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LETTER TO THE EDITOR

Authors' Response to Peterson et al Commentary on

See Original Dror et al Article [here](#)

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See Authors' Response to Peterson et al Response [here](#)

Editor,

The issues raised in this Letter are important, but some are misguided and inaccurate, while others misrepresent our paper—we respond to all their four criticisms, one by one.

First, they state in their Letter that the “worst error made by the authors, is the statement, unattributed and untrue, that caretaker relationships are ‘medically irrelevant.’”

1. Statistics and how stereotypes drive the statistical data are not the main issue at hand. The critical issue is what information is appropriate to use when deciding manner of death. We do not dispute that police investigators, prosecutors, jurors or judges rely on such contextual information, and our paper further explicitly acknowledges that “It is important to note that nonmedical contextual information may not only be considered when determining the manner of death, but in fact, must be considered. By its very nature of being a circumstantial explanation, the manner of death is dependent on the investigation, which provides the circumstances surrounding the death.”

Our main point is that all else (e.g., injuries, case details) being identical, it is in our view wrong, unacceptable and biased to determine that the death of a child in an equivocal case was homicide or accident purely by the nonmedical irrelevant information of who the caregiver was. Concluding that an individual case was a homicide because the risk to a child based on contextual data gleaned from large groups is a known bias: the ecological fallacy (“The central problem, known as the ‘ecological fallacy’, results from making a casual inference about individual phenomena on the basis of observation of groups” p. 1339 [1]).

The question asked of each participant in the survey was not whether boyfriends are generally more likely to kill children than grandmothers, but whether given equivocal medical information, this *individual* boyfriend or grandmother killed this *individual* child or the child died as the result of an accident. This Letter defends the misapplication of contextual group statistics to an individual case, which is a logical fallacy. We are encouraged that a bit more than half of the participants in our second dataset (58%, 78 out of 133) concluded neither homicide nor death, but undetermined.

2. Regarding the statistics about who is more likely to abuse and murder a child, we note that some of the statements in the Letter are misleading. For example, they claim that according to a 1985 study “preschoolers living with one natural and one stepparent were 40 times more likely to be abused”—but the statistical data clearly also show that “biological parents remain the largest group of filicidal perpetrators” [2], that only 8% of filicides are committed by the stepparent and the other 92% are actually committed by the biological parent (see Table 1 in Ref. [2])—similar data appears in other dataset (e.g., [3]), and there are other datasets with various statistics.

The role of stereotypes in creating bias in this area is also problematic. Consistently “research has indicated the existence of racial and class disparities in child welfare contacts, finding that a child’s injuries are more likely to be reported as resulting from abuse when the child is either (a) Black rather than of any other race or (b) from a lower versus higher social class” [4].

Furthermore, the statistical data about nonbiological caregivers, whatever it shows, may be a result of self-perpetuating bias. We explain this in our paper: “[B]ase-rate expectation creates an a priori cognitive bias to rule that Black children died as a result of homicide, which then perpetuates itself” [5].

An analogous self-perpetuating bias is the policing of Black people. Police suspect that Black people are more likely to have drugs or carry guns because proportionally more Black people are convicted of and serving time for such offenses. Hence, police stop and search Black people more often. As a result, Black people are therefore more often arrested, convicted, and incarcerated for firearm and drug offenses—precisely *because* police stop and search Black people more often. As this cycle of bias repeats and feeds itself, the bias perpetuates and gets stronger—a phenomenon known as the *bias snowball effect* [6].

3. Furthermore, our paper [5] clearly and repeatedly states that “The point is that there needs to be a discussion about how to deal with these issues, rather than just falling into the bias blind spot and dismissing the entire issue under the false belief and pretense that bias does not exist” and we state that “Rather than denying the existence of bias, there needs to be a cognitively informed discussion on what (as well as how and when) contextual information should be appropriately used in forensic pathology decision-making. Our concerns about cognitive bias in forensic pathology decision-making do not call for removing all contextual information, nor do we claim that context cannot be (and is often) important and relevant” [5].



Therefore, we welcome the discussion raised by this Letter-to-the-Editor about whether such information (e.g., who the caregiver was) should or should not be used in determining the manner of death. This is a legitimate point and an important discussion to have—but to shut down this discussion by calling for our article to “be retracted” is antithetical to this goal. Remember that our paper presents the first data to examine bias in forensic pathology decision-making, and as we clearly stated, “Our two data sets are the first step in examining biases in postmortem decision-making, and they do not answer all the questions.”

Second, the Letter states that “the focus on race in this article moves the construction of the study from inexplicable to absurd.”

1. In the first dataset presented in our paper [5], which included over 1000 real cases of child death, ignored by the Letter, the analysis showed differences in manner of death determination of White vs. Black children per se.
2. In the second set of data from our experimental study, the research question was whether forensic pathology decisions were biased by nonmedical and irrelevant contextual information in general, *not* race specifically. We say this clearly, and repeatedly, in our paper (e.g., “The data do not allow us to ascertain whether they were biased by the race of the child or/and characteristics of the caretaker” and also we further state that “The degree and the detailed nature of these biasing effects require further research, but establishing biases in forensic pathology decision-making—the first study to do so—is not diminished by the potential limitation of not knowing which specific irrelevant information biased them (the race of the child, or/and the nature of the caretaker).” Hence, we are perplexed by the Letter stating incorrectly that “These authors essentially conflated caretaker relationship and race to provide themselves with an opportunity of making accusations of race bias,” when in fact we included numerous statements that do precisely the opposite [5].

