



FASEB

Federation of American Societies
for Experimental Biology

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Committee on Mental Health, Substance Use, and Wellbeing
in STEMM Undergraduate and Graduate Education
The National Academies of Sciences, Engineering, and Medicine
500 Fifth Street NW
Washington, DC 20001

Submitted electronically via LScherer@nas.edu

Dear Committee members,

The Federation of American Societies for Experimental Biology (FASEB) commends you on your recent [report](#) “Mental Health, Substance Use, and Wellbeing in Higher Education: Supporting the Whole Student.” Echoing themes of the report, FASEB concurs that the culture of higher education contributes to increasing incidence of mental health and wellbeing concerns and must improve. As a coalition of 29 biological and biomedical scientific member societies representing over 130,000 individual scientists, FASEB recognizes that physical and mental health and wellbeing are vital to success, both while enduring graduate training and for productive careers as leaders in science, technology, engineering, mathematics, and medicine (STEMM). The report acknowledges that there are significant differences in mental health, substance use, and wellbeing between undergraduate and graduate students, as well as across different fields; however, data included in the report on graduate students are limited. The Federation sympathizes that data on graduate students and clinician-scientists in training are unavailable, and similarly that data are not generally reported by field to separate out STEMM trainees. These are areas clearly lacking evidence that must be addressed. Stressors in research environments differ greatly from those of academic coursework alone. FASEB supports additional research on graduate student and clinician-scientist mental health, wellbeing, and substance use.

Recommendations from the Committee focus on cross-cutting issues likely to support the most students and programs. Given the broad scope covering community colleges, baccalaureate institutions, graduate programs, and medical programs this was a pragmatic decision. Nevertheless, this high-level focus resulted in a majority of the recommendations being aimed at institutions of higher education. Colleges and universities certainly need to invest in the mental health of their community; however, FASEB believes there is significant potential for federal agencies and professional societies to positively influence this landscape as well and would welcome additional recommendations aimed at these stakeholders.

Transforming the culture of higher education will be difficult but is necessary. Institutions of higher education must lead the challenge of reimagining incentive structures to be appropriately aligned with creating inclusive environments that support wellbeing. Individuals cannot bear the brunt of systemic change. Still, there are key actions aimed at individuals that may help drive institutions of higher education to recognize the importance of mental health, wellbeing, and substance use. In particular, the Federation appreciates the recommendation to engage faculty in training, ideally beginning during PhD training, on developing skills in mentoring as well as recognizing issues with mental health, wellbeing, and substance use. Furthermore, the recommendation that all students participate in structured opportunities to learn about individual wellbeing is sensible and may have immediate impact.

Full members: The American Physiological Society • American Society for Biochemistry and Molecular Biology • American Society for Pharmacology and Experimental Therapeutics • American Society for Investigative Pathology • American Society for Nutrition • The American Association of Immunologists • American Association for Anatomy • Society for Developmental Biology • American Peptide Society • Association of Biomolecular Resource Facilities • The American Society for Bone and Mineral Research • American Society for Clinical Investigation • Society for the Study of Reproduction • The Society for Birth Defects Research & Prevention • The Endocrine Society • American College of Sports Medicine • Genetics Society of America • The Histochemical Society • Society for Glycobiology • Association for Molecular Pathology • Society for Redox Biology and Medicine • Society For Experimental Biology and Medicine • American Aging Association • U. S. Human Proteome Organization • Society of Toxicology • Society for Leukocyte Biology • American Federation for Medical Research • Environmental Mutagenesis and Genomics Society **Associate members:** The American Society of Human Genetics

Graduate students and clinician-scientists in training are both students and workers. However, they are rarely afforded any protections employees receive. PhD and research-based clinical dual-degree students are often provided little support for navigating their programs' policies, leaving them to rely on an exhausting amount of self-advocacy. For example, leaves of absence are heavily dependent on the willingness of the research advisor to be supportive, and may not be an option for international students due to the need to maintain student status to retain their visa. The [Family and Medical Leave Act](#), which allows employees to take unpaid but job-protected leave, may not be available to students. Similarly, many fellowships lack formal short-term leave policies. FASEB appreciates the clarity with which parental and medical leave are addressed by [National Institutes of Health](#) and [National Science Foundation](#). Nevertheless, navigating any type of leave as a graduate student or clinician-scientist in training is a prickly path as variable institutional policies heavily influence the possibilities. Data collected on leaves of absence would help further the understating of the issues that research doctoral students face, as well as provide sound reasoning to create leave policies that accommodate student workers.

