

Criterion Validity Analysis for Gaming & Hospitality

Front of House Positions

Back of House Positions

Gaming and Cashier Positions



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Section 1: Executive Summary

TPG has developed improved selection instruments for Gaming and Hospitality, including scoring models, for each of the job families, Front of House, Back of House, and Gaming/Cashier. This document summarizes the process of developing the instruments and provides the projected turnover prediction for these instruments. The instrument development was based on interview data collected at Horseshoe Casino, Hooters Casino Hotel, and Stations Casino from 1999-2005.

TPG, with assistance from SHL¹, completed a comprehensive job analysis of the positions and data from the TPG item pool to select the most effective items for these instruments. The items selected for the new instruments include:

- items from existing interviews that were found to be predictive of job fit and tenure
- items that were found to be predictive of job fit and tenure for similar job families in other hospitality organizations
- items that were found to be predictive of job fit and tenure across several industries (i.e., items that predict “stability” regardless of industry in entry-level jobs).

These new instruments have several advantages for casinos over some of the existing instruments. They are:

- More focused – The best items have been selected; therefore, the instruments are shorter and more focused. Candidate administration time will be much shorter with the new instruments.
- Scoring – The instruments will be scored and a “recommendation level” will be provided, helping casinos determine whether to continue to pursue the candidate.
- Predictive – “Behavioral items”, items we believe will predict job fit, have been included in order to continue to strengthen the instruments predictability and reliability in the future.

¹ SHL is a international firm and leader in the science of psychometric tools for the workplace www.shl.com

Section 2: Instrument Development and Results

Project Summary

For each of the three job families, the following procedure was used to develop the new instruments.

Factor Categories

The SHL Tenure Factor Model was used to organize the instrument items into categories. The model was developed based on a review of the biodata literature, statistical analyses and Mael's Taxonomy. The factors allow us to better understand the relationship between the item and the tenure criteria. Most items that are predictive of tenure are tapping into either reliability (i.e., how likely is it the person will come to work consistently and on-time, as well as stick with the job), fit (i.e., how well this person's interests and preferences match this job and company), or performance (i.e., how well is this person likely to do on the job).

Tenure Factor Model

Reliability

- Stability: the tendency to stay with a job, to persevere with what you're doing.
- Dependability: doing what you say you will, what is expected, following company procedures.
- Lack of Deviance: engaging in lawful, ethical behavior

Fit

- Experience: experience in industry and in specific tasks
- Task Expectations: understanding of tasks, comfort with environment
- Organizational Expectations: recognition, dress code, supervisory structure
- Reward Expectations: pay, benefits
- Schedule Expectations: availability and preferences for hours, days of week, willingness to work overtime, etc.

Performance Competencies

- Communication: verbal expression, listening
- Customer Orientation: approach with customers, customer service
- Initiative: proactivity, self-motivation, energy
- Conscientiousness: attention to detail, organization skills

Item Review

We conducted a review of all of the items to improve the item effectiveness. First, we ran a frequency analysis of each item to determine how candidates responded to the items. For the responses that had a very low frequency of candidates selecting the response, we either modified or deleted the response. We also reviewed the item wording for clarity and made improvements where needed.

Scoring Development

The scoring model was developed by examining the relationship between the interview responses in the validation sample and tenure. In order to examine this relationship, we split the criterion into a high group (tenure of 90 days or more) and low group (tenure less than 90 days). The interview questions were analyzed to determine whether a statistical difference existed between how the high-criterion hires responded to the interview questions and how the low-criterion hires responded. To determine whether there was a difference, these items were subjected to a chi-square analysis to determine which would best differentiate between a high-criterion and low-criterion hire. The items to which the high-criterion hires responded significantly differ from the items the low-criterion hires responded to when weighted.

Each response to an item chosen to be predictive was assigned a “weight” or a score based on the strength of the difference between the responses of the employees who were defined as high-criterion and the employees who were defined as low-criterion. Following this comprehensive empirical analysis of the interview item responses, we performed a rational evaluation of the items. During this rational evaluation the statistically driven weights are evaluated for appropriateness to the job. Minor modifications were made to the empirical weights.

We also identified items from the TPG item pool that have predicted tenure for similar job families and positions. We identified eleven items from the “Reliability” factor pool that have been used to predict tenure in entry-level positions. We included these items as research items and they will not be scored in this instrument. We will review these items after sufficient data has been collected and score them at that time, if appropriate. We identified several items that have consistently predicted tenure in similar positions (e.g., How did you hear about our employment opportunities?) and included them as a scored item in the new instruments. The scored items were then combined to form a scale.

As stated above, only the items found to be predictive are included in these instruments.

Analysis of Scoring Models

After the scoring models were developed, the validation sample was scored. Recommendation levels were developed based on the scoring distribution of this sample. There are three recommendation levels: Good, Marginal and Poor. We recommend that the candidates who score in the “Poor” range should not be considered for hire. Based on this analysis, approximately 20% of the applicant pool will fall in the “Not Recommended” or “Poor” range.

