Research Fairness and Research Intergrity: A cross-sectional surevy

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# Demographics

| Variable | **Overall**, N = 1451 | **Prefer not to disclose**, N = 91 | **Researcher from the Global North**, N = 541 | **Researcher from the Global South**, N = 821 |
| --- | --- | --- | --- | --- |
| **Which country are you from?** |  |  |  |  |
| East Asia and Pacific | 15 (10.3%) | 2 (22.2%) | 3 (5.6%) | 10 (12.2%) |
| Europe and Central Asia | 32 (22.1%) | 1 (11.1%) | 29 (53.7%) | 2 (2.4%) |
| Middle East and North Africa | 1 (0.7%) | 0 (0.0%) | 0 (0.0%) | 1 (1.2%) |
| North America | 12 (8.3%) | 0 (0.0%) | 10 (18.5%) | 2 (2.4%) |
| Prefer Not To Disclose | 2 (1.4%) | 1 (11.1%) | 0 (0.0%) | 1 (1.2%) |
| South Asia | 15 (10.3%) | 1 (11.1%) | 1 (1.9%) | 13 (15.9%) |
| Sub-Saharan Africa | 41 (28.3%) | 1 (11.1%) | 4 (7.4%) | 36 (43.9%) |
| Unknown | 27 (18.6%) | 3 (33.3%) | 7 (13.0%) | 17 (20.7%) |
| **Research Discipline** |  |  |  |  |
| Biology/Medicine | 33 (22.8%) | 1 (11.1%) | 14 (25.9%) | 18 (22.0%) |
| Biostatistics/Epidemiology | 42 (29.0%) | 2 (22.2%) | 17 (31.5%) | 23 (28.0%) |
| Unknown | 29 (20.0%) | 3 (33.3%) | 8 (14.8%) | 18 (22.0%) |
| Sociology/Anthropology | 9 (6.2%) | 0 (0.0%) | 5 (9.3%) | 4 (4.9%) |
| Political sciences/Health economics | 7 (4.8%) | 0 (0.0%) | 2 (3.7%) | 5 (6.1%) |
| Environmental and occupational research | 10 (6.9%) | 0 (0.0%) | 3 (5.6%) | 7 (8.5%) |
| Prefer not to disclose | 5 (3.4%) | 3 (33.3%) | 1 (1.9%) | 1 (1.2%) |
| Health systems research | 7 (4.8%) | 0 (0.0%) | 2 (3.7%) | 5 (6.1%) |
| Biomedical sciences | 2 (1.4%) | 0 (0.0%) | 1 (1.9%) | 1 (1.2%) |
| Mathematics/Computer science | 1 (0.7%) | 0 (0.0%) | 1 (1.9%) | 0 (0.0%) |
| **What is you gender?** |  |  |  |  |
| Female | 56 (38.6%) | 2 (22.2%) | 26 (48.1%) | 28 (34.1%) |
| Male | 59 (40.7%) | 3 (33.3%) | 19 (35.2%) | 37 (45.1%) |
| Prefer not to disclose | 2 (1.4%) | 1 (11.1%) | 1 (1.9%) | 0 (0.0%) |
| Unknown | 28 (19.3%) | 3 (33.3%) | 8 (14.8%) | 17 (20.7%) |
| **How many years of involvement in research do you have?** |  |  |  |  |
| Early Career (< 3 years post-education) | 11 (7.6%) | 1 (11.1%) | 3 (5.6%) | 7 (8.5%) |
| Established (>10 years post-education) | 65 (44.8%) | 1 (11.1%) | 35 (64.8%) | 29 (35.4%) |
| Mid-career (3-10 years post-education) | 36 (24.8%) | 1 (11.1%) | 8 (14.8%) | 27 (32.9%) |
| Prefer not to disclose | 5 (3.4%) | 3 (33.3%) | 1 (1.9%) | 1 (1.2%) |
| Unknown | 28 (19.3%) | 3 (33.3%) | 7 (13.0%) | 18 (22.0%) |
| **What is your highest academic rank?** |  |  |  |  |
| Associate Professor or Full Professor | 33 (22.8%) | 0 (0.0%) | 20 (37.0%) | 13 (15.9%) |
| Bachelor or Master degree | 29 (20.0%) | 3 (33.3%) | 5 (9.3%) | 21 (25.6%) |
| Other (please specify) | 3 (2.1%) | 0 (0.0%) | 1 (1.9%) | 2 (2.4%) |
| PhD degree | 34 (23.4%) | 2 (22.2%) | 9 (16.7%) | 23 (28.0%) |
| Postdoc or Assistant Professor | 16 (11.0%) | 0 (0.0%) | 11 (20.4%) | 5 (6.1%) |
| Prefer not to disclose | 3 (2.1%) | 1 (11.1%) | 1 (1.9%) | 1 (1.2%) |
| Unknown | 27 (18.6%) | 3 (33.3%) | 7 (13.0%) | 17 (20.7%) |
| 1n (%) | | | | |

Out of the 145 respondents, only 118 people responded to the question about country of origin. Majority 41 (34.7%) were from sub-Saharan Africa working many of whom were based in the global south. The second highest group were from Europe and Central Asia, with 32 (27.1%), many of whom work were based in the global north. Only one person was from the middle-East and North America, currently based in the global south. However, 27 (18.6%) respondents did not respond to this question.

Majority, 41 (35.3%) of the respondents were from Biostatistics/Epidemiology discipline of global health of whom majority twenty-two were operating from the global south, accounting for 34.4% from the global south. Biology/medicine was the second highest global heal discipline among our respondents with 23 (27.6%) and was also the second highest among country of origin with 18 (28.1%) from the global south. Only one respondent was from the Mathematics/computer science discipline and based in global north. However, we had 29 (20%) non-response rate on this question.

Majority of the respondents 59 (50.4%) were of the male-gender, accounting for 37 (56.9%) from the global south. The global south still had majority 28 (43.1%)female-gender representation. However, 28 (19.3%) respondents did not respond to this question.

Majority of the respondents 65 (55.6%) were established researchers with >10years post education, accounting for 35 (74.5%) from the global north. The Mid-career (3-10 years post-education) were the second highest 36 (30.8%), accounting for 27 (42.2%) based in the global south. However, we had 28 (19.3%) non-response rate on this question.

