Analysis of Adverse Impact for the Hogan Personality Inventory

Documentation of Psychometric and Research Evidence

Executive Summary

In this paper, we define adverse impact (AI) and provide empirical evidence for no AI in personnel selection situations using the Hogan Personality Inventory (HPI).

Adverse impact is clearly defined in existing law and professional guidelines:

1. AI is defined by the *Uniform Guidelines of Employee Selection Procedures (UGESP)* as the ratio between selection rate of any "race, sex, or ethnic group which is less than four-fifths (4/5) (or eighty percent) of the rate for the group with the highest rate…" If the ratio is equal to or below .80 (i.e., 4/5's rule), there is evidence for AI.
2. A statistical significance test for mean group differences on a test scale from within a selection profile does *not* indicate AI. For example, group mean difference on an HPI scale does not equate to AI for a profile of cutoff scores on multiple HPI scales as used in personnel selection decision making.

Neither meaningful group mean differences nor AI is evident on HPI scale profiles.

1. Statistically significant mean differences across subgroups on HPI scales, where evident, do not indicate AI and are not practically meaningful as indicated by the effect sizes of these differences.
2. There is no evidence of AI from selection profiles as the HPI is used operationally across validation studies and individual selection systems.
3. There is no evidence of AI from selection profiles as the HPI is used operationally across seven job families encompassing all occupations in the US workforce.

To date, no HPI operational cutoff score profile has demonstrated AI and no claims of unfair employment discrimination have resulted from an employer's use of the HPI. With a clear definition of AI and a valid operational selection application of the HPI, there is no reason to anticipate AI with this assessment.

Analysis of Adverse Impact for the Hogan Personality Inventory

Defining adverse impact

Adverse impact (AI) is clearly defined in existing law and professional guidelines. First, AI is defined by the ratio between selection rate of any "race, sex, or ethnic group which is less than four-fifths (4/5) (or eighty percent) of the rate for the group with the highest rate…" If the ratio is equal to or below .80 (i.e., 4/5's rule), there is evidence for AI under the *Uniform Guidelines of Employee Selection Procedures (UGESP)*. When AI results from a selection procedure, that procedure must be validated in accordance with the UGESP. An employer is not required to conduct validity studies of selection procedures where no AI results. Nevertheless, best professional practice encourages validation studies and the use of valid selection tests.

Second, a statistical significance test for mean group differences on a test scale from within a selection profile does not indicate AI. For example, a profile of scores on multiple Hogan Personality Inventory (HPI) scales is used in personnel selection decision making in every selection system that includes the HPI. Neither group mean differences nor AI is evident on HPI scale profiles.

Third, the mean of any selection test scale is not the point at which a selection decision is made nor the basis on which AI would be judged. Depending on the job, test validity, and pass rate, HPI profiles use cutoff scores at various points on each scale. These requirements support the importance of assessing AI from selection pass rates as the HPI is used operationally—not from a significance test of single scale mean group difference. AI is evaluated using selection rates rather than mean scale score differences.

Empirical evidence for no AI with the HPI

In Section 1 of this paper, we present results from statistical tests of the HPI scales by gender and race groups. In Section 2 are tables from five local validation studies where an operational HPI score profile was analyzed for AI as defined by the *UGESP*. In Section 3, we present AI results along with cutoff score profiles validated for use with seven job families inclusive of the current US workforce. To date, no HPI operational cutoff score profile has demonstrated AI and no claims of unfair employment discrimination have resulted from an employer's use of the HPI.

Section 1. Group Mean Differences on the HPI

Race differences

Based upon a univariate Analysis of Variance (ANOVA) followed by an all pairwise Tukey HSD comparison, no statistically significant mean differences exist for any of the HPI scales between the White group and any other race group in the Hogan 2005 norming sample. This data set is representative of the occupations for nearly 90% of the current US workforce. These results are presented in Table 1.1.

