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## Reply to Tannenbaum et al.: Constructive Dialogue Advancing Research on Civic Honesty

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# Reply to Tannenbaum et al.: Constructive dialogue advancing research on civic honesty

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Yang et al.'s (1) (hereafter Yang) primary contribution is to point out that "sole reliance on email response rates may give biased estimates of civic honesty in different cultural contexts" [Uzogara (2)]. Yang innovatively introduced collectivism in examining civic honesty, which warrants further research. We appreciate Tannenbaum et al.'s (3) critique (hereafter Tannenbaum), as rigorous discussions strengthen collective insight into this new topic.

Tannenbaum's comments about the model specification were based on an erroneous term, "city-level collectivism." Yang used provincial-level collectivism, a higher level of aggregation, unlikely to form "perfect multicollinearity" with the city-level factors as suggested in Tannenbaum (e.g., Shenzhen and Guangzhou are both in Guangdong province). Beijing is a unique reference city in our study due to its significance as China's capital and cultural center [Wang (4)]. Yang acknowledged that the replication is a small-sample study with limited power. Therefore, the nonsignificant relationships identified by Tannenbaum, even with repeated simulations, cannot exclude true associations between collectivism and civic honesty. Rather than removing city-fixed effects, per Tannenbaum, the appropriate approach is to recruit more cities within provinces in future experiments. We welcome Tannenbaum and others to extend the replication further in China or elsewhere to generate more evidence regarding civic honesty and collectivism.

Fig. 1 shows that Tannenbaum and Yang offered complementary, not contradictory, interpretations of social norms. While Tannenbaum noted more people endorsed dual ways (58% for safekeeping and emailing) than one way (27% only safekeeping or 4% only emailing) to facilitate wallet recovery, Yang highlighted that endorsements of passive safekeeping (84.59%) outpaced proactive emailing (61.52%), which reflects the cultural norms of civic honesty in China. Furthermore, the high recovery rate of lost wallets (77.8%) in Yang's study strongly suggested safekeeping as a behavioral norm, not just a cognitive norm.

Tannenbaum's simulation codes assumed mutual independence of four conditions (money, wallet missing, money missing, and nonmoney items missing), i.e., "without censoring" as they claimed. However, Fig. 2A shows the interconnections of these conditions and 9 out of 16 scenarios (with unequal probability) are theoretically impossible (e.g., a no-money wallet misses money). Our replication of their simulation shows that impossible data points constituted 25.90% (SD = 1.99%) of the total simulation sample (Fig. 2B). Although Tannenbaum's comments were premature, their critique inspires us to examine further the relationship between the remaining two conditions (money vs. nonmoney items missing) and civic honesty.

We are heartened to see the field engaging with our work on the complex relationship between culture and civic honesty. Many more exciting questions remain. For example, the conceptual framework of Cohn et al. (5) was entirely based on an individual decision model. However, Yang's data showed that 81% of the wallet handling involved