For the highest academic rank, we had a non-response rate of 27 (18.6%). however, majority of the respondents 34 (28.8%) had Ph.D degrees, accounting for 23 (35.4%) from the global south. The Associate Professor or Full Professor were the second highest 33 (28.0%), accounting for 20 (42.6%) from the global south. However, we had 28 (19.3%) non-response rate on this question. Respondents with a bachelor or Master degree were 29 (24.6%), accounting for 21 (32.3%) from the global south.

# Prevalence of responsible research practices and Fair research practices

| Variable | **N** | **Overall**, N = 1451 | **Prefer not to disclose**, N = 91 | **Researcher from the Global North**, N = 541 | **Researcher from the Global South**, N = 821 |
| --- | --- | --- | --- | --- | --- |
| **responsible research Practices** | 126 |  |  |  |  |
| Pass |  | 126 (100.0%) | 7 (100.0%) | 50 (100.0%) | 69 (100.0%) |
| Unknown |  | 19 | 2 | 4 | 13 |
| **fair research practices** | 116 |  |  |  |  |
| Pass |  | 111 (95.7%) | 5 (83.3%) | 44 (95.7%) | 62 (96.9%) |
| Fail |  | 5 (4.3%) | 1 (16.7%) | 2 (4.3%) | 2 (3.1%) |
| Unknown |  | 29 | 3 | 8 | 18 |
| 1n (%) | | | | | |

Of the 145 respondents to the survey, 126 (86.9%) filled in the responsible research practices (RRP) questionnaire. Using a cutoff score of 70, which is the half the total possible score on the RRP tool, all respondents to this questionnaire from the global south and global north passed the questions and there was no statistically significant difference in the median score between global south 111 (95, 123) compared to global north 107 (97, 117) (P = 0.4). While, for fair research practices, with the same cutoff conditions and a response rate of 116 (80%), an equal number of two individuals failed and there was a statistically significant difference in the median score between global south 116 (99, 127) compared to global north 104 (90, 118) (P = 0.010).

# Re-categorised RI and RF scores by location (Global North or South)

| Category | **N** | **Overall**, N = 1361 | **Global South**, N = 821 | **Global North**, N = 541 | **p-value**2 |
| --- | --- | --- | --- | --- | --- |
| **Meticulous research process** | 115 | 6.13 (0.84) | 6.09 (0.97) | 6.19 (0.62) | 0.7 |
| **Good mentoring** | 118 | 5.97 (1.22) | 6.15 (1.32) | 5.72 (1.03) | 0.001 |
| **Adequate methods** | 114 | 6.01 (1.11) | 6.04 (1.19) | 5.96 (1.00) | 0.3 |
| **Transparent reporting** | 116 | 6.54 (0.68) | 6.48 (0.78) | 6.62 (0.53) | 0.8 |
| **Ensuring reproducibility** | 110 | 5.45 (1.55) | 5.31 (1.66) | 5.66 (1.37) | 0.4 |
| **Open science** | 112 | 5.03 (1.56) | 5.08 (1.71) | 4.97 (1.33) | 0.4 |
| **Engagement of local decision-makers** | 107 | 4.81 (1.47) | 4.86 (1.59) | 4.75 (1.29) | 0.5 |
| **Engagement of affected populations** | 105 | 4.83 (1.45) | 5.08 (1.47) | 4.44 (1.35) | 0.038 |
| **Partnership with local researchers** | 110 | 6.06 (1.13) | 6.13 (1.01) | 5.97 (1.28) | 0.8 |
| **Fair agreements between study partners** | 110 | 5.55 (1.09) | 5.63 (1.15) | 5.44 (0.99) | 0.2 |
| **Local ethical approval** | 107 | 6.62 (1.09) | 6.59 (1.27) | 6.67 (0.73) | 0.3 |
| **Respectful data collection** | 109 | 6.23 (1.07) | 6.28 (1.06) | 6.17 (1.07) | 0.2 |
| 1Mean (SD) | | | | | |
| 2Wilcoxon rank sum test | | | | | |

png 2

| Variable | **Biomedical**, N = 891 | **Non biomedical**, N = 221 | **p-value**2 |
| --- | --- | --- | --- |
| **Meticulous research process** | 6.10 (0.85) | 6.08 (0.79) | 0.8 |
| **Good mentoring** | 5.93 (1.29) | 6.05 (0.91) | >0.9 |
| **Adequate methods** | 5.98 (1.12) | 6.05 (1.11) | 0.8 |
| **Transparent reporting** | 6.51 (0.70) | 6.69 (0.46) | 0.6 |
| **Ensuring reproducibility** | 5.62 (1.45) | 4.78 (1.69) | 0.027 |
| **Open science** | 4.98 (1.58) | 5.05 (1.58) | >0.9 |
| **Engagement of local decision-makers** | 4.82 (1.48) | 4.81 (1.38) | >0.9 |
| **Engagement of affected populations** | 4.76 (1.45) | 5.00 (1.51) | 0.5 |
| **Partnership with local researchers** | 6.07 (1.12) | 5.92 (1.41) | >0.9 |
| **Fair agreements between study partners** | 5.53 (1.14) | 5.51 (1.09) | >0.9 |
| **Local ethical approval** | 6.56 (1.25) | 6.60 (0.93) | 0.5 |
| **Respectful data collection** | 6.12 (1.18) | 6.58 (0.39) | 0.5 |
| 1Mean (SD) | | | |
| 2Wilcoxon rank sum test | | | |

