The Urbana Free Library

MEMORANDUM

TO: The City of Urbana, Civil Service Commission

FROM: Dawn Cassady, Associate Director
Rachel Fuller, Director of Adult & Youth Services

RE: Report on Applications for Circulation Clerk/Information Assistant Position

DATE: February 2, 2021

A. Summary

The Urbana Free Library considered 84 of 108 applicants using a rubric based on the minimum qualifications for the position. 24 applicants did not meet minimum qualifications for the position. Applicants who met the minimum qualifications were provided with a series of supplemental questions, and applicants were then scored based on their training and experience. Urbana preference points and veteran status points were added as appropriate. Using this scoring rubric resulted in 23 applicants who scored 55 points or higher. The supplemental questions and a sample score sheet have been included in this packet.

B. Background

The position was open for application from October 8, 2020, to October 29, 2020. The Urbana Free Library received 84 applications from applicants who met the minimum qualifications for the position. One applicant opted out of giving information on the EEO form, so numerically the breakdown of the applicants who did give information is as follows:

Male: 23   Non-Minority: 61

Female: 60   Minority: 23

C. Application Screening

Required qualifications included an associate's degree or equivalent; 25 wpm keyboarding skills; and one year successful, continuous work experience. Public service, library, and supervisory experience were all preferred. Prior experience with Polaris ILS; bilingual skills; and training and experience in reference, technology, and adult, teen, or children's services were desired.

The Urbana Free Library

CIRCULATION CLERK –
FULL TIME/PART TIME

JOB DESCRIPTION

Department:	Circulation Services	Benefits	Yes (pro-rated for PT)
Division:	N/A	Time:	General minimum of 39 hours per week for Full Time and 20 hours per week for Part Time, including evening and weekend hours. Part Time employees may work additional hours above the 20 base hours as requested by their supervisors for the Library's needs.
Job Type:	Civil Service (FT) ; Non-Civil Service (PT)	FLSA Status:	Non-Exempt
Reports To:	Associate Director	Pay Grade:	23 for Circulation Clerks; 25 for Information Assistants

JOB SUMMARY

The Circulation Clerk performs detailed clerical work that involves the automated circulation of Library materials and the maintenance of related files. Circulation duties demand extensive public interaction, and the clerk must be continually positive and friendly while handling many tasks at once in a busy environment. Duties are carried out under specific procedural guidelines, policies, and supervision of the Associate Director; Circulation, Café, and Volunteer Manager; or senior Circulation Clerks. A full-time or part-time Circulation Clerk may also be trained to work as an Information Assistant, with duties at the first-floor Information Desk, the second-floor adult Reference Desk and computer lab, and the children's Question Desk. A full-time or part-time Circulation Clerk also may create and/or maintain schedules for Library staff.

ESSENTIAL FUNCTIONS

- Serves the public at the circulation desk by checking out and checking in library materials, collecting fines, issuing library cards, explaining policies, etc.
- Utilizes the Library's computer system for various circulation services and functions.
- Answers telephone both for Circulation Services and for the entire Library.
- Issues borrowers' cards and maintains files.
- Handles monetary transactions with accuracy.
- Processes interlibrary loans (FT) and hold requests.
- Represents the Library at outreach events in the community.
- Shares responsibility for the smooth running of the circulation desk, including maintaining a prompt and reliable attendance record.

- Supervises staff and manages workflow in the absence of senior Circulation Clerks.
- Ensures the security of Library items and that equipment is in proper working order for a secure collection.
- May create and/or maintain schedules for Library staff.
- Performs other related duties as assigned.
- Attends department and other meetings as scheduled.

JOB REQUIREMENTS

Education & Experience

- Associate's degree or equivalent required.
- 25 words per minute keyboarding skills.
- One year successful, continuous work experience.
- Passing score on circulation and shelving tests.
- Public service, library, and supervisory experience all preferred.
- Bilingual skills (especially Spanish or Chinese) desirable.

Knowledge of

- Basic word processing and spreadsheet software.
- General office and clerical procedures.

Skills

- Strong commitment to excellent public service; friendly, energetic, and adaptable.
- Good organizational, interpersonal, and decision-making skills to work effectively with patrons, staff, and visitors.
- Excellent verbal and nonverbal communication skills.
- Dependability and honesty.
- Physical strength and agility sufficient to push loaded book trucks, to lift and carry up to 40 pounds, to access high and low shelves, and to work on one's feet for an entire shift.
- Ability to assume responsibility and work neatly, efficiently, and accurately without direct supervision.

Ability to

- Quickly develop a thorough knowledge of the Library's circulation system and security system.
- Quickly develop a thorough knowledge of circulation procedures and activities.
- Master complex, detailed routines.
- Understand and follow detailed oral and written instructions.
- Learn and follow all relevant Library policies.
- Complete work with speed and accuracy and handle frequent, sudden task changes effectively.
- Work with the public, visitors, and staff in a consistently friendly and courteous manner.
- Work in a team atmosphere in a consistently cooperative manner.
- Communicate effectively orally and in writing.
- Enforce Library's policies.
- Work full range of Library hours, including evenings and weekends. Maximum availability desirable.
- Work additional hours beyond those regularly scheduled as necessary and for the Library's needs.

