Published Paper Discussion

*STEM the bullying: An empirical investigation of abusive supervision in academic science*

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**Abstract**

**Background:** Academic bullying is a topic of significant interest of late, with high profile cases featured in science journals. Our aim is to document the nature and extent of academic bullying behaviors, examining who are the primary targets and perpetrators as well as the responses to and outcomes of bullying.

**Methods:** We developed a cross-sectional global survey aimed primarily at those in academic science institutions. The survey was administered via Qualtrics and data were collected (between November 2019 and July 2021) from 2006 individuals whose participation was solicited through curious means including advertisements in Science and Nature magazines and the American Chemical Society.

**Findings:** Among the 2006 survey participants, the majority of the targets were graduate students or postdocs. An overwhelming proportion of participants reported either experiencing (84%) or witnessing (59%) abusive supervision, or both (49%). While a majority of perpetrators were male, they were proportionately no more likely to abuse then females. Perpetrators were more likely from the highest-ranked institutions and they were most likely PIs. Females were more likely to report being bullied but their scores on the Tepper abusive supervision scale and the contextual behavior checklist we developed were not greater than male targets. Male targets actually reported higher levels of certain bullying behaviors. While international scholars were no more likely to report being bullied, the severity of the behaviors they reported was significantly greater. Targets (64%) were most likely to use avoidant tactics (not reporting and relying on family/friends for support) in response to bullying due to fear of retaliation (61%). The small percentage that did report the abuse (29%) overwhelmingly reported unfair and biased (58%) outcomes. Additional qualitative analysis of open-ended comments revealed similar patterns. We also noticed that the COVID-19 pandemic has exacerbated academic bullying and changed the patterns of behaviors possibly due to the remote nature of interactions. Open-ended responses from targets are analyzed with examples provided.

**Interpretation:** Our results elucidated the various forms of abuse, the most likely perpetrators and targets, as well as the typical reactions of targets and witnesses. We investigated the results of target’ actions following chronic bullying. Our findings highlight the domain, extent, and dynamics of academic bullying to hopefully motivate the scientific community to take action.

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All are welcome. please join us!

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