Table 1.1
Mean HPI Scale Differences by Race

	Ethnicity				
HPI scale	Black (n =13,006)	Hispanic (n = 15,304)	Asian/PI (n = 5,067)	Native American (n = 2,208)	White (n = 72,975)
Adjustment	31.60 (4.27)	31.89 (4.04)	30.54 (4.66)	31.12 (4.70)	31.24 (4.75)
Ambition	26.42 (2.75)	26.07 (2.95)	25.53 (3.41)	25.68 (3.36)	25.85 (3.49)
Sociability	13.14 (4.61)	14.06 (4.44)	14.89 (4.32)	14.64 (4.44)	14.54 (4.72)
Interpersonal Sensitivity	20.42 (1.49)	20.58 (1.42)	20.25 (1.74)	20.50 (1.62)	20.59 (1.61)
Prudence	24.24 (3.64)	24.31 (3.63)	23.56 (3.80)	23.81 (3.84)	23.22 (3.89)
Inquisitive	16.08 (4.40)	17.17 (4.45)	17.72 (4.32)	17.86 (4.34)	16.46 (4.54)
Learning Approach	10.72 (2.88)	10.88 (2.75)	10.80 (2.77)	10.90 (2.75)	10.19 (2.98)

Note. All analyses conducted with 2005 HPI norming sample (n = 156,614). Group means for each HPI scale are presented in the cells with standard deviations in parentheses.

Gender differences

Based on statistical significance testing using seven two tailed independent samples t-tests, males and females means differ on the HPI scale scores in the Hogan 2005 norming sample. The mean score for females is higher on Adjustment, Interpersonal Sensitivity, Prudence, and Learning Approach; males have a higher mean score on Ambition and Inquisitive. However, the effect sizes (Cohen's d) reveal: a) that the significance of these differences is due to large sample size (Cohen, 1988), and b) the mean difference for any scale is negligible. Table 1.2 presents these results.

Table 1.2
Mean HPI Scale Differences by Gender

	Gender		
HPI scale	Female (n =60,730)	Male (n = 60,722)	Effect size
Adjustment	31.27 (4.69)	31.16 (4.69)	+ 0.02
Ambition	25.54 (3.48)	26.29 (3.19)	- 0.22
Sociability	14.02 (4.60)	14.61 (4.72)	- 0.13
Interpersonal Sensitivity	20.80 (1.38)	20.19 (1.81)	+ 0.38
Prudence	23.83 (3.69)	22.95 (4.03)	+ 0.23
Inquisitive	15.90 (4.56)	17.23 (4.37)	- 0.30
Learning Approach	10.78 (2.74)	9.87 (3.09)	+ 0.31

Note. All analyses conducted with 2005 HPI norming sample (n = 156,614). Group means for each HPI scale are presented in the cells with standard deviations in parentheses. Positive effect sizes indicate higher scale means for the Female group.

Section 2. Adverse Impact Analysis in Operational Use of the HPI

Tables 2.1 thru 2.10 are from five different criterion-related validity studies (A-E) in the Hogan research archive. These studies were conducted for positions within the transportation industry. In each of these studies, the HPI was used for the purpose of employee selection.

The first table from each study presents the set of HPI scales and cutoff scores found to be valid in our research and used for selection into the target position. Below the table of scales and cutoffs is another table displaying pass rates, fail rates, and simulated AI ratios using Hogan archival data. Hogan evaluated selection rates for the various gender, age, and ethnic groups using general HPI archival samples.

The current normative database (*N* = 156,614) contains HPI data for individuals across 14 different occupational groups. In order to closely simulate AI, Hogan attempts to match the potential applicant population as closely as possible from within the normative database. For example, if a manager is to be screened against cutoff scores, Hogan will simulate AI using only the HPI data for the "Managerial" occupational group in the normative database. The simulated AI tables show the effects of the recommended cutoff scores within the HPI archival sample by demographic group, in which males, Caucasians, and applicants under 40 years of age are considered to be the majority groups.

Based on the 80% (4/5's) rule described in the *UGESP*, these findings suggest that the recommended cutoff scores will not result in AI against any group. In the second set of tables, any AI ratio above .80 for a protected group indicates a lack of AI for that group. Notice in the tables below that the HPI does not cause AI.