Criterion Validity Analysis

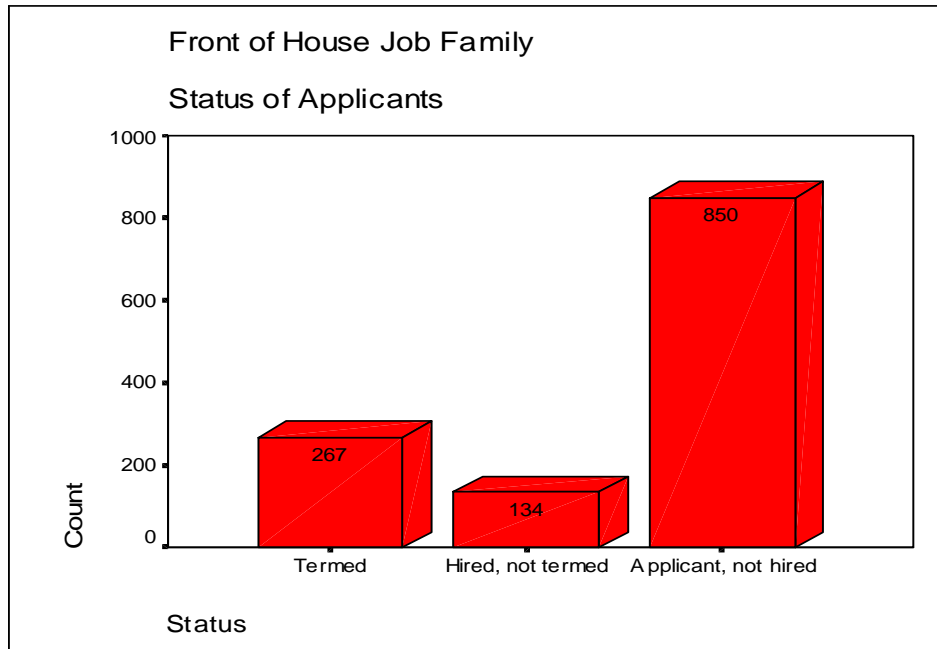
The scores were then compared to the tenure data to determine how well the scoring model predicts tenure. These results are shared in the Model Results section for each job family. Please note that the predictive power of the instruments is likely to be somewhat underestimated due to the restriction of range in the criterion. Only those who were hired are included in the sample, since these are the only individuals for which there is tenure data available. Also note that the scoring was developed on the entire validation sample. The validation was conducted on the development sample. This practice may result in an inflated indicator of predictability.

Lastly, we investigated the instrument in terms of pass rates for protected classes. Matching the new model scoring ranges, potential hiring ratios indicate no violation of the 4/5ths rule for females and minority applicants. The hiring ratios are described in detail in the EEOC Information section for each job family.

Front of House Job Family

Database

The sample for this study was gathered between January 2000 and December 2000. The Front of House database includes 1,251 applicants who completed the existing interview during that time. The graph below indicates the number who applied, were hired and terminated in the sample.



The table below indicates the ethnic and gender breakdown of the sample.

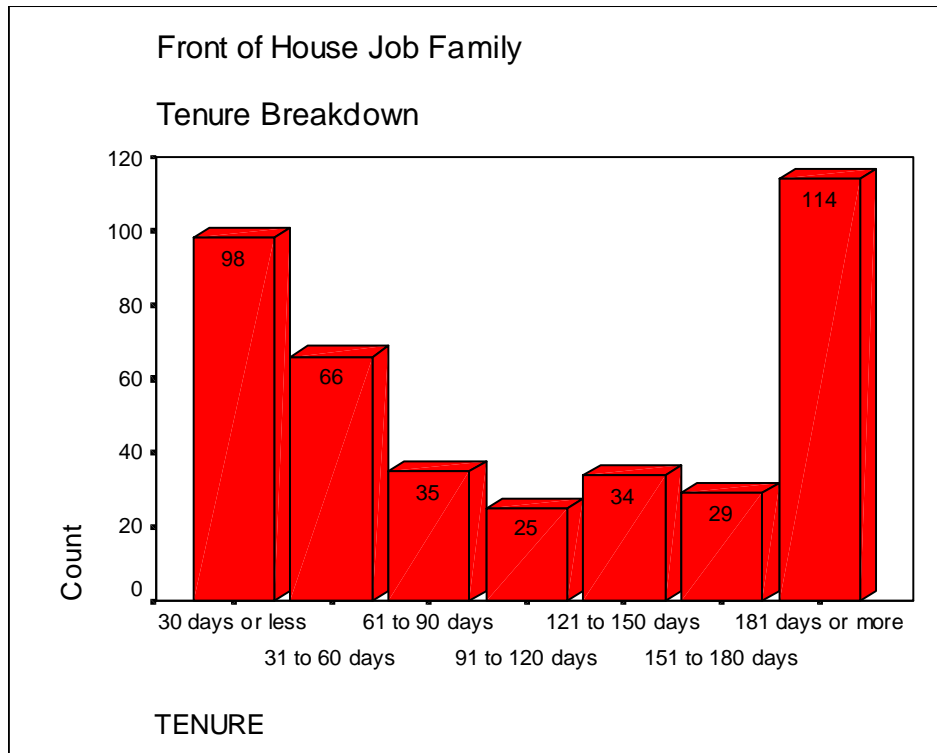
Ethnic/Gender	Number	Percentage
African American	711	57.1%
White	467	37.5%
Hispanic	7	.6%
Asian/Pacific Islander	19	1.5%
Native American	12	1.0%
Do not wish to respond or no response	35	2.3%
Male Applicants	372	29.9%
Female Applicants	867	69.6%
Do not wish to respond or no response	6	.5%

Turnover Information

Only applicants who completed the interview and were hired were included in the validation analysis. Hires were then classified into one of two groups (high-criterion or low-criterion) based on tenure. The low-criterion group included all hires that terminated within 90 days. The high-criterion group included all those hires that stayed in the job longer than 90 days. The table below provides the breakdown of the hires in the criterion groupings.