Licenses, Certifications, and Memberships Required

- None.

CONTACTS: INTERNAL/EXTERNAL

- Daily contact with patrons and staff.
- Frequent contact with visitors.

SUPPLEMENTAL INFORMATION

Working Environment: *The work environment characteristics described herein are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.*
- The work will occur primarily at The Urbana Free Library.
- Occasionally, staff perform outreach at offsite locations.
- Typical work schedule could include any hours that the Library is open in addition to time before and afterwards, with flexibility depending on the needs of the department.

Physical Strength and Agility:

Physical strength and agility sufficient to perform assigned tasks:

- While performing the duties of this job, the employee is frequently required to walk, sit, and talk or hear.
- The employee is frequently required to use hands to handle, feel, or operate objects, tools, or controls; and reach with hands and arms.
- The employee is occasionally required to climb or balance; stoop, kneel, crouch, or crawl.
- The employee must occasionally lift and/or move up to 40 pounds.
- Vision: See in the normal visual range with or without correction; vision sufficient to read computer screens and printed documents; visually inspect work in progress; and the ability to adjust focus to both print and electronic text.
- Hearing: Hear in the normal audio range with or without correction.
- Other: Lifting, pushing, and keyboarding.

The physical demands described herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

The duties listed above are intended only as illustrations of the various types of work that may be performed. The omission of specific statements of duties does not exclude them from the position if the work is similar, related, or a logical assignment to the position.

The job description does not constitute an employment agreement between the employer and employee and is subject to change by the employer as the needs of the employer and requirements of the job change.

The Urbana Free Library is an Equal Opportunity Employer.

Last updated: September 10, 2020

The Urbana Free Library

INFORMATION ASSISTANT – FULL TIME/PART TIME

JOB DESCRIPTION

Department:	Adult & Youth Services	Benefits	Yes (pro-rated for PT)
Division:	N/A	Time:	General minimum of 39 hours per week for Full Time and 20 hours per week for Part Time, including evening and weekend hours, in combination with hours in Circulation if also hired as a Circulation Clerk. Part-time employees may work additional hours above the 20 base hours as requested by their supervisors for the Library's needs.
Job Type:	Civil Service (FT) ; Non-Civil Service (PT)	FLSA Status:	Non-Exempt
Reports To:	Director of Adult & Youth Services	Pay Grade:	25

JOB SUMMARY

Information Assistants provide reference and readers' advisory service, bibliographic instruction, and computer lab assistance to patrons of all ages; participate in outreach and programming; provide excellent customer service; and carry out other duties as assigned. Duties are carried out under specific procedural guidelines and under the supervision of the Director of Adult & Youth Services. Scheduling is coordinated in conjunction with hours worked in other departments, if applicable. A full-time or part-time Information Assistant also may create and/or maintain schedules for Library staff.

ESSENTIAL FUNCTIONS

- Provides routine reference service and bibliographic instruction to patrons.
- Assists patrons with the online catalog, the Internet, computer software, fax, and copier.
- Provides readers' advisory service to patrons, including preparation of bibliographies.
- Assists with creation of marketing and display materials.
- Participates in outreach and programming events.
- Upholds Library Rules of Behavior and other Library policies.
- May be a Public Notary.
- May create and/or maintain schedules for Library staff.

- Performs other related duties as assigned.
- Attends department and other meetings as scheduled.

JOB REQUIREMENTS

Education & Experience

- Training or experience in reference, technology; experience in adult, teen, or children's services desirable.
- Experience with electronic resources desirable.
- Prior experience with the Polaris ILS desirable.
- Associate's degree or equivalent required.
- 25 words per minute keyboarding skills.
- One year successful, continuous work experience.
- Passing score on circulation and shelving tests.
- Public service, library, and supervisory experience all preferred.
- Bilingual skills (especially Spanish or Chinese) desirable.

Knowledge of

- Knowledge of print and digital reference sources.
- Knowledge of Internet resources.
- Creative reference and database skills.
- Working knowledge of basic word processing and spreadsheet software, plus additional Microsoft Office modules.

Skills

- Ability to quickly develop an effective working knowledge of the Library's automation system and of relevant databases.
- Good organizational, interpersonal, and decision-making skills.
- Excellent verbal and nonverbal communication skills.
- Dependability and honesty.
- Strong customer service orientation.
- Commitment to serving a diverse community.
- Physical strength and agility sufficient to perform assigned tasks.

Ability to

- Master complex, detailed routines.
- Understand and follow detailed oral and written instructions.
- Learn and follow all relevant Library policies.
- Complete work with speed and accuracy and handle frequent, sudden task changes effectively.
- Work with the public, visitors, and staff in a consistently friendly and courteous manner.
- Work in a team atmosphere in a consistently cooperative manner.
- Assume responsibility and work neatly, efficiently, and accurately without direct supervision.
- Communicate effectively orally and in writing.
- Enforce Library policies.
- Work full range of Library hours, including evenings and weekends. Maximum availability desirable.
- Work additional hours beyond those regularly scheduled as necessary and for the Library's needs.

