



# Reply to Loh: Exploratory mediational insights regarding the link between parents' perceptions of socioeconomic mobility and opportunity hoarding

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In a thoughtful letter responding to Silverman et al. (1) and Loh (2) references an exploratory mediation model conducted as a part of the original paper (see figure 3) to describe inferential and methodological challenges associated with such analyses. We commend Loh's raising of these points and wish to highlight some key features of the original paper.

First, Loh states, "To answer these *causal* (emphasis ours) inquiries (1), [Silverman et al. (2024)] conducted a moderated mediation analysis..." It is important to note that we made no unwarranted claims of causality, transparently stating that "The interaction between condition and SES on parents' approval of discrete opportunity hoarding behaviors *did not reach statistical significance* ( $\beta = -0.02$ , 95% CI [-0.08, 0.04],  $P = 0.549$ ). As can be seen in figure 3, however, exploratory moderated mediation analyses *indicated the possibility of an indirect effect* of the upward mobility condition on parents' support for these behaviors through their beliefs about socioeconomic mobility.... *Although this evidence is cross-sectional* (emphases ours)..." In this description, we also appropriately characterize the analysis as "exploratory." Its intention was not to imply causality for the same reasons that Loh provides, but rather to inspire future work that specifies these relationships, as noted in the Discussion section.

Second, we clarify to readers that—as they may find in our publicly available datasets and code (<https://osf.io/mvdw5/>)—the results of the exploratory model presented in the original paper replicate both when using basic moderated mediation approaches (3) and a structural equation or path modeling approach with nonparametric bootstrapped samples (4). The results provided by Loh rely on a different analytic approach that he has similarly made publicly available ([https://osf.io/ybz6g/?view\\_only=886c099b048f4d65a059bfe5e2d64707](https://osf.io/ybz6g/?view_only=886c099b048f4d65a059bfe5e2d64707)).

Especially given Loh's significant contributions to relevant methodological questions, we do not dispute the value of his analyses. Rather, we highlight how differences in our results stem from divergent norms related to mediational analyses within our respective disciplines.

Finally, although our moderated mediation results follow similar procedures to many other papers published at PNAS (e.g., refs. 5–7), Loh provides several important suggestions for evolving current standards in the field. Given our shared interest in advancing the science, for example, PNAS and other journals may require sensitivity analyses to assess the robustness of findings that are particularly subject to unmeasured confounders. The journal may also commission a comprehensive essay outlining emerging avenues for strengthening mediation analyses in causal designs to its readership. Such work would help carry the contributions made by Loh and others into mainstream statistical practices that improve the field's inferential abilities.

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The authors declare no competing interest.

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