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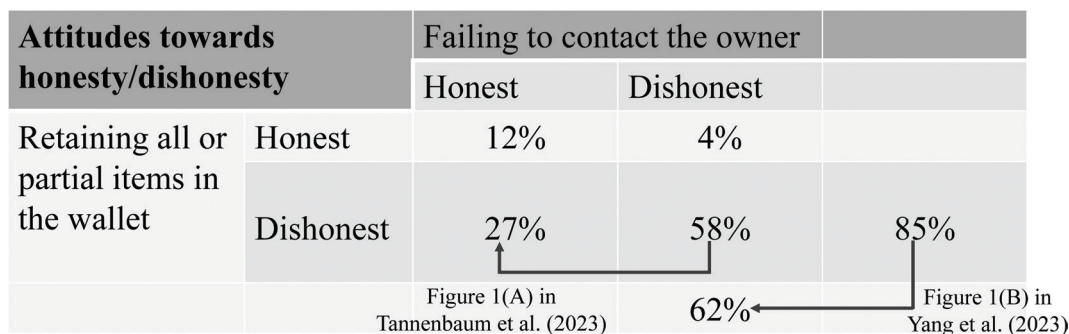
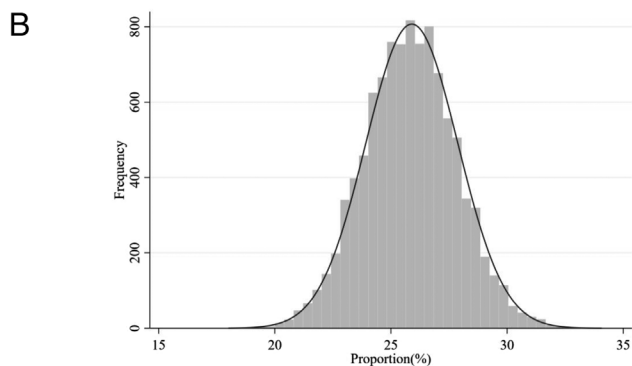
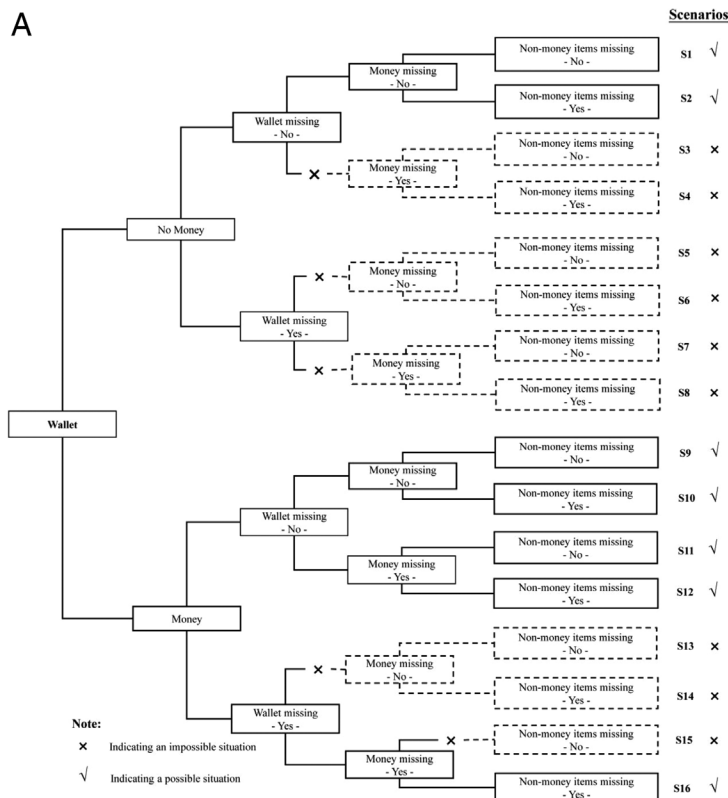


Fig. 1. Summary of the survey responses towards civil honesty in Yang et al. (1).



**Fig. 2.** Simulation scenarios for wallet conditions and the proportion of theoretically impossible scenarios by Tannenbaum et al. (3). (A) Scenarios of the wallet conditions based on Tannenbaum et al. (3). Notes: According to Tannenbaum and colleagues' simulation codes, we schematically demonstrate the fact that 9 out of 16 scenarios are theoretically impossible (e.g., a no-money wallet misses money, or a whole wallet is missing, but money or other items are intact). (B) Proportions of logically impossible scenarios in simulations as in Tannenbaum et al. (3) \*Notes: Having examined the simulated results based on Tannenbaum and colleagues' codes, we calculated the proportion of the incidence for theoretically impossible scenarios in each simulation and found that the distribution has a range of (18.34%, 34.07%) with a mean of 25.90% and SD of 1.99%, as demonstrated in this figure. \*Iteration times = 10,000; Codes are available at [https://researchbox.org/2067&PEER\\_REVIEW\\_passcode=XZEASU](https://researchbox.org/2067&PEER_REVIEW_passcode=XZEASU).

multiple employees, e.g., the wallet receiver differed from the emailer. Therefore, the framework of Cohn et al. (5) needs a significant overhaul. However, by recognizing these

imperfections from the field experiments, researchers can collectively advance knowledge on the complex aspects of civic honesty.

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