png 2

# Responsible research practices and fair research practices by location (Global North or South)

In this analysis, I have removed those who chose the option prefer not to say

| Variable | **N** | **Overall**, N = 1361 | **Global South**, N = 821 | **Global North**, N = 541 | **p-value**2 |
| --- | --- | --- | --- | --- | --- |
| **rpq1** | 110 | 7.00 (7.00, 7.00) | 7.00 (7.00, 7.00) | 7.00 (7.00, 7.00) | 0.8 |
| Unknown |  | 26 | 21 | 5 |  |
| **rpq2** | 75 | 7.00 (5.50, 7.00) | 7.00 (6.00, 7.00) | 7.00 (5.00, 7.00) | 0.7 |
| Unknown |  | 61 | 38 | 23 |  |
| **rpq3** | 111 | 7.00 (6.00, 7.00) | 7.00 (6.00, 7.00) | 6.00 (6.00, 7.00) | 0.12 |
| Unknown |  | 25 | 17 | 8 |  |
| **rpq4** | 114 | 6.50 (6.00, 7.00) | 7.00 (6.00, 7.00) | 6.00 (5.75, 7.00) | 0.040 |
| Unknown |  | 22 | 16 | 6 |  |
| **rpq5** | 116 | 6.00 (5.00, 7.00) | 7.00 (6.00, 7.00) | 6.00 (5.00, 7.00) | 0.002 |
| Unknown |  | 20 | 15 | 5 |  |
| **rpq6** | 103 | 7.00 (6.00, 7.00) | 7.00 (6.00, 7.00) | 6.00 (6.00, 7.00) | 0.2 |
| Unknown |  | 33 | 17 | 16 |  |
| **rpq7** | 113 | 7.00 (6.00, 7.00) | 7.00 (6.00, 7.00) | 7.00 (6.00, 7.00) | 0.10 |
| Unknown |  | 23 | 16 | 7 |  |
| **rpq8** | 111 | 7.00 (6.00, 7.00) | 7.00 (6.00, 7.00) | 7.00 (6.00, 7.00) | 0.9 |
| Unknown |  | 25 | 19 | 6 |  |
| **rpq9** | 93 | 6.00 (3.00, 7.00) | 5.50 (2.00, 7.00) | 6.00 (4.00, 7.00) | 0.5 |
| Unknown |  | 43 | 24 | 19 |  |
| **rpq10** | 112 | 6.00 (4.75, 7.00) | 6.00 (5.00, 7.00) | 6.00 (4.00, 6.50) | 0.2 |
| Unknown |  | 24 | 17 | 7 |  |
| **rpq11** | 112 | 7.00 (7.00, 7.00) | 7.00 (7.00, 7.00) | 7.00 (7.00, 7.00) | 0.9 |
| Unknown |  | 24 | 17 | 7 |  |
| **rpq12** | 113 | 7.00 (6.00, 7.00) | 7.00 (7.00, 7.00) | 7.00 (6.00, 7.00) | 0.6 |
| Unknown |  | 23 | 17 | 6 |  |
| **rpq13** | 112 | 6.00 (5.00, 7.00) | 6.00 (5.00, 7.00) | 6.00 (5.00, 7.00) | 0.4 |
| Unknown |  | 24 | 18 | 6 |  |
| **rpq14** | 113 | 7.00 (7.00, 7.00) | 7.00 (7.00, 7.00) | 7.00 (7.00, 7.00) | 0.6 |
| Unknown |  | 23 | 17 | 6 |  |
| **rpq15** | 89 | 7.00 (5.00, 7.00) | 7.00 (5.00, 7.00) | 7.00 (5.00, 7.00) | >0.9 |
| Unknown |  | 47 | 26 | 21 |  |
| **rpq16** | 102 | 5.00 (3.25, 7.00) | 6.00 (3.00, 7.00) | 5.00 (4.00, 6.00) | 0.3 |
| Unknown |  | 34 | 21 | 13 |  |
| **rpq17** | 77 | 4.00 (2.00, 6.00) | 4.00 (1.50, 6.00) | 4.00 (3.00, 5.75) | 0.6 |
| Unknown |  | 59 | 35 | 24 |  |
| **rpq18** | 107 | 6.00 (5.00, 7.00) | 7.00 (5.00, 7.00) | 6.00 (5.00, 7.00) | 0.4 |
| Unknown |  | 29 | 19 | 10 |  |
| **rpq19** | 110 | 6.00 (6.00, 7.00) | 7.00 (6.00, 7.00) | 6.00 (5.00, 7.00) | 0.2 |
| Unknown |  | 26 | 19 | 7 |  |
| **rpq20** | 109 | 7.00 (6.00, 7.00) | 7.00 (6.00, 7.00) | 7.00 (6.00, 7.00) | 0.7 |
| Unknown |  | 27 | 20 | 7 |  |
| **fpq1** | 103 | 6.00 (4.00, 7.00) | 7.00 (6.00, 7.00) | 5.00 (3.00, 6.00) | <0.001 |
| Unknown |  | 33 | 20 | 13 |  |
| **fpq2** | 104 | 6.00 (4.00, 7.00) | 6.00 (4.00, 7.00) | 5.00 (4.00, 6.00) | 0.032 |
| Unknown |  | 32 | 20 | 12 |  |
| **fpq3** | 101 | 6.00 (5.00, 7.00) | 6.00 (5.00, 7.00) | 6.00 (5.50, 7.00) | 0.6 |
| Unknown |  | 35 | 24 | 11 |  |
| **fpq4** | 108 | 7.00 (6.00, 7.00) | 7.00 (6.00, 7.00) | 7.00 (6.00, 7.00) | 0.4 |
| Unknown |  | 28 | 19 | 9 |  |
| **fpq5** | 104 | 7.00 (6.00, 7.00) | 7.00 (6.00, 7.00) | 6.00 (6.00, 7.00) | 0.2 |
| Unknown |  | 32 | 21 | 11 |  |
| **fpq6** | 108 | 7.00 (6.00, 7.00) | 7.00 (6.00, 7.00) | 6.00 (6.00, 7.00) | 0.15 |
| Unknown |  | 28 | 19 | 9 |  |
| **fpq7** | 106 | 6.00 (5.00, 7.00) | 7.00 (6.00, 7.00) | 6.00 (5.00, 6.50) | 0.003 |
| Unknown |  | 30 | 19 | 11 |  |
| **fpq8** | 107 | 7.00 (7.00, 7.00) | 7.00 (7.00, 7.00) | 7.00 (7.00, 7.00) | 0.2 |
| Unknown |  | 29 | 18 | 11 |  |
| **fpq9** | 91 | 7.00 (7.00, 7.00) | 7.00 (7.00, 7.00) | 7.00 (7.00, 7.00) | 0.9 |
| Unknown |  | 45 | 28 | 17 |  |
| **fpq10** | 102 | 7.00 (6.00, 7.00) | 7.00 (6.00, 7.00) | 7.00 (6.00, 7.00) | 0.8 |
| Unknown |  | 34 | 23 | 11 |  |
| **fpq11** | 99 | 7.00 (6.00, 7.00) | 7.00 (6.00, 7.00) | 6.00 (5.25, 7.00) | 0.3 |
| Unknown |  | 37 | 21 | 16 |  |
| **fpq12** | 107 | 7.00 (7.00, 7.00) | 7.00 (7.00, 7.00) | 7.00 (7.00, 7.00) | 0.8 |
| Unknown |  | 29 | 19 | 10 |  |
| **fpq13** | 105 | 7.00 (6.00, 7.00) | 7.00 (6.00, 7.00) | 6.00 (5.00, 7.00) | 0.045 |
| Unknown |  | 31 | 18 | 13 |  |
| **fpq14** | 99 | 5.00 (4.00, 6.00) | 5.00 (4.00, 7.00) | 5.00 (3.00, 5.50) | 0.2 |
| Unknown |  | 37 | 22 | 15 |  |
| **fpq15** | 100 | 4.00 (3.00, 6.00) | 5.00 (3.00, 6.00) | 4.00 (3.00, 6.00) | 0.6 |
| Unknown |  | 36 | 21 | 15 |  |
| **fpq16** | 98 | 5.00 (4.00, 6.00) | 4.50 (2.00, 6.00) | 5.00 (4.00, 6.00) | 0.3 |
| Unknown |  | 38 | 22 | 16 |  |
| **fpq17** | 99 | 4.00 (3.00, 6.00) | 5.00 (2.00, 6.00) | 4.00 (4.00, 5.00) | 0.9 |
| Unknown |  | 37 | 23 | 14 |  |
| **fpq18** | 108 | 7.00 (6.00, 7.00) | 7.00 (6.00, 7.00) | 7.00 (6.00, 7.00) | 0.6 |
| Unknown |  | 28 | 20 | 8 |  |
| **fpq19** | 107 | 7.00 (6.00, 7.00) | 7.00 (6.00, 7.00) | 6.00 (5.00, 7.00) | 0.093 |
| Unknown |  | 29 | 19 | 10 |  |
| **fpq20** | 92 | 5.00 (3.00, 6.25) | 6.00 (3.25, 7.00) | 4.00 (3.00, 6.00) | 0.037 |
| Unknown |  | 44 | 24 | 20 |  |
| **responsible research Practices score** | 119 | 109 (96, 122) | 111 (95, 123) | 107 (97, 117) | 0.4 |
| Unknown |  | 17 | 13 | 4 |  |
| **fair research practices score** | 110 | 112 (93, 122) | 116 (99, 127) | 104 (90, 118) | 0.010 |
| Unknown |  | 26 | 18 | 8 |  |
| 1Median (IQR) | | | | | |
| 2Wilcoxon rank sum test | | | | | |