Study A

Table 2.1

Recommended HPI Cutoff Scores for Selecting Conductors, Switchmen, and Trainmen at a Transportation Company (study A)

Accept	Reject
Adjustment ≥ 50%	Adjustment < 50%
Sociability = 70%	Sociability > 70%
Prudence ≥ 50%	Prudence < 50%
Learning Approach ≥ 30%	Learning Approach < 30%

Table 2.2

Effects of Applying the Recommended HPI Cutoff Scores to the Hogan Archival Sample - Selection Rates and AI Ratios by Demographic Group (study A)

		Fail	%	Pass	%	AI ratio
Total		3,650	55.7%	2,899	44.3%	
Sex	Male	3,448	55.6%	2,750	44.4%	
	Female	202	57.5%	149	42.5%	.96
Age	< 40	2,756	55.4%	2,215	44.6%	
	> 40	746	56.1%	584	43.9%	.98
Race	Native American	37	58.7%	26	41.3%	.96
	Black	603	49.6%	613	50.4%	1.17
	White	2,922	57.1%	2,192	42.9%	
	Hispanic	43	58.9%	30	41.1%	.96

Study B

Table 2.3

Recommended HPI Cutoff Scores for Selecting Crewmen at a Gas Company (study B)

Accept	Reject
Adjustment ≥ 25%	Adjustment < 25%
Prudence ≥ 26%	Prudence < 26%

Table 2.4

Effects of Applying the Recommended HPI Cutoff Scores to the Hogan Archival Sample - Selection Rates and AI Ratios by Demographic Group (study B)

		Fail %	Pass %	AI ratio
Sex	Male	35%	65%	
	Female	43%	57%	.88
Age	< 40	39%	61%	
	> 40	39%	61%	1.00
Race	Native American	30%	70%	1.09
	Black	29%	71%	1.11
	Hispanic	34%	66%	1.03
	White	36%	64%	

Study C

Table 2.5

Recommended HPI Cutoff Scores for Selecting Regional Drivers at a Transportation Company (study C)

Accept	Reject
Adjustment ≥ 23%	Adjustment < 23%
Prudence ≥ 58%	Prudence < 58%
Sociability = 85%	Sociability > 85%

Table 2.6

Effects of Applying the Recommended HPI Cutoff Scores to the Hogan Archival Sample - Selection Rates and AI Ratios by Demographic Group (study C)

		Fail	%	Pass	%	AI ratio
Total		12,145	51%	11,543	49%	
Sex	Male	8,367	51%	8,110	49%	
	Female	3,778	52%	3,433	48%	.98
Age	< 40	8,298	53%	7,370	47%	
	> 40	2,244	46%	2,639	54%	1.15
Race	Native American	189	50%	193	51%	1.02
	Black	1,127	39%	1,744	61%	1.22
	White	7,064	50%	7,035	50%	
	Hispanic	355	48%	389	52%	1.04

Study D

Table 2.7

Recommended HPI Cutoff Scores for Selecting Truck Drivers at a Transportation Company (study D)

Accept	Reject
Adjustment > 19% to 89%	Adjustment < 19% & > 89%
Sociability < 79%	Sociability > 79%
Interpersonal Sensitivity > 16%	Interpersonal Sensitivity < 16%
Prudence > 27%	Prudence < 27%

Table 2.8

Effects of Applying the Recommended HPI Cutoff Scores to the Hogan Archival Sample - Selection Rates and AI Ratios by Demographic Group (study D)

		Fail	%	Pass	%	AI ratio
Total		11,812	49.9	11,876	50.1	
Sex	Male	8,311	50.4	8,166	49.6	
	Female	3,501	48.6	3,710	51.4	1.04
Age	<40	8,068	51.5	7,600	48.5	
	>40	2,179	44.6	2,704	55.4	1.14
Race	Native American	183	47.9	199	52.1	1.05
	Black	1,069	37.2	1,802	62.8	1.26
	White	7,094	50.3	7,005	49.7	
	Hispanic	335	45.0	409	55.0	1.11

Study E

Table 2.9

Recommended HPI Cutoff Scores for Selecting Truck Drivers at a Transportation Company (study E)

Accept	Reject
Adjustment > 26%	Adjustment < 25%
Prudence > 34%	Prudence < 33%
Inquisitive < 91%	Inquisitive > 92%
Learning Approach < 88%	Learning Approach > 89%

Table 2.10.

