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We Still Question the Utility and Validity of the Binge/Heavy Drinking Criterion

Matthew R. Pearson, **Megan Kirouac**, and **Katie Witkiewitz**

Center on Alcoholism, Substance Abuse, and Addictions, University of New Mexico

We are pleased to respond to the thoughtful comments of the esteemed authors. Overall, all authors are in agreement with the limited utility of the 4/5+ criterion in the treatment context (1-5). Some authors extended our critiques to other contexts (1,2), and some argued for the context in which this criterion may remain useful (3,4).

Andreasson bolsters our arguments against the focus on any single alcohol consumption measure as a focal outcome, arguing for the promise of technologies that can obtain "actual BAC levels…as opposed to estimates based on self-report," assessment of consequences, and measures of subjective intoxication (1). Havard argues that the 4/5+ criterion is problematic in its use in epidemiological studies (i.e., hindering understanding of the distribution of alcohol-related harm) and intervention studies (e.g., when used as an inclusion/exclusion criterion) (2). Further, we also agree with Havard that the reliance on an oversimplified 4/5+ criterion for public health messages likely leads individuals who "note that the advice does not fit with their experience…to dismiss the advice altogether" (2).

Carey and Miller argue that the 4/5+ criterion has "proven utility as an indicator of alcohol and other health-related risk," citing additional articles showing that those who drink above this cutoff are at increased risk compared to those below this cutoff (3). However, each of the cited articles fall victim to the criticism we made in our article: they fail to test incremental validity. We concede that drinking more alcohol is clearly predictive of negative medical and psychosocial consequences, but we hold fast to our criticism that 4/5+ has failed to demonstrate unique predictive validity over other cutoffs that may offer fewer limitations than 4/5+ has shown (e.g., BAC-based cutoffs).

Wells et al. assert that "standard cut-points are needed for public health surveillance" (4). We are unaware of any evidence that binary categorizations are more useful for public health surveillance than measures of central tendency (e.g., mean, median) and variability (e.g., range, standard deviation), which may improve "understanding of the distribution of alcohol-related harm" (2). Second, one serious criticism of the 4/5+ cutoff is that it does not appropriately consider contextual factors including the immediate drinking context (e.g., drinking at home vs. in public) and individual-level factors (e.g., body weight/body type). Importantly, these contextual factors do not hold steady over time. For example, based on significant changes in average weight of adults in the United States (6,7), the woman and

*Corresponding Author: Matthew R. Pearson, Center on Alcoholism, Substance Abuse, and Addictions, University of New Mexico, 2650 Yale Blvd SE, MSC 11-6280, Albuquerque, NM 87106. mateo.pearson@gmail.com, Phone: 1-505-925-2322.

man of average weight today would reach a BAC of .076 and .064, respectively, following the consumption of 4/5 standard drinks in a two hour period, compared to .096 or .081 for the woman or man of average weight in 1960 (8). Arguments for using the 4/5+ criterion for public health surveillance fail to acknowledge that this criterion fails to account for other factors that are known to be changing over time. Thus, we stand steadfast that this binge/heavy drinking criterion has little utility even in the public health context.

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Concise Statement

Although some authors argue for the utility of the binge/heavy drinking criterion in specific contexts, we argue that our primary critiques of this criterion (e.g., lack of predictive validity, ecological bias, and false dichotomization) in the college and clinical contexts extend to the public health context. Thus, we stand steadfast that this criterion has little utility in the contexts discussed in the commentaries.