About responsible research practices, when respondents were asked whether in the last three years, they gave *insufficient* attention to the skills or expertise essential to perform my studies, global south respondents had a significantly higher score 7.00 (6.00, 7.00) compared to the global north 6.00 (5.75, 7.00) (P = 0.040). When asked whether In the last three years, I *insufficiently* supervised or mentored junior co-workers had a significantly higher score 7.00 (6.00, 7.00) compared to the global north 6.00 (5.00, 7.00) (P = 0.002). There were no statistically significant differences in all other 18 questions in the Responsible research practices.

About fair research practices, when respondents were asked whether in the research they have been involved in over the last three years, they did not consult representatives of affected populations during the preparation stage of research, global south respondents had a significantly higher score 7.00 (6.00, 7.00) compared to the global north 5.00 (3.00, 6.00) (P <0.001). When asked whether in the research they have been involved in over the last three years, they did not consult end users of research during the preparation stage of research, the global south had a significantly higher score 6.00 (4.00, 7.00) compared to the global north 5.00 (4.00, 6.00) (P = 0.032). When asked whether in the research they have been involved in over the last three years there were clear *decision-making processes* agreed upon by all study partners, the global south had a significantly higher score 7.00 (6.00, 7.00) compared to the global north 6.00 (5.00, 6.50) (P = 0.003). When asked whether in the research they have been involved in over the last three years there were no clear and fair data ownership agreements, the global south had a significantly higher score 7.00 (6.00, 7.00) compared to the global north 6.00 (5.00, 7.00) (P = 0.045). When asked whether in the research they have been involved in over the last three years, whenever data was made openly accessible, strategies were put in place to encourage secondary analyses by local researchers, the global south had a significantly higher score 6.00 (3.25, 7.00) compared to the global north 4.00 (3.00, 6.00) (P = 0.037). There were no statistically significant differences in all other 15 questions in the Fair research practices.