Effects of Applying the Recommended HPI Cutoff Scores to the Hogan Archival Sample – Selection Rates and AI Ratios by Demographic Group (study E)

		Fail	%	Pass	%	AI ratio
Total		10,830	45.7%	12,858	54.3%	
Sex	Male	7,227	43.9%	9,250	56.1%	
	Female	3,603	50.0%	3,608	50.0%	.89
Age	<40	7,531	48.1%	8,137	51.9%	
	>40	1,869	38.3%	3,014	61.7%	1.19
Race	Native American	161	42.1%	221	57.9%	1.04
	Black	1,101	38.3%	1,770	61.7%	1.11
	White	6,229	44.2%	7,870	55.8%	
	Hispanic	313	42.1%	431	57.9%	1.04

Section 3. Adverse Impact of the HPI by Seven Job Families

Recommendations and cutoff Scores for Managers & Executives

This section presents evidence for using HPI scales in the selection process for the Managers & Executives job family. Four HPI scales are appropriate for candidate evaluation. They are Adjustment (being calm and stable), Ambition (being competitive and achievement-oriented), Prudence (being conscientious and rule-following), and Interpersonal Sensitivity (being friendly and agreeable). Based on these results, recommended cutoff scores for the Managers & Executives job family are specified in Table 3.1.

Table 3.1
Recommended Cutoff Scores for Managers & Executives Jobs

Scale	Low Potential	Moderate Potential (Min. Cutoffs)
Adjustment	Miss on any Moderate Potential Scale	= 15
Ambition		= 14
Prudence		= 13
Interpersonal Sensitivity		= 22
Expected Pass Rates		71.6%

Recommendations and cutoff scores for Managers & Executives (cont.)

Hogan evaluated selection rates for various gender, age, and race/ethnic groups using a general HPI archival sample (N = 4,523). These analyses serve only as estimates of potential selection rates in lieu of actual applicant data. A number of non-test factors, most notably the opportunity to take the assessment, affect selection rates. Table 3.2 shows effects of the recommended cutoff scores within the HPI archival sample by demographic group, in which men, Whites, and applicants under 40 years of age are considered the majority groups. Based on the UGESP 80% rule-of-thumb, these findings suggest that the recommended cutoff scores should not result in AI against any group.

Table 3.2
Selection Rates and AI for Managers & Executives Jobs

		Fail	%	Pass	%	AI ratio
Total		1,284	28.4%	3,239	71.6%	
Sex	Men	644	28.0%	1,659	72.0%	
	Women	464	29.3%	1,119	70.7%	0.98
Age	< 40	184	26.9%	501	73.1%	
	$\geq$ 40	64	24.2%	200	75.8%	1.04
Race	Black	135	27.7%	352	72.3%	1.01
	Hispanic	71	28.1%	182	71.9%	1.06
	Asian /Pacific Islander	79	31.9%	169	68.1%	0.86
	Native American	17	21.0%	64	79.0%	1.10
	White	628	27.9%	1,621	72.1%	

Recommendations and cutoff scores for Professionals

This section presents evidence for using HPI scales in selection for Professional jobs. Five HPI scales are appropriate for candidate evaluation. They are Adjustment (being calm and stable), Ambition (being competitive and achievement oriented), Interpersonal Sensitivity (being friendly and agreeable), Prudence (being conscientious and rule-following), and Inquisitive (being curious and visionary). Based on these results, recommended cutoff scores for the Professionals job family are specified in Table 3.3.

Table 3.3
Recommended Cutoff Scores for Professionals Jobs

Scale	Low Potential	Moderate Potential (Min. Cutoffs)
Adjustment	Miss on any Moderate Potential Scale	= 15
Ambition		= 14
Interpersonal Sensitivity		= 7
Prudence		= 13
Inquisitive		= 6
Expected Pass Rates		74.0%

Recommendations and cutoff scores for Professionals (cont.)