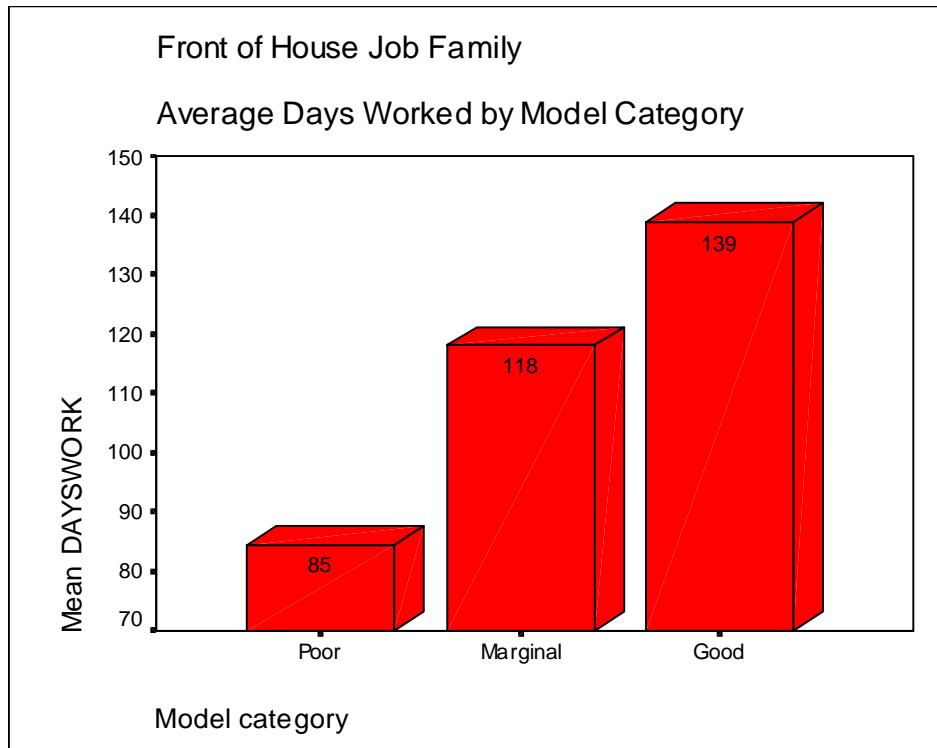
Criteria Grouping	Number	Percentage
High-Criteria (Employed 90 days or longer)	134	33.4%
Low-Criteria (Employed less than 90 days)	267	66.6%

According to this data, sixty-six percent of the new hires, who completed the interview, leave the company within 90 days. The goal of the new instruments is to significantly reduce this 90-day turnover percentage. The tenure of the validation sample is defined in smaller increments in the graph that follows. The majority of the turnover occurs in the first 30-days of employment.

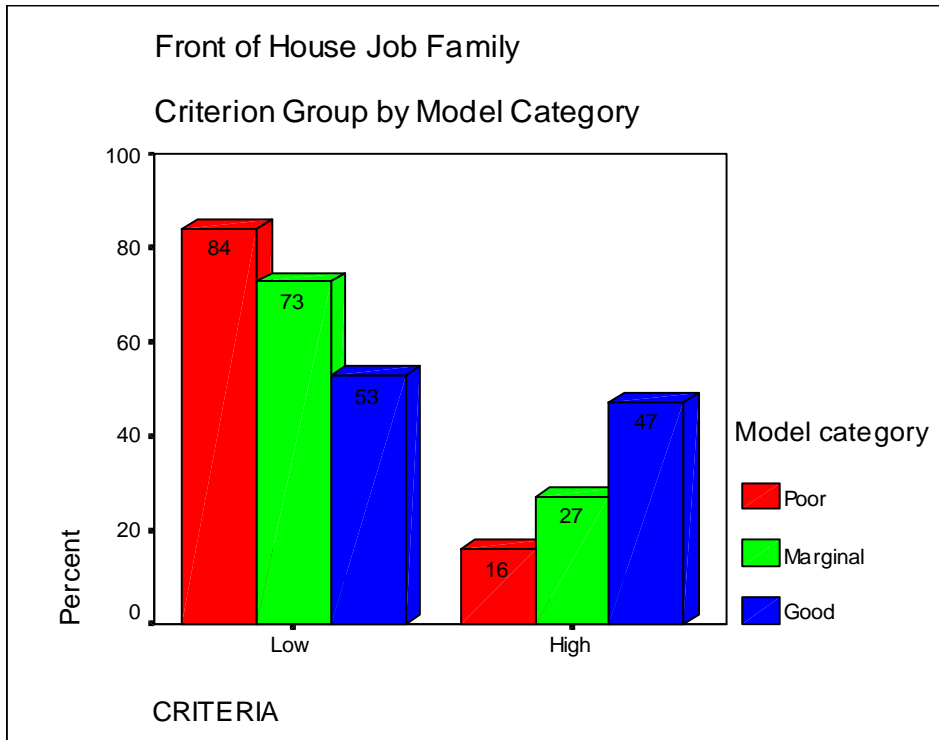


Projected Model Results

The candidate data from 2000 was scored in order to provide projected results of the new scoring model. The following graph displays the average days worked for each of the recommendation levels.



