Considering the cognition-related components containing in leisure activities and their features on the causal pathway between cognitive function and mortality, such that any adjustment for leisure activities as a confounder will render the associations biased (2) (**Fig. S2**). Does the risk of mortality in relation to cognitive function operate through leisure activities, and if so, by how much? Causal mediation analysis seeks to provide answers to these questions.



**Supplementary Material 2.** Simplified directed acyclic graph depicting the relation between cognitive function and all-cause mortality with leisure activities as the mediator.