Hogan evaluated selection rates for the various gender, age, and race/ethnic groups using a general HPI archival sample (*N* = 4,523). These analyses serve only as estimates of potential selection rates in lieu of actual applicant data. A number of non-test factors, most notably the opportunity to take the assessment, affect selection rates. Table 3.4 shows effects of the recommended cutoff scores within the HPI archival sample by demographic group, in which men, Whites, and applicants under 40 years of age are considered the majority groups. Based on the *UGESP* 80% rule-of-thumb, these findings suggest that the recommended cutoff scores should not result in AI against any group.

Table 3.4
Selection Rates and AI for Professionals Jobs

		Fail	%	Pass	%	AI ratio
Total		1,178	26.0%	3,345	74.0%	
Sex	Men	580	25.2%	1,723	74.8%	
	Women	433	27.4%	1,150	72.6%	0.97
Age	< 40	173	25.3%	512	74.7%	
	≥ 40	59	22.3%	205	77.7%	1.04
Race	Black	128	26.3%	359	73.7%	0.99
	Hispanic	73	28.9%	180	71.1%	0.95
	Asian/Pacific Islander	71	28.6%	177	71.4%	0.95
	Native American	13	16.0%	68	84.0%	1.12
	White	566	25.2%	1,683	74.8%	

Recommendations and cutoff scores for Technicians & Specialists

This section presents evidence for using HPI scales in selection for Technicians & Specialists jobs. Four HPI scales are appropriate for candidate evaluation. They are Adjustment (being calm and stable), Ambition (being competitive and achievement oriented), Prudence (being conscientious and rule-following), and Learning Approach (being concerned with learning and education). Based on these results, recommended cutoff scores for Technicians & Specialists jobs are specified in Table 3.5.

Table 3.5
Recommended Cutoff Scores for Technicians & Specialists Jobs

Scale	Low Potential	Moderate Potential (Min. Cutoffs)
Adjustment	Miss on any Moderate Potential Scale	= 15
Ambition		= 11
Prudence		= 13
Learning Approach		= 19
Expected Pass Rates		70.9%

Recommendations and cutoff scores for Technicians & Specialists (cont.)

Hogan evaluated selection rates for the various gender, age, and race/ethnic groups using a general HPI archival sample (*N* = 4,523). These analyses serve only as estimates of potential selection rates in lieu of actual applicant data. A number of non-test factors, most notably the opportunity to take the assessment, affect selection rates. Table 3.6 shows effects of the recommended cutoff scores within the HPI archival sample by demographic group, in which men, Whites, and applicants under 40 years of age are considered to be the majority groups. Based on the *UGESP* 80% rule-of-thumb, these findings suggest that the recommended cutoff scores should not result in AI against any group.

Table 3.6
Selection Rates and AI for Technicians & Specialists Jobs

		Fail	%	Pass	%	AI ratio
Total		1,318	29.1%	3,205	70.9%	
Sex	Men	698	30.3%	1,605	69.7%	
	Women	455	28.7%	1,128	71.3%	1.02
Age	< 40	178	26.0%	507	74.0%	
	≥ 40	63	23.9%	201	76.1%	1.03
Race	Black	128	26.3%	359	73.7%	1.05
	Hispanic	78	30.8%	175	69.2%	0.99
	Asian/Pacific Islander	73	29.4%	175	70.6%	1.01
	Native American	18	22.2%	63	77.8%	1.11
	White	677	30.1%	1,572	69.9%	

Recommendations and cutoff scores for Operations & Trades

This section presents accumulated validity evidence for using HPI scales in selection for Operations & Trades jobs. Four HPI scales are appropriate for candidate evaluation. These measures are HPI Adjustment (being calm and stable), Ambition (being competitive and achievement oriented), Prudence (being conscientious and rule-following), and Learning Approach (being concerned with learning and education). Based on these results, recommended cutoff scores for Operations & Trades jobs are specified in Table 3.7.

