Numerically Driven Inferencing about Abortion: Estimation and Rate Feedback's Diverse Effects on Personal Policies and Justifications

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What is the *legal* U.S. immigration rate, as a percentage of the nation's population? We have observed median estimates of 10% (from students at an elite college; Ranney, Cheng, Garcia de Osuna, & Nelson, 2001) or more (from adolescents). The true value is over 30 times less—only 0.3%! Might this datum change one's opinion or preference on immigration—one's policy? We often make decisions, and justify or reason about our views, based on available evidence. The Theory of Explanatory Coherence and its models (e.g., ECHO) describe principles that guide belief evaluation and revision. Two such principles are that we (a) weight evidence more than conjecture, and (b) prefer propositions explained parsimoniously (Ranney & Schank, 1998). Thus, true base rates represent parsimonious evidence, relative to instances or anecdotes, and so should be both heavily weighted in one's thinking and usually evaluated as believable. The present study explored aspects of this general hypothesis—that a single, germane, critical, and surprising number may foster conceptual change. Using a novel paradigm, Numerically Driven Inferencing (NDI; Ranney et al., 2001), and one of its methods, EPIC—Estimate, Prefer, Incorporate, and Change—we studied both estimates and the effects of numerical feedback on (UC-Berkeley) undergraduates' abortion policies. Quantitatively and qualitatively, 92 such students offered estimates and preferences for the legal U.S. abortion rate, explaining and justifying them. After receiving the (usually, quite surprising) true rate as feedback, a highly minimalist intervention, they provided another (typically changed) preference-and-rationale.

Generally, students estimated the abortion rate to be far below the true rate—seven times lower in mean, and 67 times lower in median. In fact, 79% of them failed to capture the true rate in their self-reported "non-surprise intervals." Learning the true rate changed students' reasoning about abortions—regarding both their preferences and the points of view (POVs) by which they justified their policies. The median student's estimate and initial preference were, respectively, 5,000 and 100 abortions per million live births (APMLB). Following the then-current feedback of 335,000 APMLB, the new median preference—1,000—represented a relatively much more stringent abortion policy (from -98% to -99.7%; cf. Munnich, Ranney, Nelson, Garcia de Osuna, & Brazil, 2003). One of the most dramatic results was that those who initially adopted "status quo" policies usually changed their stances after seeing the feedback: of the 32 who initially *preferred* their *estimated* abortion rates, feedback caused 21 (66%) to adopt a directional (non-status-quo) policy, becoming "semi-flippers." Feedback also changed the POVs that semi-flippers used to justify their preferences: Beforehand, most semi-flippers asserted that abortions should *always* be allowed; these justifications shifted markedly after feedback. Those 14 who became "decreasers-come-lately" (DCLs) no longer claimed that abortions should always be allowed, and instead largely justified their new views by preferring a utopian world where abortions are moot. Conversely, seven "*increasers*-come-lately" (ICLs) used none of the justifications eventually used by DCLs and instead claimed (largely as before) that abortions should always be allowed and/or that the rate ought to reflect society's greater good. So, while semi-flippers at first seemed homogenously like-minded, feedback bifurcated them into divergent positions such that there was *no* overlap in the justification types used. These and other results show both the dramatic effects of base rate feedback on policy evaluation, and the import of having and using data when reasoning on topics that engage society. This experiment represents a new way to study numerically-based reasoning that considers the subjective nature of social life.

References

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