The graph demonstrates that those candidates who scored in the “Poor” range have a much lower average days worked than those who scored in the “Good” range. The following graph displays the criterion groups (High and Low) broken into three scoring ranges: Poor, Marginal and Good.



The graph shows that employees with good job tenure (high-criterion employees) are more likely to score in the “Good” range of the interview. In fact, over twice as many high-criterion employees (47%) score in the “Good” range of the interview. Moreover, employees scoring in the “Poor” range are over five times as likely to have tenure that is unsatisfactory. There is strong evidence that hiring applicants from the “Good” and “Marginal” range and bypassing applicants in the “Poor” range will significantly increase employee tenure.

EEOC Information

Matching the new model scoring ranges, potential hiring ratios would indicate no violation of the 4/5ths rule for females and minority applicants. The table below contains the “Recommended” ratios for the protected and non-protected groups, when the scoring model is applied to the validation sample. The percentage of candidates in the “Recommended” range for the protected groups is greater than 80% of the “Recommended” percentage of the non-protected groups.

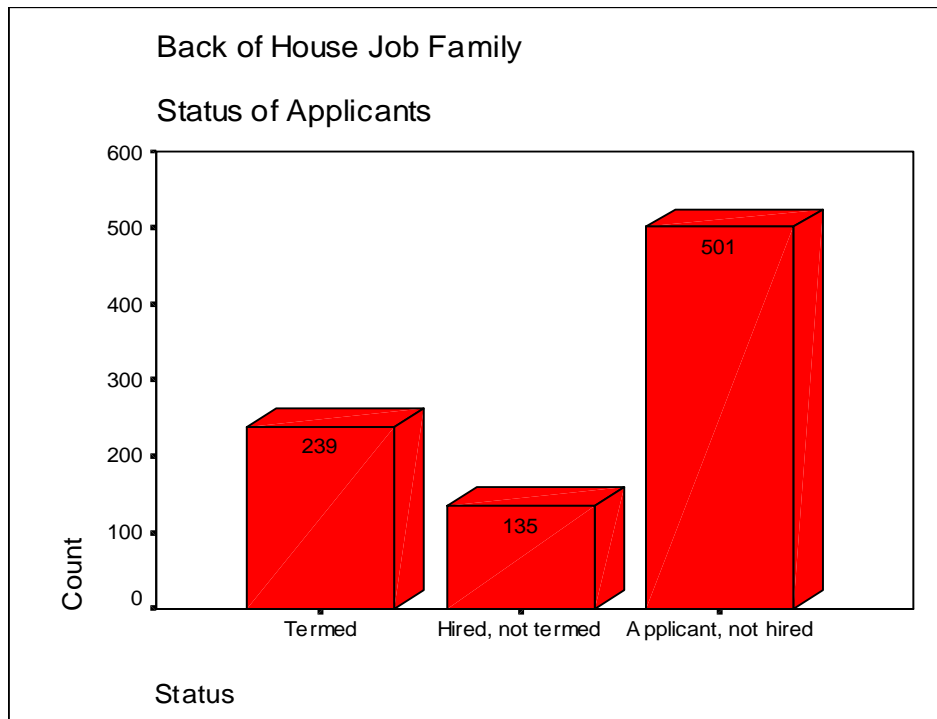
EEOC Race	Recommended %
White Applicants	91.3%
Minority Applicants	77.3%
4/5ths Rule	84.7%

EEOC Gender	Recommended %
Male Applicants	85.0%
Female Applicants	81.6%
4/5ths Rule	96%

Back of House Job Family

Database

The development sample for the Back of the House job family includes 875 applicants who completed the existing interview. The graph below indicates the number who applied, were hired and terminated in the sample.



The table below indicates the ethnic and gender breakdown of the sample.