Table 3.7
Recommended Cutoff Scores for Operations & Trades Jobs

Scale	Low Potential	Moderate Potential (Min. Cutoffs)
Adjustment	Miss on any Moderate Potential Scale	= 15
Ambition		= 11
Prudence		= 19
Learning Approach		= 13
Expected Pass Rates		69.8%

Recommendations and cutoff scores for Operations & Trades (cont.)

Hogan evaluated selection rates for the various gender, age, and race/ethnic groups using a general HPI archival sample (*N* = 4,523). These analyses serve only as estimates of potential selection rates in lieu of actual applicant data. A number of non-test factors, most notably the opportunity to take the assessment, affect selection rates. Table 3.8 shows the effects of the recommended cutoff scores within the HPI archival sample by demographic group, in which men, Whites, and applicants under 40 years of age are the majority groups. Based on the *UGESP* 80% rule-of- thumb, these findings suggest that the recommended cutoff scores should not result in AI against any group.

Table 3.8
Selection Rates & AI for Operations & Trades Jobs

		Fail	%	Pass	%	AI ratio
Total		1,365	30.2%	3,158	69.8%	
Sex	Men	691	30.0%	1,612	70.0%	
	Women	496	31.3%	1,087	68.7%	0.98
Age	< 40	193	28.2%	492	71.8%	
	≥ 40	71	26.9%	193	73.1%	1.02
Race	Black	150	30.8%	337	69.2%	1.00
	Hispanic	77	30.4%	176	69.6%	1.01
	Asian./Pacific Islander	69	27.8%	179	72.2%	1.04
	Native American	16	19.8%	65	80.2%	1.16
	White	692	30.8%	1,557	69.2%	

Recommendations and cutoff scores Sales & Customer Support

This section presents evidence for using HPI scales in selection for the Sales & Customer Support job family. Four HPI scales are appropriate for candidate evaluation. They are Adjustment (being calm and stable), Ambition (being competitive and achievement oriented), Interpersonal Sensitivity (being friendly and agreeable), and Prudence (being conscientious and rule-following). Based on these results, recommended cutoff scores for Sales & Customer Support are specified in Table 3.9.

Table 3.9
Recommended Cutoff Scores for Sales & Customer Support Jobs

Scale	Low Potential	Moderate Potential (Min. Cutoffs)
Adjustment	Miss on any Moderate Potential Scale	= 12
Ambition		= 19
Interpersonal Sensitivity		= 11
Prudence		= 13
Expected Pass Rates		74.0%

Recommendations and cutoff scores Sales & Customer Support (cont.)

Hogan evaluated selection rates for the various gender, age, and race/ethnic groups using a general HPI archival sample (N = 4,523). These analyses serve only as estimates of potential selection rates in lieu of actual applicant data. A number of non-test factors, most notably the opportunity to take the assessment, affect selection rates. Table 3.10 shows the effects of the recommended cutoff scores within the HPI archival sample by demographic group, in which men, Whites, and applicants under 40 years of age are the majority groups. Based on the UGESP 80% rule-of-thumb, these findings suggest that the recommended cutoff scores should not result in AI against any group.

Table 3.10
Selection Rates & AI for Sales & Customer Support Jobs

		Fail	%	Pass	%	AI ratio
Total		1,179	26.1%	3,344	73.9%	
Sex	Men	582	25.3%	1,721	74.7%	
	Women	436	27.5%	1,147	72.5%	0.97
Age	< 40	173	25.3%	512	74.7%	
	≥ 40	59	22.3%	205	77.7%	1.04
Race	Black	124	25.5%	363	74.5%	1.01
	Hispanic	67	26.5%	186	73.5%	0.99
	Asian/Pacific Islander	68	27.4%	180	72.6%	0.98
	Native American	16	19.8%	65	80.2%	1.08
	White	584	26.0%	1,665	74.0%	

Recommendations and cutoff scores for Administrative & Clerical

This section presents accumulated validity evidence for using HPI scales in the selection process for Administrative & Clerical jobs. Four HPI scales are appropriate for candidate evaluation. These measures are HPI Adjustment (being calm and stable), Ambition (being competitive and achievement oriented), Interpersonal Sensitivity (being friendly and agreeable), and Prudence (being conscientious and rule-following). Based on these results, recommended cutoff scores for Administrative & Clerical jobs are specified in Table 3.11.

