Supplemental Material

Table S1: Respondent demographics

|  |  |  |  |
| --- | --- | --- | --- |
| *Characteristics* | *US respondents % (n=1359)* | *Non US Anglo respondents %*  (n=124) | *Western Europe respondents % (n=89)* |
| Survey solicitation | | | |
| Intentionally invited ethics instructor/researcher | 26 | 27 | 19 |
| Broad solicitation of educators | 74 | 73 | 81 |
| Indicated teaching no ethics-related topics in any courses | 11 | 12 | 24 |
| Disciplines taught (could select more than one)\* | | | |
| Civil | 21 | 13 | 16 |
| Mechanical | 21 | 18 | 18 |
| Computer | 17 | 13 | 22 |
| Electrical | 12 | 21 | 16 |
| First-year | 12 | 5 | 2 |
| Environmental | 11 | 2 | 3 |
| Chemical | 10 | 14 | 10 |
| Biomedical | 9 | 2 | 2 |
| Industrial | 6 | 1 | 11 |
| Humanities/social sciences | 6 | 2 | 2 |
| General | 5 | 3 | 2 |
| Aerospace | 5 | 7 | 3 |
| Materials | 5 | 2 | 3 |
| Gender | | | |
| Male | 65 | 74 | 76 |
| Female | 32 | 24 | 21 |
| Prefer not to say | 3 | 2 | 3 |
| \*The following disciplines had less than 5% across each of the 3 groups: agricultural, architectural, biological, eng management, eng physics eng technology, geological, mining, nuclear, petroleum | | | |

**Methods: Expanded discussion of matching**

A matching process was completed to develop comparator samples of US respondents to the non-US Anglo and Western European respondents. The discipline, gender, and survey solicitation were noted for each respondent. For RQ1 (sufficiency perceptions) additional matching criterion was whether or not the individual taught any ethics-related topics in their own courses. For example, there were seven non-US Anglo males in civil engineering who taught ethics topics and completed the survey based on the broad solicitation (not targeting ethics researchers and educators specifically). As a result, seven males in civil engineering at US institutions who taught ethics topics and responded to the co-curricular survey were included in the analysis.

For developing the comparator group of educators who answered the sufficiency question but taught no ethics-related topics in their courses, there was a smaller sample of US respondents on which to match (only 11% of the US reported teaching no topics). In the four cases in which there was no match on all of the criteria, gender was dropped. In previous modelling work, gender proved to be a less significant influence on topic selection than discipline (Bielefeldt et al. forthcoming).

**Methods: Expanded discussion of coding**

The responses were analysed using emergent, thematic coding (Creswell, 2007). Two coders used a random sub-set of 100 responses from the first campaign to develop initial thematic codes. One of those coders analysed the remaining responses and added emergent themes, generating a codebook with 60 codes. The codebook and 50 responses were shared with another two coders for inter-rater reliability analysis using Fleiss’ kappa (Fleiss 1971). This process was repeated with another set of 50 responses that were theoretically sampled to represent all of the themes present in the codebook.

**Results: RQ2: Western European Intra-Cluster Differences**

As noted under the results for RQ2 (topics), there were noteworthy intra-cluster variations for Western Europe. Table S2 reports the percentage of respondents within the Nordic/Germanic and Latin Europe sub-clusters who indicated teaching the ethics-related topics. There were statistically significant differences for eight topics. Since the Nordic/Germanic and Latin Europe respondents were not matched on gender, discipline, or survey solicitation, the differences could be attributed to the environment or be biased by the covariates. For example, 11 respondents in the Nordic/Germanic group were intentionally sampled for their involvement in ethics teaching (33%) compared to six respondents in the Latin Europe group (17%).

Table S2: Comparison of topic frequency within Nordic/Germanic and Latin sub-groups of Western Europe

|  |  |  |
| --- | --- | --- |
|  | Nordic/Germanic (n=33) | Latin Europe (n=35) |
| Bioethics | 6 | 6 |
| Code of ethics | 39\* | 14 |
| Decisions under uncertainty | 52 | 31 |
| Eng and poverty | 6 | 17 |
| Environmental protection | 58 | 46 |
| Ethical failures/disasters | 33\* | 9 |
| Ethical theories | 27\* | 6 |
| Ethics in design projects | 45\* | 11 |
| Nanotechnology | 6 | 0 |
| Privacy, civil liberties | 24 | 9 |
| Professional practice | 48 | 54 |
| RCR | 61\* | 23 |
| Risk, liabilities | 48\* | 11 |
| Safety | 48 | 29 |
| Social justice | 18 | 6 |
| Societal impacts | 73\* | 37 |
| Sustainability | 79\* | 54 |
| War, peace, military | 6 | 0 |
| Other | 15 | 3 |
| Total | 6.94 | 3.66 |
| \*p<0.05 | | |