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## LETTER TO THE EDITOR

# Commentary on: Dror IE, Melinek J, Arden JL, Kukucka J, Hawkins S, Carter J, et al. Cognitive bias in forensic pathology decisions. J Forensic Sci. <https://doi.org/10.1111/1556-4029.14697>. Epub 2021 Feb 20.

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

See JFS Editor-in-Chief Preface [here](#)

See Authors' Response to Speth et al Commentary on [here](#)

Editor,

The article "Cognitive bias in forensic pathology decisions" by Dror et al [1] claims to demonstrate that forensic pathologists per se are subject to cognitive bias in their collective determinations and certifications of manner of death. They chose as their focus group children under six years of age whose manner of death was either accident or homicide. Their conclusion is based on two prongs: a select group of death certificates and a survey which they crafted.

The purpose of this letter is not to further analyze the notional issue of bias on the part of forensic pathologists, but rather to show how very flawed the Dror et al, undertaking, indeed is.

## 1 | FIRST PRONG

Dror et al first examined "...all death certificates issued during a 10-year period in the State of Nevada [2009–2019]...for children under the age of six." To further quote from the article: "The dataset of death certificates indicated that forensic pathologists were more likely to rule 'homicide' rather than 'accident' for deaths of Black children relative to White children." There are two serious flaws that totally invalidate their conclusions.

1. In more than 75% of the death certificates reviewed, the manner of death (accident vs homicide) was certified by lay coroners with law enforcement backgrounds—not by forensic pathologists! So, if there was bias, it devolves to lay coroners (Nevada Revised Statutes [NRS] 440.430 Duties of Coroner).
2. It is unclear how Dror et al classified "Black" vs "White," and much more importantly, how the distinction was made in the various jurisdictions. When one reviews the published demographics in the largest jurisdiction in Nevada, it is interesting to note: "White 61.9%, Black 12.2%, Hispanic 33.1%, "White alone" without Hispanic & Latino 43.5%. So, the question arises—how many Hispanic and/or Latino were included with "White" or with "Black"

on the death certificates in the various jurisdictions? There is no way Dror et al could determine that.

## 2 | SECOND PRONG

Dror et al somehow unofficially obtained the email addresses of NAME members and sent a survey to 713 American Board of Pathology-certified pathologists (uncertain if all of them were forensic pathologists) by private email. There is no indication that a pilot survey was conducted beforehand. Only 133 of the 713 responded—no effort was made to find out why the other 580 had not responded.

The survey provided a vignette that was summarized in the article as follows:

*"...a not straightforward or simple case in which a 3.5-year-old child was presented to an Emergency Department with diminished vital signs and who died shortly after arrival... the caretaker described finding the toddler unresponsive on the floor of a living room. Postmortem examination determined that the toddler had a skull fracture and subarachnoid hemorrhage ...[a brief description of the] scene and ancillary investigation findings, as well as the results of the medical [sic] examination (details about bruising on the head, neck and extremities, as well as the fractures and brain injury)."*

To test alleged bias, the vignette that was received by 65 of the 133 stated that the child was "Black" and the caretaker was the boyfriend of the child's mother; the vignette received by the other 68 of the 133 stated that the child was "White" and the caretaker was the child's grandmother. The respondents were to determine whether the manner of death was accident or homicide.

Of the 133 respondents (out of the original 713 solicited), 78 would not commit to a determination of accident or homicide and conceded to "Undetermined." No effort was made to find out why they chose "Undetermined."

Among the remaining 55, those who had received the vignette with the "Black" child and boyfriend ruled that the majority were homicides, while those who received the vignette with the "White" child and the grandmother ruled that slightly more than half were accident. No attempt was made to find out why those 55 reached their respective conclusions.



Dror et al would have one believe, based on the above, that “knowledge of irrelevant nonmedical information, which should have no bearing on forensic pathologists’ decisions, influenced their manner of death determinations.”

This conclusion is fatally flawed for many reasons, the most important being the following:

1. This survey had not undergone a robust process of development and testing, which is a basic requirement of all surveys. Therefore, the credibility of the resultant findings themselves may legitimately be called into question and may even be completely disregarded.
2. Such a survey should be tested on a pilot sample of members of the target population. That was not done.
3. The method of recruitment should be carefully considered. The method here was flawed.
4. The data provided in the survey lacked sufficient details and depth to allow respondents to reach a competent decision. This certainly is an explanation for the many “undetermined” responses and probably played a role in the low response rate.
5. The questions asked should be carefully planned. Careful design is needed to minimize bias in the results. Biased wording is often observed where the question includes a predisposition either for or against a particular perspective and resulting in leading the respondents. Biased context results from the placement of questions in a particular order so that the respondent is already thinking along certain lines. There has to be an avoidance of leading the respondents to specific answers in which they may answer as they think the interviewer wants them to answer. There is a propensity for respondents to agree with the bias inherent in the wording of the question. Plain and simple: by compounding “Black” child with boyfriend on the one hand and “White” child with grandmother on the other violated all of these precepts completely and utterly negated the alleged results of the survey.
6. Biased context can either be the degree to which the survey question addresses an issue that is encompassed by a broader issue or attempts to generalize inappropriately about a narrow issue. Clearly, Dror et al see the broader issue of alleged biased forensic pathologists as encompassed by the narrow issue presented in the survey.
7. Response rates are a potential source of bias. The results from a survey with a large nonresponse rate can be seen as misleading and only representative of those who replied. An acceptable rate for this type of survey is seen as about 65%. The differences between the respondents and nonrespondents must be explicitly explored in order to determine the implications upon the survey. How did those who agreed to participate differ from those who refused? In this survey, there was a perilously low response rate. If one adds to that those who could not or would not make up their minds for “accident” vs “homicide” (which was the objective of this survey), the response rate achieved by the survey was less than 8%.

It is eminently clear that the Dror et al article is an abject failure. It is fatally flawed in concept and implementation. It should be voluntarily retracted.

#### DISCLAIMER

Many of the formulations above in the section on survey were taken from Kelley K, et al, Good Practice in the Conduct and Reporting of Survey Research, *Int J Quality Health Care*, 2003;15(3):261–6. The article has been cited 2323 times in the MedLine literature.

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## REFERENCE

1. Dror IE, Melinek J, Arden JL, Kukucka J, Hawkins S, Carter J, et al. Cognitive bias in forensic pathology decisions. *J Forensic Sci.* 2021; <https://doi.org/10.1111/1556-4029.14697>. Epub 2021 Feb 20.

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