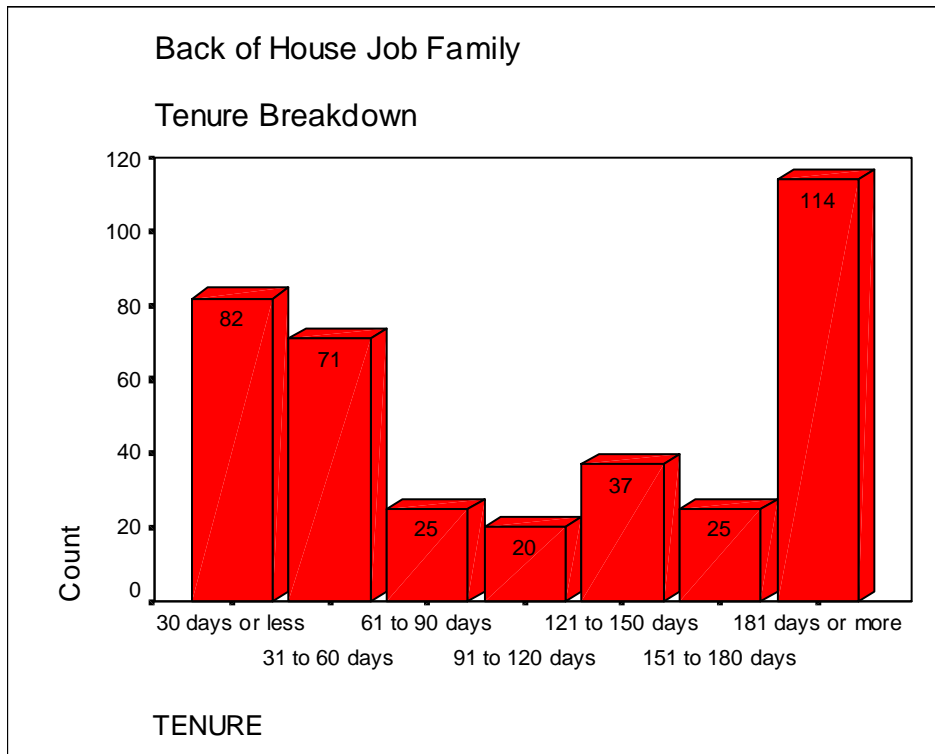
Ethnic/Gender	Number	Percentage
African American	663	75.8%
White	152	17.4%
Hispanic	3	.3%
Asian/Pacific Islander	7	.8%
Native American	16	1.8%
Do not wish to respond or no response	33	3.8%
Male	369	42.2%
Female	493	56.3%
Do not wish to respond or no response	13	1.4%

Turnover Information

Only applicants who completed the interview and were hired were included in the validation analysis. Hires were then classified into one of two groups (high-criterion or low-criterion) based on tenure. The low-criterion group included all hires that terminated within 90 days. The high-criterion group included all those hires that stayed in the job longer than 90 days. The table below provides the breakdown of the hires in the criteria groupings.

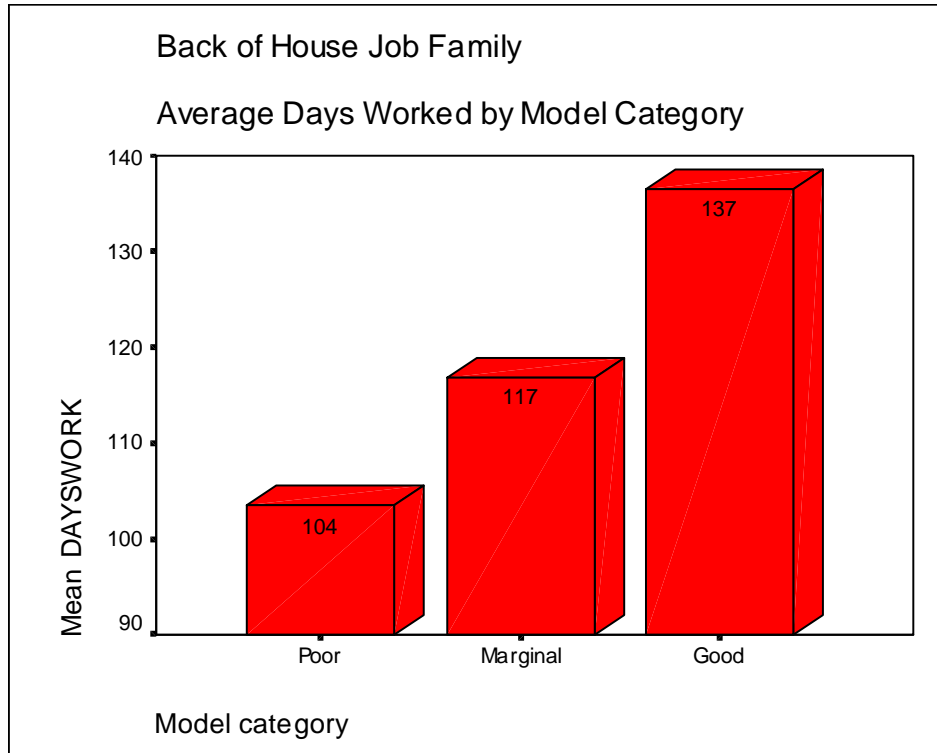
Criteria Grouping	Number	Percentage
High-Criteria (Employed 90 days or longer)	135	36.1%
Low-Criteria (Employed less than 90 days)	239	63.9%

According to this data, sixty-four percent of the new hires, who completed the interview, leave within 90 days. The goal of the new instruments is to significantly reduce this 90-day turnover percentage. The tenure of the validation sample is defined in smaller increments in the graph that follows. This graph demonstrates that most of the turnover occurs in the first 60 days on the job.