# Multivariate model - responsible research Practices

|  | **Univariate** | | | | **Multivariate** | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Characteristic** | **N** | **Beta** | **95% CI**1 | **p-value** | **Beta** | **95% CI**1 | **p-value** |
| Location | 110 |  |  |  |  |  |  |
| Global South |  | — | — |  | — | — |  |
| Global North |  | 0.55 | -6.9, 8.0 | 0.9 | -4.7 | -19, 9.4 | 0.5 |
| accademic\_rank | 110 |  |  |  |  |  |  |
| Associate Professor or Full Professor |  | — | — |  | — | — |  |
| Bachelor or Master degree |  | -17 | -26, -6.9 | 0.001 | -14 | -27, -0.74 | 0.042 |
| Other (please specify) |  | 14 | -7.6, 36 | 0.2 | 15 | -7.6, 38 | 0.2 |
| PhD degree |  | -1.7 | -11, 7.4 | 0.7 | -3.2 | -15, 8.2 | 0.6 |
| Postdoc or Assistant Professor |  | 0.50 | -11, 12 | >0.9 | 2.7 | -10, 16 | 0.7 |
| Prefer not to disclose |  | -7.9 | -35, 19 | 0.6 | -9.2 | -37, 19 | 0.5 |
| year\_involment\_research | 110 |  |  |  |  |  |  |
| Early Career (< 3 years post-education) |  | — | — |  | — | — |  |
| Established (>10 years post-education) |  | 7.8 | -5.3, 21 | 0.2 | 8.7 | -6.0, 23 | 0.2 |
| Mid-career (3-10 years post-education) |  | 1.9 | -12, 16 | 0.8 | 2.1 | -12, 16 | 0.8 |
| Prefer not to disclose |  | -16 | -56, 24 | 0.4 | -7.3 | -47, 33 | 0.7 |
| gender | 110 |  |  |  |  |  |  |
| Female |  | — | — |  | — | — |  |
| Male |  | 2.5 | -5.0, 9.9 | 0.5 | 3.9 | -4.6, 12 | 0.4 |
| Prefer not to disclose |  | 19 | -21, 58 | 0.4 | 16 | -24, 56 | 0.4 |
| Unknown |  | 13 | -27, 52 | 0.5 | -3.1 | -58, 52 | >0.9 |
| country\_origin | 110 |  |  |  |  |  |  |
| East Asia and Pacific |  | — | — |  | — | — |  |
| Europe and Central Asia |  | -1.5 | -14, 11 | 0.8 | 1.4 | -16, 19 | 0.9 |
| Middle East and North Africa |  | -4.5 | -45, 36 | 0.8 | -5.2 | -44, 33 | 0.8 |
| North America |  | -2.3 | -18, 13 | 0.8 | -2.4 | -21, 16 | 0.8 |
| Prefer Not To Disclose |  | -36 | -76, 4.6 | 0.086 | -33 | -73, 7.4 | 0.11 |
| South Asia |  | -7.5 | -22, 7.4 | 0.3 | -3.0 | -20, 14 | 0.7 |
| Sub-Saharan Africa |  | 1.3 | -11, 14 | 0.8 | 2.0 | -12, 16 | 0.8 |
| discipline\_global\_health | 110 |  |  |  |  |  |  |
| Biology/Medicine |  | — | — |  | — | — |  |
| Biostatistics/Epidemiology |  | 0.06 | -8.8, 8.9 | >0.9 | 6.8 | -2.8, 16 | 0.2 |
| Unknown |  | 5.3 | -22, 32 | 0.7 | 15 | -25, 54 | 0.5 |
| Sociology/Anthropology |  | -6.4 | -20, 7.6 | 0.4 | -0.88 | -16, 14 | >0.9 |
| Political sciences/Health economics |  | -1.5 | -17, 14 | 0.9 | 5.4 | -11, 22 | 0.5 |
| Environmental and occupational research |  | 9.3 | -4.2, 23 | 0.2 | 13 | -0.99, 27 | 0.072 |
| Prefer not to disclose |  | 2.8 | -35, 41 | 0.9 | 14 | -25, 53 | 0.5 |
| Health systems research |  | 2.8 | -14, 19 | 0.7 | 6.3 | -10, 23 | 0.5 |
| Biomedical sciences |  | -48 | -75, -21 | <0.001 | -43 | -71, -16 | 0.002 |
| Mathematics/Computer science |  | 15 | -23, 53 | 0.4 | 19 | -18, 57 | 0.3 |
| 1CI = Confidence Interval | | | | | | | |

At Univariate analysis, only academic rank of the respondents had a category that was significantly associated with responsible research practices. Bachelor or Master degree was associated with -17 (95%CI:-27, -6.9) (P = 0.001) reduction in the responsible research score compared to Associate Professor or Full Professor. Other variables were not statistically significantly associated with responsible research practices. In the full model, after adjusting for Location, years of involvement, gender, country of origin and discipline of global health, Bachelor or Master degree was associated with -16.5 (95%CI:-30.6, -2.29) (P = 0.025) reduction in the responsible research practice score compared to Associate Professor or Full Professor. While in the reduced model (after stepwise regression analysis) Bachelor or Master degree was still associated with -18.3 (95%CI:-28.7, -7.84) (P <0.001) reduction in the responsible research score compared to Associate Professor or Full Professor adjusting for location.

# Multivariate model - Fair research Practices

Call: glm(formula = fpq\_score ~ Location + year\_involment\_research, family = gaussian, data = finalmodel\_dataset)

Deviance Residuals: Min 1Q Median 3Q Max  
-73.119 -11.993 5.504 16.240 36.401

Coefficients: Estimate (Intercept) 107.3932 LocationGlobal North -12.6441 year\_involment\_researchEstablished (>10 years post-education) 7.8496 year\_involment\_researchMid-career (3-10 years post-education) 0.7254 year\_involment\_researchPrefer not to disclose -57.3932 Std. Error (Intercept) 6.9661 LocationGlobal North 4.4030 year\_involment\_researchEstablished (>10 years post-education) 7.4346 year\_involment\_researchMid-career (3-10 years post-education) 7.7619 year\_involment\_researchPrefer not to disclose 22.7232 t value Pr(>|t|) (Intercept) 15.417 < 2e-16 LocationGlobal North -2.872 0.00494 year\_involment\_researchEstablished (>10 years post-education) 1.056 0.29347 year\_involment\_researchMid-career (3-10 years post-education) 0.093 0.92572 year\_involment\_researchPrefer not to disclose -2.526 0.01304

(Intercept)  ***LocationGlobal North***  *year\_involment\_researchEstablished (>10 years post-education)*  
*year\_involment\_researchMid-career (3-10 years post-education)*  
*year\_involment\_researchPrefer not to disclose*   
— Signif. codes: 0 ‘***’ 0.001 ’****’ 0.01 ’*’ 0.05 ‘.’ 0.1 ’ ’ 1

(Dispersion parameter for gaussian family taken to be 467.8171)

