THE AUTHORS REPLY

We appreciate Vallée and Shareck’s interest (1) in our recent article (2) and appreciate the opportunity to reflect briefly on the points they raised. Our study concluded that “when estimating an individual’s exposure to neighborhood exposures, researchers should use egocentric neighborhood definitions whenever possible” and that “the use of larger administrative neighborhood definitions can bias exposure estimates for proximity measures.” Vallée and Shareck argue that we “should not have extended [our] findings, which concerned the difference between neighborhood resource accessibility measures, to a judgment on the most relevant spatial units to use in neighborhood and health research” (1). We understand their view but note that there are several nuanced points we explicitly mentioned in our article that Vallée and Shareck neglected to acknowledge.

In our article, for example, we explicitly stated 1) “that neighborhood definitions should be driven by theory, not data. We recognize that different neighborhood definitions may be more or less important depending on the research question” (2, p. 377); 2) “... localized buffer-based neighborhood definitions may be preferred to administrative neighborhood definitions, because defining neighborhoods with administrative units may be especially inadequate for individuals living on the margins of those areas” (2, p. 378); 3) “... the use of larger neighborhoods [i.e., larger than US census tracts] ... makes sense when one wants to make policy recommendations, because the city uses these neighborhood definitions to allocate resources. The use of smaller neighborhood locations [e.g., neighborhood scales] as we have done likely makes sense when research questions are designed to evaluate local factors that influence individuals’ behavior” (2, p. 378); and 4) “Future epidemiologic research should justify the chosen neighborhood definition and perhaps undertake sensitivity analyses” (2, p. 378).

Thus, we are not necessarily arguing that “egocentric is better” in every circumstance, and we emphatically do not make the claim that “smaller is better,” as Vallée and Shareck note. Our use of egocentric neighborhoods was explicitly prompted by youths’ likely access to tobacco retailers. We also note that the relevant spatial scale depends on many factors, including (but not limited to) the research question and population of interest. Some research shows that a larger spatial unit might best explain variation in health outcomes—including a paper we published evaluating built environment factors in adolescent body mass index (weight (kg)/height (m)²) (3).

We understand and appreciate Vallée and Shareck’s point about isotropic assumptions regarding a priori–defined egocentric neighborhoods. However, we note that there are ways to avoid this assumption—including the use of global positioning system technology—which we discussed in our paper. We agree that selection of neighborhood definition can benefit from involving people, as 1 classic study showed that most residents’ maps of their neighborhoods incorporated portions of multiple census tracts (4), but we note that this is not always possible or practical. For example, when geospatial data sets have already been created and researchers cannot recontact the participants (such as was the case with the data from our study).

More generally, Vallée and Shareck draw attention to the modifiable area unit problem, the uncertain geographic context problem, and the timeless debate concerning the appropriate neighborhood definition—for which there are no clear answers or solutions.

We are reminded that people are situated within places, interact with places, and often move across places (5), the characteristics, norms, and cultures of which may shift dramatically. We maintain that egocentric neighborhood definitions are likely more germane to the everyday lived experiences of people within, between, and across places; thus, administrative boundaries (such as US census tracts and zip codes) may be implicated in spatial misclassification (2), which we believe is a significant issue in the field of spatial epidemiology.

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