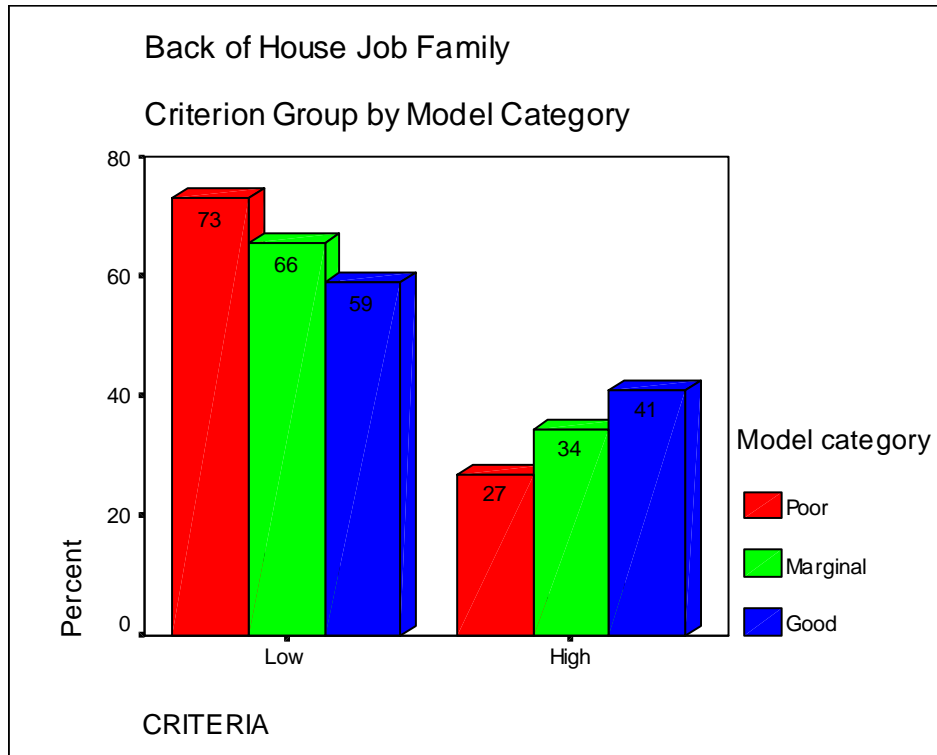


Projected Model Results

The candidate data from 2000 was scored in order to provide projected results of the new scoring model. The following graph displays the average days worked for each of the recommendation levels.



Those candidates who scored in the “Poor” range have a much lower average days worked than those who scored in the “Good” and “Marginal” range. The following graph displays the criterion groups (High and Low) broken into three scoring ranges: Poor, Marginal and Good.



The graph shows that employees with good job tenure (high-criterion employees) are more likely to score in the “Good” range of the interview. Employees scoring in the “Poor” range are more likely to have tenure that is unsatisfactory.

EEOC Information

Matching the new model scoring ranges, potential hiring ratios would indicate no violation of the 4/5ths rule for females and minority applicants. The table below contains the “Recommended” ratios for the protected and non-protected groups, when the scoring model is applied to the validation sample. The percentage of candidates in the “Recommended” range for the protected groups is greater than 80% of the “Recommended” percentage of the non-protected groups.

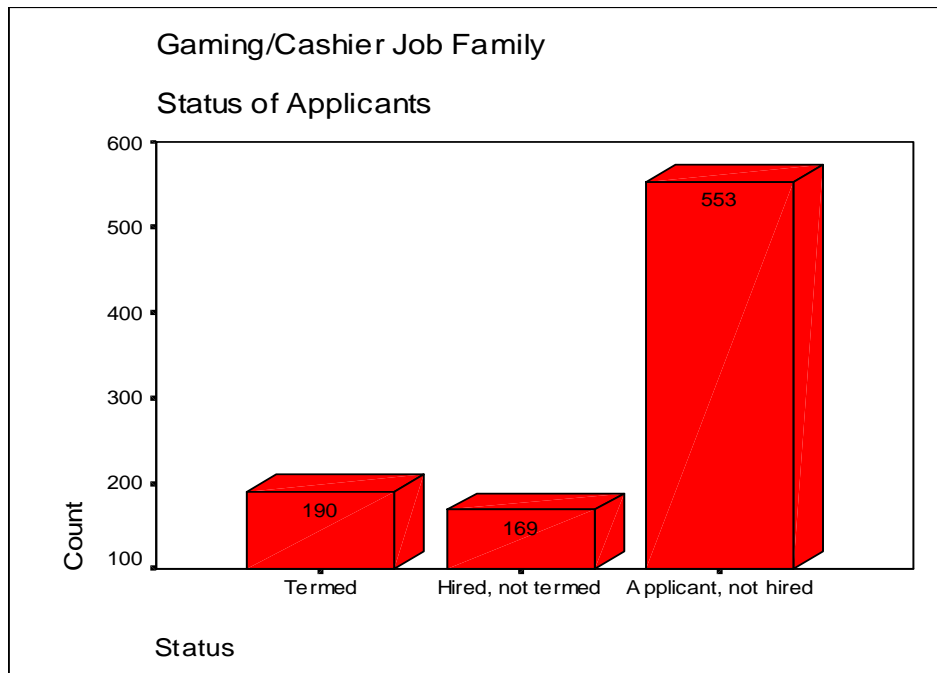
EEOC Race	Recommended %
White Applicants	87.2%
Minority Applicants	82.1%
4/5ths Rule	94.2%

EEOC Gender	Recommended %
Male Applicants	89.8%
Female Applicants	78.4%
4/5ths Rule	87.3%

Gaming/Cashier Job Family

Database

The validation sample for the Gaming and Cashier positions includes 912 applicants who completed the existing interview. The graph below indicates the number who applied, were hired and terminated in the sample.