Null deviance: 56524 on 109 degrees of freedom

Residual deviance: 49121 on 105 degrees of freedom AIC: 995.34

Number of Fisher Scoring iterations: 2

|  | **Univariate** | | | | **Multivariate** | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Characteristic** | **N** | **Beta** | **95% CI**1 | **p-value** | **Beta** | **95% CI**1 | **p-value** |
| Location | 110 |  |  |  |  |  |  |
| Global South |  | — | — |  | — | — |  |
| Global North |  | -9.5 | -18, -1.0 | 0.030 | -15 | -32, 1.6 | 0.080 |
| accademic\_rank | 110 |  |  |  |  |  |  |
| Associate Professor or Full Professor |  | — | — |  | — | — |  |
| Bachelor or Master degree |  | -11 | -23, 0.90 | 0.073 | -9.4 | -25, 6.6 | 0.3 |
| Other (please specify) |  | 8.8 | -18, 36 | 0.5 | 12 | -16, 40 | 0.4 |
| PhD degree |  | -3.4 | -15, 7.7 | 0.5 | -6.3 | -20, 7.6 | 0.4 |
| Postdoc or Assistant Professor |  | -8.2 | -22, 5.5 | 0.2 | -4.5 | -20, 11 | 0.6 |
| Prefer not to disclose |  | -3.4 | -36, 29 | 0.8 | 0.44 | -34, 34 | >0.9 |
| year\_involment\_research | 110 |  |  |  |  |  |  |
| Early Career (< 3 years post-education) |  | — | — |  | — | — |  |
| Established (>10 years post-education) |  | 4.7 | -10, 20 | 0.5 | 5.4 | -12, 23 | 0.6 |
| Mid-career (3-10 years post-education) |  | 1.6 | -14, 17 | 0.8 | -0.99 | -18, 16 | >0.9 |
| Prefer not to disclose |  | -54 | -100, -7.6 | 0.024 | -50 | -99, -1.6 | 0.046 |
| gender | 110 |  |  |  |  |  |  |
| Female |  | — | — |  | — | — |  |
| Male |  | -1.0 | -9.6, 7.6 | 0.8 | -5.6 | -16, 4.6 | 0.3 |
| Prefer not to disclose |  | -33 | -78, 12 | 0.2 | -19 | -68, 30 | 0.4 |
| Unknown |  | 12 | -33, 57 | 0.6 | 20 | -47, 87 | 0.6 |
| country\_origin | 110 |  |  |  |  |  |  |
| East Asia and Pacific |  | — | — |  | — | — |  |
| Europe and Central Asia |  | 2.1 | -12, 17 | 0.8 | 10 | -11, 31 | 0.3 |
| Middle East and North Africa |  | 27 | -19, 73 | 0.3 | 14 | -32, 61 | 0.5 |
| North America |  | 5.9 | -12, 24 | 0.5 | 8.4 | -14, 31 | 0.5 |
| Prefer Not To Disclose |  | -15 | -61, 31 | 0.5 | -16 | -65, 33 | 0.5 |
| South Asia |  | 6.4 | -11, 23 | 0.5 | 4.5 | -16, 25 | 0.7 |
| Sub-Saharan Africa |  | 14 | 0.03, 28 | 0.052 | 9.4 | -6.9, 26 | 0.3 |
| discipline\_global\_health | 110 |  |  |  |  |  |  |
| Biology/Medicine |  | — | — |  | — | — |  |
| Biostatistics/Epidemiology |  | -5.6 | -16, 4.8 | 0.3 | 3.3 | -8.3, 15 | 0.6 |
| Unknown |  | -0.47 | -33, 32 | >0.9 | -6.7 | -54, 41 | 0.8 |
| Sociology/Anthropology |  | -4.9 | -22, 12 | 0.6 | -3.0 | -21, 15 | 0.7 |
| Political sciences/Health economics |  | 4.0 | -14, 22 | 0.7 | 11 | -8.9, 30 | 0.3 |
| Environmental and occupational research |  | 16 | 0.35, 32 | 0.048 | 18 | 1.1, 35 | 0.040 |
| Prefer not to disclose |  | 22 | -23, 67 | 0.3 | 28 | -20, 75 | 0.3 |
| Health systems research |  | 7.0 | -13, 27 | 0.5 | 9.6 | -10, 29 | 0.3 |
| Biomedical sciences |  | -16 | -49, 16 | 0.3 | -11 | -44, 23 | 0.5 |
| Mathematics/Computer science |  | -17 | -62, 28 | 0.5 | -10 | -56, 35 | 0.7 |
| 1CI = Confidence Interval | | | | | | | |

At Univariate analysis, coming from the global north was associated with -10 (95%CI:-19, -1.6) (P = 0.022) reduction the fair research practices scores compared to respondent from global south, while those who preferred not to say their number of years of involvement in research had a -55 (95%CI:-101, -8.1) (P = 0.023) reduction in fair research practices scores compared to Early Career (< 3 years post-education). Respondent from the sub-Saharan region had a 15 (95%CI:0.24, 29) (P = 0.049) increase in fair research practices scores compared to those from East Asia and Pacific. Other variables were not statistically significantly associated with fair research practices. In the full model, after adjusting for Location, years of involvement, gender, country of origin and discipline of global health, respondents who preferred not to disclose their years of involvement in research had a -50.0 (95%CI:-98.7, -1.25) (P = 0.048) reduction in the fair research scores compared to Early Career (< 3 years post-education). While in the reduced model (after stepwise regression analysis) respondents who preferred not to disclose their years of involvement in research had a -59.0 (95%CI:-104, -14.1) (P = 0.012) reduction in the fair research scores compared to Early Career (< 3 years post-education) after adjusting for location and global north respondents had a -13.1 (95%CI:-21.9, -4.42) (P = 0.004) reduction in the fair research practices score compared to the global south adjusting for year of involvement..

| Variable | **N** | **Prefer not to disclose**, N = 11 | **Researcher from the Global North**, N = 61 | **Researcher from the Global South**, N = 31 |
| --- | --- | --- | --- | --- |
| **na\_fair research practices\_q1** | 2 |  |  |  |
| I did not undertake any research work or study. |  | 0 (NA%) | 0 (NA%) | 1 (50%) |
| implemented Clinical trial study |  | 0 (NA%) | 0 (NA%) | 1 (50%) |
| Unknown |  | 1 | 6 | 1 |
| 1n (%) | | | | |

| Variable | **N** | **Prefer not to disclose**, N = 11 | **Researcher from the Global North**, N = 51 | **Researcher from the Global South**, N = 31 |
| --- | --- | --- | --- | --- |
| **na\_fair research practices\_q2** | 2 |  |  |  |
| Are politicians end-users? Then I was in a dialogue with them |  | 0 (NA%) | 1 (100%) | 0 (0%) |
| I did not undertake any research work or study. |  | 0 (NA%) | 0 (0%) | 1 (100%) |
| Unknown |  | 1 | 4 | 2 |
| 1n (%) | | | | |