Third, the Letter states that when it comes to forensic pathology decisions, “there is no ‘right’ answer in many manner determinations, and that the goal is consistency” and further states that our paper “is instead a criticism of misuse of manner determination by the courts.” These points in the Letter are very interesting, important, and raise serious questions. Are forensic pathology decisions misused by the court (at least partially) because of a lack of transparency? Or perhaps because many of those who make determinations work closely with law enforcement and prosecutors, and see their role as supporting them rather than providing an independent judgment [7]? Would this misuse be drastically reduced if manner of death decisions, reports and testimony in court were made more transparent by clarifying that—as the Letter states—“there is no ‘right’ answer”? Or, maybe forensic pathology decisions, reports and testimony should be limited to cause of death only? These are important issues to discuss and potentially address, and if our paper puts them on the table, then it has helped to make a step forward in improving the current state of affairs.

We do strongly dispute the assertion in the Letter that “the goal is consistency.” We believe the goal is to get the right answer, the truth. Consistency should not be confused with correctness or truth [8,9]. There is nothing worse than defending a systematic error because it is “consistent” [10].

Fourth, the Letter raises a number of additional issues:

1. The Letter states that “The National Association of Medical Examiners has in place a procedure for providing contact information for surveys such as this in order to make sure that the sampling is complete and unbiased. Rather than go through this simple procedure, the authors bypassed it in order to contact a selected subset of NAME membership.” This statement is incorrect.

NAME has previously refused to distribute a survey on bias to its members. The lead author approached NAME in the past to conduct a simple survey—not even asking participants to make manner of death decisions, but just about their views on bias and what information they think should be used in their decision-making processes (studies which have been carried out in many other forensic domains)—but this request was not approved. Therefore, the Letter’s statement that NAME “provid[es] contact information for surveys such as this” is simply untrue.

As we note in our paper, there has been resistance to confronting the issue of bias in forensic pathology decision-making—and this has become even more evident through how the forensic pathology community has responded to our paper, including this very Letter-to-the-Editor—and we could cite many more examples of this systemic resistance in other unpublished responses that we have received. This has unfortunately been the customary response to any examination of possible errors or bias in forensic pathology—not only our paper, but also, for example, the negative responses to having second autopsies. Examining if and when bias or error may occur should be welcomed and encouraged.

2. The Letter states that “Factors such as practice location, experience, and even office policy influence manner determination; none of these factors were delineated in this paper. In a paper purporting to describe the behavior of forensic pathologists, the authors do not know how many respondents were actually board-certified forensic pathologists.”

These are all good points (and we respond to them in other parts of our Response to this Letter, and in our Responses to other Letters—to avoid repetition, we refer the readers to those sections). The point we want to emphasize is that this is the first paper on this issue, and surely it has some weaknesses and limitations. We acknowledge these here in our Response, as well as in our paper (e.g., “Our two data sets are the first step in examining biases in postmortem decision-making, and they do not answer all the questions” [4]). In stark contrast to other forensic disciplines, the issue of bias has not been

studied and researched in forensic pathology, and it is about time such research takes place.

3. The Letter states that "The authors promote the use of linear sequential unmasking to hide information from the forensic pathologist through a theoretically unbiased system of outside experts. However, the fact that the authors promote this structurally biased and agenda-driven study as an example of unbiased science is itself an argument against the establishment of such gatekeepers."

However, that is not what the paper actually says [5]. Our paper states: "the forensic pathology community must explore and adopt procedures that minimize bias. Procedures such as linear sequential unmasking (LSU)" (emphasis added). We also state in our paper that "The forensic pathology community should *consider* LSU approaches for context management (as well as *compartmentalization* and *case managers*) in forensic pathology" (emphases added) [5].

Hence, our paper only calls for the forensic pathology community to "explore" and "consider" procedures to minimize bias in their decision-making. No one is calling to "hide" any information that should be relevant to forensic pathology decisions or adopt linear sequential unmasking (LSU) as the only solution. To be clear, our paper calls for a long-overdue discussion about what information should and should not be used in forensic pathology decisions, and a collective recognition that cognitive bias occurs in forensic pathology decision-making—as it can in any decision-making task. Forensic pathologists must acknowledge these biases as a prerequisite to identifying effective and pragmatic measures with potential to reduce bias.

4. The Letter ends up stating that "This study represents an abject failure of the peer review process at the Journal of Forensic Sciences." The authors [5] have published 100s of articles in dozens of journals, and can share that this article [5] has gone through a very rigorous review process—in fact, it was especially stringent.

To conclude, much of the forensic science community already recognizes the issue of cognitive bias in forensic decision-making (71% feel bias is a cause for concern [11]). When such biases were initially revealed via research in fingerprinting and DNA decision-making, there was resistance. However, when analysts started to debate and examine these issues, when discussions took place, when people were able to learn from the studies (all of which had weaknesses and limitations, as all studies do), then the practitioners themselves developed systems to minimize bias, and their forensic domains only became stronger as a result (e.g., [12]).

We can only hope that the forensic pathology community joins the rest of forensic science, medical diagnosis, and other expert domains—all of which acknowledge the potential for bias to impact their decision-making. "Acknowledging that bias can influence forensic science experts would be a substantial step toward implementing countermeasures that could greatly improve forensic evidence and the fair administration of justice" [6].

These improvements can only occur when journals, such as JFS, have the integrity to not silence peer-reviewed research and allow an open and professional discussion and exchange.

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