The table below indicates the ethnic and gender breakdown of the sample.

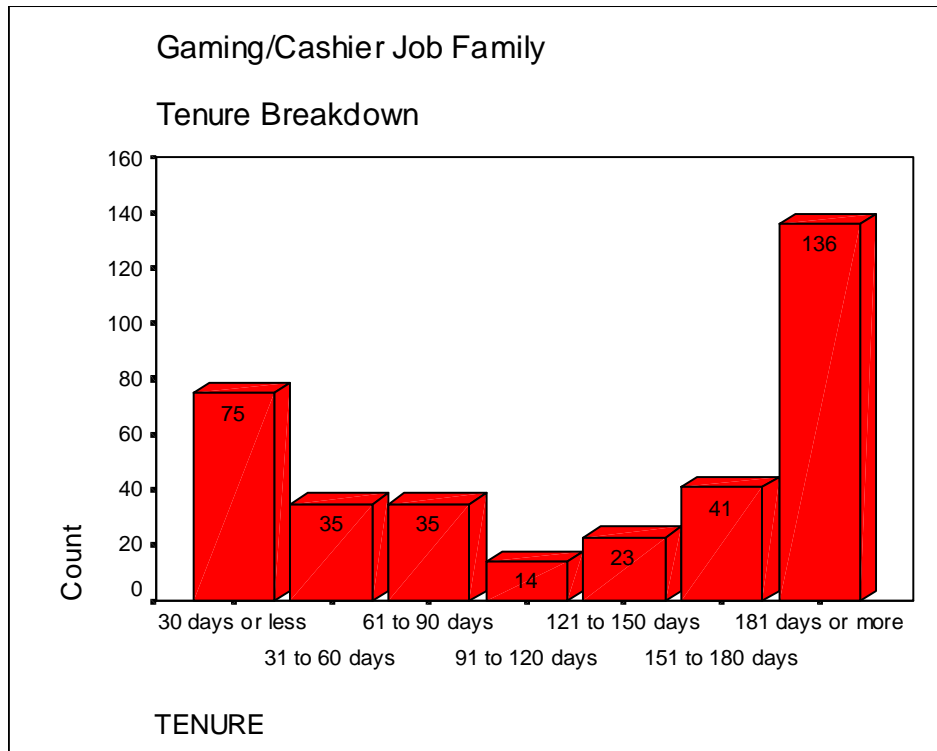
Ethnic/Gender	Number	Percentage
African American	538	59.0%
White	308	33.8%
Hispanic	7	.8%
Asian/Pacific Islander	18	2.0%
Native American	10	1.1%
Do not wish to respond or no response	31	3.4%
Male	312	34.2%
Female	592	64.9%
Do not wish to respond or no response	8	.9%

Turnover Information

As with the other job families, only applicants who completed the interview and were hired were included in the validation analysis. Hires were then classified into one of two groups. The low-criterion group included all hires that terminated within 90 days and the high-criterion group included all those hires that stayed in the job longer than 90 days. The table below provides the breakdown of the hires in the criteria groupings.

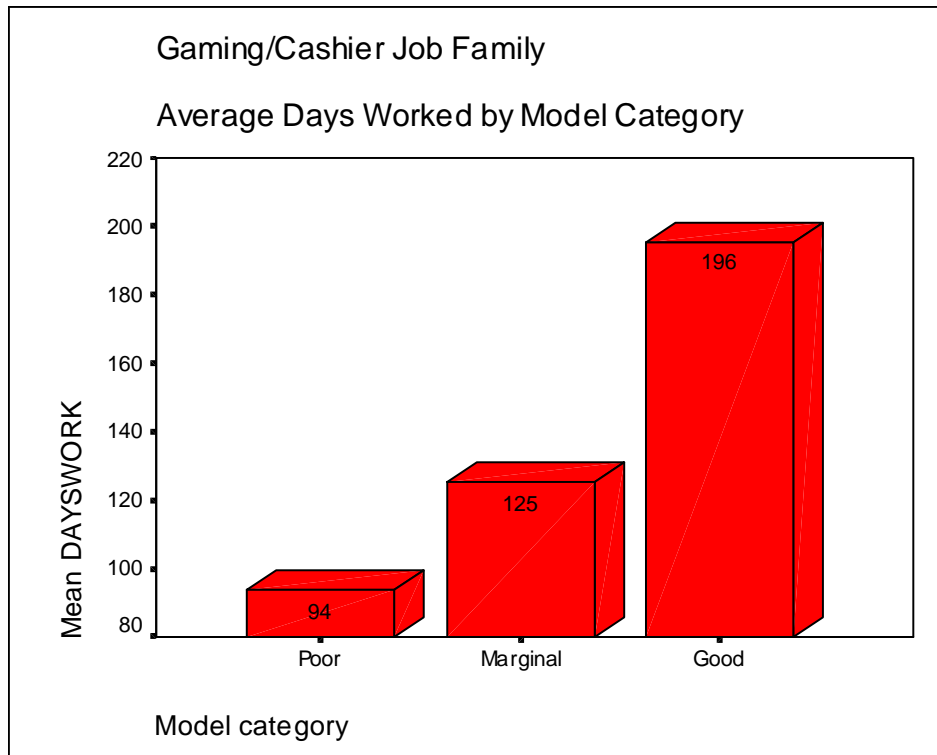
Criteria Grouping	Number	Percentage
High-Criteria (Employed 90 days or longer)	190	52.9%
Low-Criteria (Employed less than 90 days)	169	47.1%