| Variable | **N** | **Prefer not to disclose**, N = 11 | **Researcher from the Global North**, N = 41 | **Researcher from the Global South**, N = 71 |
| --- | --- | --- | --- | --- |
| **na\_fair research practices\_q3** | 6 |  |  |  |
| I am a local researcher |  | 0 (0%) | 0 (0%) | 1 (25%) |
| I am from global south, local researchers. |  | 0 (0%) | 0 (0%) | 1 (25%) |
| I did not undertake any research work or study. |  | 0 (0%) | 0 (0%) | 1 (25%) |
| I don't research abroad or outside my local community |  | 0 (0%) | 1 (100%) | 0 (0%) |
| the study I work on is a large national study that does not have local researchers per se |  | 0 (0%) | 0 (0%) | 1 (25%) |
| We work in our local populations |  | 1 (100%) | 0 (0%) | 0 (0%) |
| Unknown |  | 0 | 3 | 3 |
| 1n (%) | | | | |

| Variable | **N** | **Prefer not to disclose**, N = 01 | **Researcher from the Global North**, N = 21 | **Researcher from the Global South**, N = 21 |
| --- | --- | --- | --- | --- |
| **na\_fair research practices\_q4** | 2 |  |  |  |
| I did not undertake any research work or study. |  | 0 (NA%) | 0 (NA%) | 1 (50%) |
| Protocol prepared by sponsor |  | 0 (NA%) | 0 (NA%) | 1 (50%) |
| Unknown |  | 0 | 2 | 0 |
| 1n (%) | | | | |

| Variable | **N** | **Prefer not to disclose**, N = 01 | **Researcher from the Global North**, N = 41 | **Researcher from the Global South**, N = 41 |
| --- | --- | --- | --- | --- |
| **na\_fair research practices\_q5** | 2 |  |  |  |
| I did not undertake any research work or study. |  | 0 (NA%) | 0 (NA%) | 1 (50%) |
| instruments are not locally adapted |  | 0 (NA%) | 0 (NA%) | 1 (50%) |
| Unknown |  | 0 | 4 | 2 |
| 1n (%) | | | | |

| Variable | **N** | **Prefer not to disclose**, N = 01 | **Researcher from the Global North**, N = 21 | **Researcher from the Global South**, N = 21 |
| --- | --- | --- | --- | --- |
| **na\_fair research practices\_q6** | 1 |  |  |  |
| I did not undertake any research work or study. |  | 0 (NA%) | 0 (NA%) | 1 (100%) |
| Unknown |  | 0 | 2 | 1 |
| 1n (%) | | | | |

| Variable | **N** | **Prefer not to disclose**, N = 01 | **Researcher from the Global North**, N = 41 | **Researcher from the Global South**, N = 21 |
| --- | --- | --- | --- | --- |
| **na\_fair research practices\_q7** | 3 |  |  |  |
| do not understand the question, overly broad |  | 0 (NA%) | 1 (50%) | 0 (0%) |
| I did not undertake any research work or study. |  | 0 (NA%) | 0 (0%) | 1 (100%) |
| usually few study partners |  | 0 (NA%) | 1 (50%) | 0 (0%) |
| Unknown |  | 0 | 2 | 1 |
| 1n (%) | | | | |

| Variable | **N** | **Prefer not to disclose**, N = 01 | **Researcher from the Global North**, N = 41 | **Researcher from the Global South**, N = 11 |
| --- | --- | --- | --- | --- |
| **na\_fair research practices\_q8** | 4 |  |  |  |
| I did not undertake any research work or study. |  | 0 (NA%) | 0 (0%) | 1 (100%) |
| Not applicable |  | 0 (NA%) | 1 (33%) | 0 (0%) |
| Reviews are not considered for ethical appeoval |  | 0 (NA%) | 1 (33%) | 0 (0%) |
| systematic reviews |  | 0 (NA%) | 1 (33%) | 0 (0%) |
| Unknown |  | 0 | 1 | 0 |
| 1n (%) | | | | |

| Variable | **N** | **Prefer not to disclose**, N = 01 | **Researcher from the Global North**, N = 91 | **Researcher from the Global South**, N = 111 |
| --- | --- | --- | --- | --- |
| **na\_fair research practices\_q9** | 6 |  |  |  |
| Have not conducted international research in the past 3 years |  | 0 (NA%) | 1 (50%) | 0 (0%) |
| I did not undertake any research work or study. |  | 0 (NA%) | 0 (0%) | 1 (25%) |
| not involved |  | 0 (NA%) | 0 (0%) | 1 (25%) |
| Not yet done a study involving diffferent countries |  | 0 (NA%) | 0 (0%) | 1 (25%) |
| systematic reviews |  | 0 (NA%) | 1 (50%) | 0 (0%) |
| the study i work on is based only in one country |  | 0 (NA%) | 0 (0%) | 1 (25%) |
| Unknown |  | 0 | 7 | 7 |
| 1n (%) | | | | |

| Variable | **N** | **Prefer not to disclose**, N = 01 | **Researcher from the Global North**, N = 31 | **Researcher from the Global South**, N = 61 |
| --- | --- | --- | --- | --- |
| **na\_fair research practices\_q10** | 4 |  |  |  |
| as above, we do not have local researchers as partners |  | 0 (NA%) | 0 (NA%) | 1 (25%) |
| I am a local partner. |  | 0 (NA%) | 0 (NA%) | 1 (25%) |
| I am a local researcher |  | 0 (NA%) | 0 (NA%) | 1 (25%) |
| I did not undertake any research work or study. |  | 0 (NA%) | 0 (NA%) | 1 (25%) |
| Unknown |  | 0 | 3 | 2 |
| 1n (%) | | | | |

| Variable | **N** | **Prefer not to disclose**, N = 01 | **Researcher from the Global North**, N = 81 | **Researcher from the Global South**, N = 41 |
| --- | --- | --- | --- | --- |
| **na\_fair research practices\_q11** | 4 |  |  |  |
| Cultural aspect on data collection depends on data types |  | 0 (NA%) | 0 (0%) | 1 (33%) |
| I did not undertake any research work or study. |  | 0 (NA%) | 0 (0%) | 1 (33%) |
| No data collection staff involved |  | 0 (NA%) | 1 (100%) | 0 (0%) |
| no data collection undertaken during period |  | 0 (NA%) | 0 (0%) | 1 (33%) |
| Unknown |  | 0 | 7 | 1 |
| 1n (%) | | | | |

| Variable | **N** | **Prefer not to disclose**, N = 01 | **Researcher from the Global North**, N = 31 | **Researcher from the Global South**, N = 21 |
| --- | --- | --- | --- | --- |
| **na\_fair research practices\_q12** | 1 |  |  |  |
| I did not undertake any research work or study. |  | 0 (NA%) | 0 (NA%) | 1 (100%) |
| Unknown |  | 0 | 3 | 1 |
| 1n (%) | | | | |

