinto 2021, p. 586).
If belief in $\sim H_{sb}$ becomes widespread, then the quality of the lives of African Americans will be further reduced through the withdrawal of existing programs of social aid, bias training, etc., partly due to public belief in $\sim H_{sb}$.\(^7\)

In contrast to research on biological differences in cognitive capabilities, there seems to be consensus within society that shooting bias exists, consensus that has grown and intensified through social movements such as BLM, and that also finds its expression in political reforms such as the NY Eric Garner Anti-Chokehold Act, which states that “a police officer who injures or kills somebody through the use of ‘a chokehold or similar restraint’ can be charged with a class C felony, punishable by up to 15 years in prison” (Freiman, 2020). This means that, unlike in Kitcher’s case, it does not seem to be probable that scholarly findings questioning the existence of shooting bias will garner broader public acceptance than any such findings confirming its existence.

Consequently, we also come to a different conclusion in our case than Kitcher in his case with respect to the normative consequences to be drawn. While Kitcher, regarding the case study on cognitive differences, concludes that such research ought not to be pursued, we do not conclude the same for research on shooting bias. However, given that racism is still widespread in our societies, research that questions the existence of shooting bias is detrimental to the most vulnerable members of society in a similar way to which Kitcher has shown that research on cognitive sex and racial differences is detrimental to the most vulnerable. Researchers, therefore, have a special responsibility to make sure that they do not overinterpret their findings and/or communicate their findings in a way that leads others to believe that there could be scholarly evidence against the shooting bias, while this is in fact not the case. This is “false advertising”, as explained above, which is particularly problematic if there are powerful parties in society who have a vested interest in the “advertised” result. The way in which James et al. in particular, but also Fryer have presented their findings has made it easy for right-wing parties to misuse the studies in order to advance their agenda, and it has undergirded conditions that hinder reforms.

James et al. should clearly have been more careful in interpreting their findings, firstly by avoiding the concept of “reverse racism” and, furthermore, by taking the methodological limitations of their simulations seriously. Fryer, again, could have easily limited himself to the conclusion that, although the Houston data set does not indicate shooting bias, this finding is not overly surprising given that the responsible chief officer in Houston had vigorously opposed racism—instead of stating that the data does not indicate a shooting bias and exclaiming that this was “the most surprising result of his career.” Had he done so, his study would, of course, have not been overly “surprising”, but rather another study indicating the efficacy of serious anti-racism measures within police departments.

\(^7\) This corresponds to Kitcher’s political asymmetry (b) according to his taxonomy (2001, p. 97).
6 Concluding remarks

The understanding that dissent is epistemically beneficial has a long philosophical tradition, from Milton over Locke to Mill (Wilholt, 2012, ch. 3) and, correspondingly, philosophers of science have valued the insight of the important role that dissent plays in scientific advancement (e.g., Popper 1934; Kitcher, 1993). Moreover, many philosophers of science have argued that social diversity within scientific communities is epistemically valuable as it leads, again, to a broader range of criticism and dissent (e.g., de Melo-Martín & Intemann 2018; Harding, 1986; Haraway 1989; Longino 1990, 2002; Nelson, 1993; Solomon, 2001; Rolin, 2002). However, there are limitations to this epistemic benefit of dissent in science. In particular, the denial of well-established scientific and scholarly facts can come with epistemic and social costs when epistemic and political asymmetries are exacerbated, and the authority and reputation of scientists and scholars come under attack. In recent work, we have contributed to show how this has indeed occurred in the cases of denialist research on anthropogenic climate change (Biddle & Leuschner, 2015) and gender bias in academia (Leuschner & Fernández Pinto, 2021). In this paper, we aimed to show the epistemic and social shortcomings of dissenting research on shooting bias. In this way, we consider that it is important to qualify our understanding of epistemic diversity and its benefits.

While we certainly concede that epistemic diversity can be an asset to scientific research, we have argued that in some cases it can be warranted to exclude certain ideas from the exchange of opinions. We have examined two studies that question the existence of shooting bias and argued that (1) these studies suffer from some methodological shortcomings. However, by applying Biddle and Leuschner’s “inductive risk account of epistemically detrimental dissent” (IndRA) to these studies we have shown that, in contrast to other cases of science denial such as climate change denial (Leuschner, 2018) or denialist research of gender bias in academia (Leuschner & Fernández Pinto, 2021), this dissenting research on shooting bias meets only two of the four IndRA conditions (conditions 3 and 4 are only partially fulfilled), meaning that the authors do not bluntly deny racism in police use of force. On the contrary, they admit that officers tend to hold implicit racial biases (James et al., 2016) and that non-lethal police use of force is rife with racial bias (Fryer, 2019). They merely question that such bias, although widespread, plays a role when it comes to police officers’ shooting decisions. However, this conclusion is not justified given the methodological problems of the studies. By disseminating that their research has produced evidence against the existence of shooting bias, the authors have made themselves guilty of “false advertising” (Carrier, 2018). Consequently, their work has undergirded the idea in public that it is unclear whether there is such a thing as shooting bias, and it has allowed right-wing parties to invoke the studies in order to support their positions and push their agendas. Thus, these studies are not only socially but also epistemically problematic as they contribute to a social atmosphere that tends to be hostile to both anti-racist endeavors in society and critical race approaches in science.

With recourse to Kitcher’s “Millian argument against the freedom of research”, we have finally argued that there is political asymmetry in this case, adding further support to our conclusion, as this impairs the implementation of policies to counteract
shooting bias. Therefore, researchers investigating this problem should be particularly careful in how they interpret and communicate their findings, if they wish to avoid their work becoming misappropriated by right-wing stakeholders and other parties that seek to hinder anti-racist social reforms.

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Declarations

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