The turnover for Gaming and Cashier positions appears to be significantly lower than the other two job families. According to this data, forty-seven percent of the new hires, who completed the interview, leave within 90 days. The tenure of the validation sample is defined in smaller increments in the graph that follows.

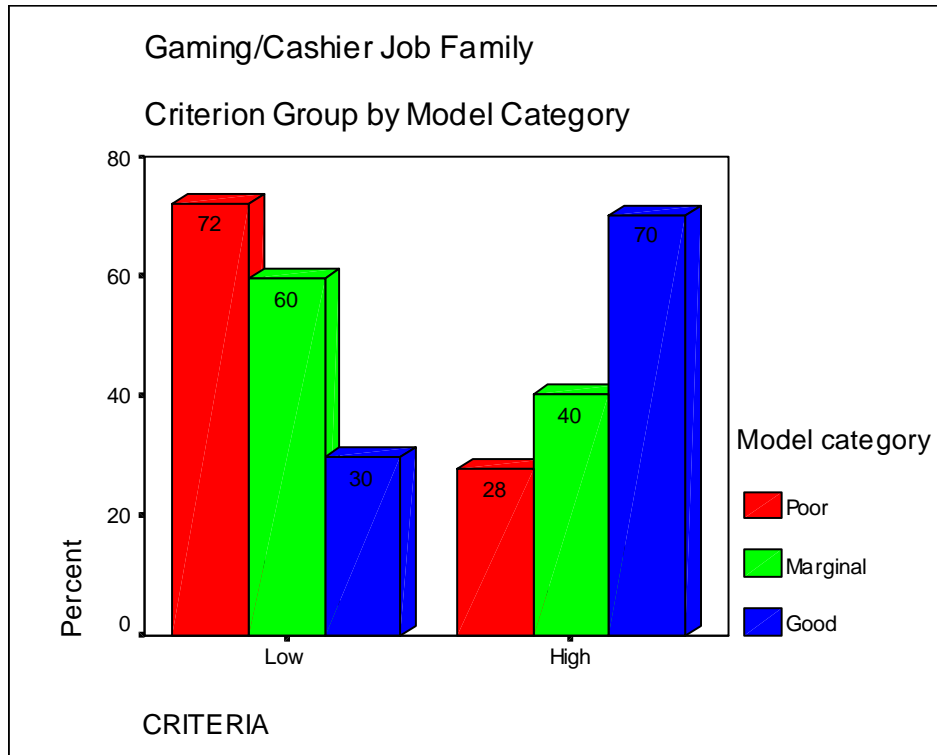


Projected Model Results

The candidate data from 2000 was scored in order to provide projected results of the new scoring model. The following graph displays the average days worked for each of the recommendation levels.



The graph demonstrates that those candidates who scored in the “Poor” range have a much lower average days worked, in fact less than half, than those who scored in the “Good” range. The following graph displays the criterion groups (High and Low) broken into three scoring ranges: Poor, Marginal and Good.



The graph shows that employees with good job tenure (high-criterion employees) are more likely to score in the “Good” of the interview. In fact, well over twice as many high-criterion employees (66%) score in the “Good” range of the interview. Employees scoring in the “Poor” range are nearly five times as likely to have tenure that is unsatisfactory. There is strong evidence that hiring applicants from the “Good” and “Marginal” range will significantly increase employee tenure.

EEOC Information

Matching the new model scoring ranges, potential hiring ratios would indicate no violation of the 4/5ths rule for females and minority applicants. The table below contains the “Recommended” ratios for the protected and non-protected groups, when the scoring model is applied to the validation sample. The percentage of candidates in the “Recommended” range for the protected groups is 80% of the “Recommended” percentage of the non-protected groups.

EEOC Race	Recommended %
White Applicants	93.8
Minority Applicants	74.7%
4/5ths Rule	79.6%

EEOC Gender	Recommended %
Male Applicants	88.1%
Female Applicants	78.0%
4/5ths Rule	84.6%

Section 3: Conclusions

1. The predictive characteristics of the new instruments will provide a sound basis for reducing turnover.
2. Improvements in tenure have a high correlation to improvements in job performance.
3. Applicants who are directed into positions or job groups where the alignment of work behaviors and job tasks are greatest are more inclined to stay in the job and do the job better.
4. TPG and SHL believe that the resulting conclusions from this study have significant application over a wide range of industries that are populated with hourly workers.