Table 3.11
Recommended Cutoff Scores for Administrative & Clerical Jobs

Scale	Low Potential	Moderate Potential (Min. Cutoffs)
Adjustment	Miss on any Moderate Potential Scale	= 19
Ambition		= 11
Interpersonal Sensitivity		= 12
Prudence		= 13
Expected Pass Rates		71.7%

Recommendations and cutoff scores for Administrative & Clerical (cont.)

Hogan evaluated selection rates for the various gender, age, and race/ethnic groups using a general HPI archival sample (*N* = 4,523). These analyses serve only as estimates of potential selection rates in lieu of actual applicant data. A number of non-test factors, most notably the opportunity to take the assessment, affect selection rates. Table 22 shows the effects of the recommended cutoff scores within the HPI archival sample by demographic group, in which men, Whites, and applicants under 40 years of age are the majority groups. Based on the *UGESP* 80% rule-of-thumb, these findings suggest that the recommended cutoff scores should not result in AI against any group.

Table 3.12
Selection Rates and AI for Administrative & Clerical Jobs

		Fail	%	Pass	%	AI ratio
Total		1,303	28.8%	3,220	71.2%	
Sex	Men	656	28.5%	1,647	71.5%	
	Women	467	29.5%	1,116	70.5%	0.99
Age	< 40	186	27.2%	499	72.8%	
	≥ 40	64	24.2%	200	75.8%	1.04
Race	Black	139	28.5%	348	71.5%	1.00
	Hispanic	71	28.1%	182	71.9%	1.00
	Asian./Pacific Islander	80	32.3%	168	67.7%	0.94
	Native American	15	18.5%	66	81.5%	1.14
	White	636	28.3%	1,613	71.7%	

Recommendations and cutoff scores for Service and Support

This section presents accumulated validity evidence for using HPI scales in the selection process for Service & Support jobs. Based on results from the three validity generalization methods, four HPI scales are specified for candidate evaluation. These measures are Adjustment (being calm and stable), Ambition (being competitive and achievement oriented), Interpersonal Sensitivity (being friendly and agreeable), and Prudence (being conscientious and rule-following). Based on these results, recommend cutoff scores for Service & Support jobs are specified in Table 3.13.

Table 3.13
Recommended Cutoff Scores for Service & Support Jobs

Scale	Low Potential	Moderate Potential (Min. Cutoffs)
Adjustment	Miss on any Moderate Potential Scale	= 15
Ambition		= 14
Interpersonal Sensitivity		= 22
Prudence		= 13
Expected Pass Rates		71.7%

Recommendations and cutoff scores for Service and Support (cont.)

Hogan evaluated selection rates for the various gender, age, and race/ethnic groups using a general HPI archival sample (*N* = 4,523). These analyses serve only as estimates of potential selection rates in lieu of actual applicant data. A number of non-test factors, most notably the opportunity to take the assessment, affect selection rates. Table 24 shows effects of the recommended cutoff scores within the HPI archival sample by demographic group, in which men, Whites, and applicants under 40 years of age are the majority groups. Based on the *UGESP* 80% rule-of-thumb, these findings suggest that the recommended cutoff scores should not result in AI against any group.

Table 3.14
Selection Rates and AI for Service & Support Jobs

		Fail	%	Pass	%	AI ratio
Total		1,284	28.4%	3,239	71.6%	
Sex	Men	644	28.0%	1,659	72.0%	
	Women	464	29.3%	1,119	70.7%	0.98
Age	< 40	184	26.9%	501	73.1%	
	$\underline{\geq}$ 40	64	24.2%	200	75.8%	1.04
Race	Black	135	27.7%	352	72.3%	1.00
	Hispanic	71	28.1%	182	71.9%	1.00
	Asian/Pacific Islander	79	31.9%	169	68.1%	0.94
	Native American	17	21.0%	64	79.0%	1.10
	White	628	27.9%	1,621	72.1%	

References

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Erlbaum.