

Australian Race/Ethnicity Equivalence of the HPI, HDS, and MVPI

Test fairness is critical for any selection tool. We examine test fairness by conducting differential item functioning (DIF) and differential test functioning (DTF) analyses. DIF and DTF occur when an item or scale, respectively, behaves differently for different groups of people, even for people with the same level of a given personality characteristic. Both DIF and DTF are worth examining because they can lead to systematic test score differences due to group membership rather than personality (or values or cognitive ability). We find our assessments show little evidence of DIF or DTF—with item and test score differences less than 1%, on average—due to race/ethnicity. For the HPI and HDS we found all of the comparisons demonstrated negligible or slight level DIF. For the MVPI, we found 19 comparisons (2% of comparisons) showed moderate DIF. These comparisons, however, may benefit either the Asian, Aboriginal and Torres Strait Islander, North African or Middle Eastern, People of the Americas groups or the European group. There is no differential functioning at the scale level. These results indicate the Hogan Personality Inventory (HPI), Hogan Developmental Survey (HDS), and the Motives, Values, Preferences Inventory (MVPI) are fair tests for all races/ethnicities examined.

Sample Sizes for Equivalence Analyses

| Race/Ethnicity | HPI | HDS | MVPI |
|---------------------------------------|-------|-------|-------|
| Asian | 3,808 | 2,655 | 2,733 |
| Aboriginal and Torres Strait Islander | 429 | 275 | 277 |
| North African or Middle Eastern | 423 | 336 | 331 |
| People of the Americas | 829 | 649 | 647 |
| European | 2,283 | 1,905 | 1,878 |

Note. Hogan generally recommends a sample of at least 500 people for equivalence analyses. The Aboriginal or Torres Strait Islander and North African or Middle Eastern group sizes were below this threshold. We regard their results as tentative until we collect more data. We compared all races/ethnicities to the European group.

HPI

- 182 items and 7 scales tested
- All items show negligible DIF
- All scales show negligible DTF for the four races/ethnicities

HDS

- 154 items and 11 scales tested
- All items show negligible DIF
- All scales show negligible DTF for the four races/ethnicities

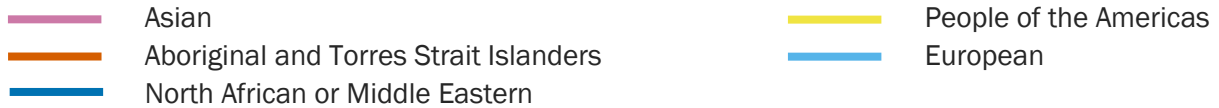
MVPI

- 200 items and 10 scales tested
- 781 comparisons (98%) show negligible or slight DIF
- All scales show negligible DTF for the four races/ethnicities

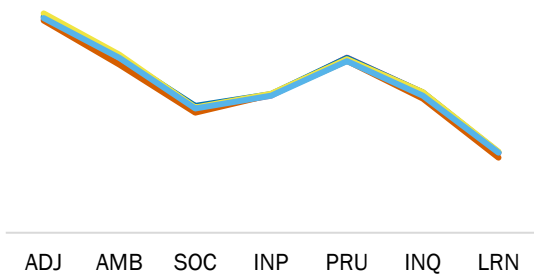
Scores Differences by Racial/Ethnic Group

Many clients ask if we see differences in personality and values scores for various groups. Our research indicates that, although statistically significant differences do exist, we find no large (Cohen's $d > .80$) differences between races/ethnicities.

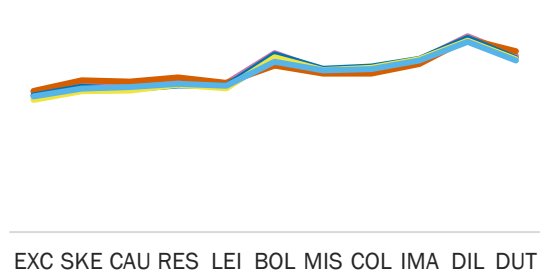
Mean Differences



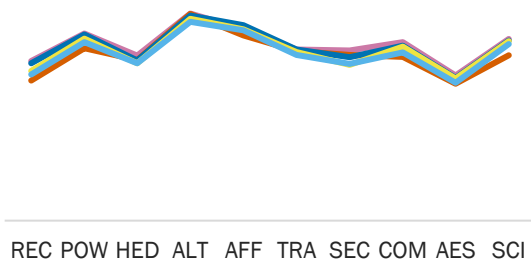
HPI Mean Differences



HDS Mean Differences



MVPI Mean Differences



References

Hogan Assessment Systems. (2023a). *Item equivalency of the Hogan Personality Inventory, Hogan Development Survey, and the Motives, Values, Preferences Inventory for Asian Australians.*

Hogan Assessment Systems. (2023b). *Item equivalency of the Hogan Personality Inventory, Hogan Development Survey, and the Motives, Values, Preferences Inventory for Indigenous Australian or Torres Strait Islanders.*

Hogan Assessment Systems. (2023c). *Item equivalency of the Hogan Personality Inventory, Hogan Development Survey, and the Motives, Values, Preferences Inventory for North African or Middle Eastern Australians.*

Hogan Assessment Systems. (2023d). *Item equivalency of the Hogan Personality Inventory, Hogan Development Survey, and the Motives, Values, Preferences Inventory for People of the Americas.*