| Variable | **N** | **Prefer not to disclose**, N = 01 | **Researcher from the Global North**, N = 51 | **Researcher from the Global South**, N = 11 |
| --- | --- | --- | --- | --- |
| **na\_fair research practices\_q13** | 1 |  |  |  |
| I did not undertake any research work or study. |  | 0 (NA%) | 0 (NA%) | 1 (100%) |
| Unknown |  | 0 | 5 | 0 |
| 1n (%) | | | | |

| Variable | **N** | **Prefer not to disclose**, N = 11 | **Researcher from the Global North**, N = 71 | **Researcher from the Global South**, N = 51 |
| --- | --- | --- | --- | --- |
| **na\_fair research practices\_q14** | 4 |  |  |  |
| I did not undertake any research work or study. |  | 0 (NA%) | 0 (0%) | 1 (33%) |
| No lay dissemination products |  | 0 (NA%) | 0 (0%) | 1 (33%) |
| Not applicable to research I implemented, because not clinical. Therefore, It would be feasible to communicate results to affected populations. |  | 0 (NA%) | 0 (0%) | 1 (33%) |
| Other organisation in charge of dissemination, processes and dissemination plan not shared with us |  | 0 (NA%) | 1 (100%) | 0 (0%) |
| Unknown |  | 1 | 6 | 2 |
| 1n (%) | | | | |

| Variable | **N** | **Prefer not to disclose**, N = 11 | **Researcher from the Global North**, N = 61 | **Researcher from the Global South**, N = 41 |
| --- | --- | --- | --- | --- |
| **na\_fair research practices\_q15** | 3 |  |  |  |
| I did not undertake any research work or study. |  | 0 (NA%) | 0 (0%) | 1 (50%) |
| No lay dissemination products |  | 0 (NA%) | 0 (0%) | 1 (50%) |
| Other organisation in charge of dissemination, processes and dissemination plan not shared with us |  | 0 (NA%) | 1 (100%) | 0 (0%) |
| Unknown |  | 1 | 5 | 2 |
| 1n (%) | | | | |

| Variable | **N** | **Prefer not to disclose**, N = 11 | **Researcher from the Global North**, N = 81 | **Researcher from the Global South**, N = 51 |
| --- | --- | --- | --- | --- |
| **na\_fair research practices\_q16** | 4 |  |  |  |
| I did not undertake any research work or study. |  | 0 (NA%) | 0 (0%) | 1 (33%) |
| No lay dissemination products |  | 0 (NA%) | 0 (0%) | 1 (33%) |
| Other organisation in charge of dissemination, processes and dissemination plan not shared with us |  | 0 (NA%) | 1 (100%) | 0 (0%) |
| The plans are there, however the study is still ongoing. The dissemination is still to follow. |  | 0 (NA%) | 0 (0%) | 1 (33%) |
| Unknown |  | 1 | 7 | 2 |
| 1n (%) | | | | |

| Variable | **N** | **Prefer not to disclose**, N = 01 | **Researcher from the Global North**, N = 61 | **Researcher from the Global South**, N = 61 |
| --- | --- | --- | --- | --- |
| **na\_fair research practices\_q17** | 4 |  |  |  |
| Dissemination still to follow. |  | 0 (NA%) | 0 (0%) | 1 (33%) |
| I did not undertake any research work or study. |  | 0 (NA%) | 0 (0%) | 1 (33%) |
| No lay dissemination products |  | 0 (NA%) | 0 (0%) | 1 (33%) |
| Other organisation in charge of dissemination, processes and dissemination plan not shared with us |  | 0 (NA%) | 1 (100%) | 0 (0%) |
| Unknown |  | 0 | 5 | 3 |
| 1n (%) | | | | |

| Variable | **N** | **Prefer not to disclose**, N = 01 | **Researcher from the Global North**, N = 11 | **Researcher from the Global South**, N = 21 |
| --- | --- | --- | --- | --- |
| **na\_fair research practices\_q18** | 1 |  |  |  |
| I did not undertake any research work, study or publication. |  | 0 (NA%) | 0 (NA%) | 1 (100%) |
| Unknown |  | 0 | 1 | 1 |
| 1n (%) | | | | |

| Variable | **N** | **Prefer not to disclose**, N = 01 | **Researcher from the Global North**, N = 31 | **Researcher from the Global South**, N = 21 |
| --- | --- | --- | --- | --- |
| **na\_fair research practices\_q19** | 2 |  |  |  |
| I did not undertake any research work or study. |  | 0 (NA%) | 0 (0%) | 1 (100%) |
| I don't understand this question? |  | 0 (NA%) | 1 (100%) | 0 (0%) |
| Unknown |  | 0 | 2 | 1 |
| 1n (%) | | | | |

| Variable | **N** | **Prefer not to disclose**, N = 11 | **Researcher from the Global North**, N = 131 | **Researcher from the Global South**, N = 71 |
| --- | --- | --- | --- | --- |
| **na\_fair research practices\_q20** | 10 |  |  |  |
| data was not openly acessible |  | 0 (NA%) | 1 (20%) | 0 (0%) |
| Data were not made open access |  | 0 (NA%) | 1 (20%) | 0 (0%) |
| don't like local. We deal with international researchers |  | 0 (NA%) | 1 (20%) | 0 (0%) |
| had never made my data openly accessible |  | 0 (NA%) | 0 (0%) | 1 (20%) |
| I am a local researcher |  | 0 (NA%) | 0 (0%) | 1 (20%) |
| I am not sure if this happened |  | 0 (NA%) | 0 (0%) | 1 (20%) |
| I did not undertake any research work or study. |  | 0 (NA%) | 0 (0%) | 1 (20%) |
| No openly accessible data |  | 0 (NA%) | 0 (0%) | 1 (20%) |
| The research was done mainly using qualitative data and this was not made available for reasons of confidentiality |  | 0 (NA%) | 1 (20%) | 0 (0%) |
| thus far don't share research data |  | 0 (NA%) | 1 (20%) | 0 (0%) |
| Unknown |  | 1 | 8 | 2 |
| 1n (%) | | | | |