Little information about graduate student and clinician-scientist in training substance use exists. For example, non-medical use of prescription stimulants discussed in the report primarily considers full-time college students (pages 58-59). Limited [evidence](#) on graduate students—master's, specialist, and doctoral levels—indicates slightly less than six percent reported non-medical use of prescription stimulants within the past year. Similarly, a modest sample size of [data](#) gathered on University of Alabama at Birmingham medical students shows that barely under twelve percent of students surveyed had used non-prescribed stimulants at some point in their life, with other [reports](#) ranging up to fifteen percent use in medical students. The demands in a research environment are different than classes—motivation and prevalence of non-medical use of prescription stimulants in research intensive PhD and clinician-scientist students may contrast to those engaged in coursework-based graduate programs. Further data collected on a national scale would provide useful insights to inform evidence-based policies and practices addressing substance use in doctoral students and clinician-scientists in training.

Furthermore, binge drinking is acknowledged in the report as having higher rates in undergraduate students than master's students or students pursuing other degrees. Nonetheless, it is widely known that alcohol is deeply ingrained into academic cultural norms. Drinking is prominently featured in recruitment to graduate school, conferences, and sometimes in department activities like happy hours, retreats, and seminars. Alcohol may also be a common coping mechanism for students precariously navigating the power dynamics in the dyadic relationship with their research advisor. While binge drinking rates in graduate students may be relatively low, the prevalence of functional alcoholism is unknown. Consuming too much alcohol over a long period of time may also result in [longer-term effects](#) such as alcohol use disorder and increased risk for certain cancers. Additionally, the recent "Sexual Harassment of Women: Climate, Culture, and Consequences in Academic Sciences, Engineering, and Medicine" [report](#) indicates organizational tolerance of alcohol use may increase the chances of sexual harassment. A more nuanced evaluation of the culture of alcohol in academia and how this affects graduate students and safety of training environments would be incredibly beneficial.

Given the wide scope of topics in mental health, substance use, and wellbeing currently lacking quantitative metrics, data collected from the graduate student population on any of these issues will be invaluable. Recommendation 5-6 calls for a data collection system that allows for disaggregation by unit, program level, and student identities. New [research](#) highlights disparities faced by gender and sexual minority professionals, including health and wellness difficulties such as depressive symptoms. FASEB wholly supports attention to personal identities in data collection including, but not limited to, disability, sexual orientation, gender identity, two-spirit, race, ethnicity, and socioeconomic status. Identities outside the traditional definition of underrepresented minority are also of interest, including first-generation students, international students and those without documentation, students with caregiving responsibilities, survivors of trauma, and other non-

traditional students. The graduate student population is not monolithic, and it is vital that data collected on mental health, substance use, and wellbeing measures take intersectionality into account. Nationwide statistics on graduate student mental health, substance use, and wellbeing that allows for disaggregation may prompt novel solutions to institutional and societal systemic barriers.

While we appreciate that the Committee's charge focused on students, we also recognize that the entire research group's attitude towards mental health, substance use, and wellbeing has enormous impact on all laboratory members. Leaders in research environments ideally prioritize taking care of their own mental health, implement evidence-based wellbeing practices, and are informed on wellbeing and mental health policies and resources available to the individuals they manage and mentor. However, like graduate students and clinician-scientists in training, insufficient data exist regarding Principal Investigators' mental health and wellbeing and application of best practices to assist team members through personal struggles. Furthermore, postdoctoral scientists share some stressors with graduate students such as inherent power dynamics, but unique aspects exist. For example: institutions may offer less centrally organized support to postdoctoral scientists than graduate students; postdoctoral scientists do not typically have a cohort of peers at their institution to rely on unlike graduate students; and postdoctoral scientists are often employed on single-year appointments, creating adding stress of job instability. Thus, while faculty and postdoctoral scientist mental health, substance use, and wellbeing are certainly outside the scope of the current report, they are topics worthy of further investigation.

Moving forward, we hope there is increased attention paid to graduate students and clinician-scientists in training as particularly vulnerable groups with disparagingly small amounts of available data elucidating key issues for STEMM students. There is also potential for impactful data collection on all members present in the research environment, including faculty and postdoctoral scientists. Measuring wellbeing of the entire campus, as well as isolated training environments like laboratories, in addition to individual wellbeing may highlight areas of concern to be prioritized by both leaders in the community as well as individuals. FASEB looks forward to working with the National Academies on continuing to challenge the norms of mental health, substance use, and wellbeing in higher education.

Sincerely,

Louis B. Justement, PhD
FASEB President