Licenses, Certifications, and Memberships Required

- Willingness to become a Public Notary and to perform all related duties and functions.

CONTACTS: INTERNAL/EXTERNAL

- Daily contact with patrons and staff.
- Frequent contact with visitors and callers.

SUPPLEMENTAL INFORMATION

Working Environment: *The work environment characteristics described herein are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.*
- The work will occur primarily at The Urbana Free Library.
- Occasionally, staff perform outreach at offsite locations.
- Typical work schedule could include any hours that the Library is open in addition to time before and afterwards, with flexibility depending on the needs of the department.

Physical Strength and Agility:
Physical strength and agility sufficient to perform assigned tasks:

- While performing the duties of this job, the employee is frequently required to walk, sit, and talk or hear.
- The employee is occasionally required to use hands to handle, feel, or operate objects, tools, or controls; and reach with hands and arms.
- The employee is occasionally required to climb or balance; stoop, kneel, crouch, or crawl.
- The employee must occasionally lift and/or move up to 25 pounds.
- Vision: See in the normal visual range with or without correction; vision sufficient to read computer screens and printed documents; visually inspect work in progress; and the ability to adjust focus to both print and electronic text.
- Hearing: Hear in the normal audio range with or without correction.
- Other: Lifting, pushing, and keyboarding.

The physical demands described herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

The duties listed above are intended only as illustrations of the various types of work that may be performed. The omission of specific statements of duties does not exclude them from the position if the work is similar, related, or a logical assignment to the position.

The job description does not constitute an employment agreement between the employer and employee and is subject to change by the employer as the needs of the employer and requirements of the job change.

The Urbana Free Library is an Equal Opportunity Employer.

Last updated: September 10, 2020

SUPPLEMENTAL QUESTIONS

Responses to these supplemental questions must reflect the information provided under the "Employment History" section of your application. Responses will be scored based on a rubric and will help determine which applicants will be invited to a first round of interviews for this position. Only information on the application will be considered, and additional information listed on a resume, cover letter, or other supplemental materials will not be used when scoring the questions.

BOTH POSITIONS:

1. Select the response that best describes your skill level with Microsoft Office:
   - No experience
   - Entry level
   - Intermediate
   - Proficient
     a. If you answered that you have entry-level experience or higher using Microsoft Office, please describe examples of your level of competency:

2. Do you have work experience doing front-line customer service?
   - No experience
   - Less than two years of experience
   - Two through four years of experience
   - Five or more years of experience
   a. If you said that you have work experience doing front-line customer service, please describe:

3. Do you have work experience in a library?
   - No experience
   - No, but have volunteered in a library setting
   - Yes, at a public or academic library in an area other than circulation or information services
   - Yes, at an academic or special library in circulation or information services
   - Yes, at a public library in circulation or information services
   a. If you said that you have experience, please describe, including the type of library (public, academic, special) and length of time employed or as a volunteer:

4. Do you have experience representing organizations out in the community or at professional events?
   - No experience
   - Less than two years of experience
   - Two through four years of experience
   - Five or more years of experience
     a. If you said that you have representing organizations out in the community or at professional events, please describe:

5. Please describe your skill level with the Spanish language:
   - None

- Polite
- Literate
- Fluent

* Polite means being able to greet and exchange pleasantries; indicate or understand an emergency, or uncomfortable situation and ask if an interpreter is needed.
* Literate means being able to understand a newscast, or read a newspaper.
* Fluent means being able to speak and write the language as well as one's native language.

6. Please describe your skill level with the French language:
   French:
   - None
   - Polite
   - Literate
   - Fluent

* Polite means being able to greet and exchange pleasantries; indicate or understand an emergency, or uncomfortable situation and ask if an interpreter is needed.
* Literate means being able to understand a newscast, or read a newspaper.
* Fluent means being able to speak and write the language as well as one's native language.

7. Please describe your skill level with the Chinese language:
   Chinese:
   - None
   - Polite
   - Literate
   - Fluent

* Polite means being able to greet and exchange pleasantries; indicate or understand an emergency, or uncomfortable situation and ask if an interpreter is needed.
* Literate means being able to understand a newscast, or read a newspaper.
* Fluent means being able to speak and write the language as well as one's native language.

CIRC:

8. Do you have work experience doing detailed clerical work of some kind? This experience could include filing, data entry, etc.
   - No experience
   - Less than two years of experience
   - Two through four years of experience
   - Five or more years of experience
   a. If you said that you have work experience doing detailed clerical work of some kind, please describe:

9. Do you have supervisory experience?
   - No experience
   - Less than two years of experience
   - Two through four years of experience
   - Five or more years of experience

   a. If you said that you have supervisory experience, please describe your duties and include the number of staff you supervised:

10. Do you have work experience taking cash/check/credit card payments for goods or services?
    - No experience
    - Less than two years of experience
    - Two through four years of experience
    - Five or more years of experience

    a. If you said that you have work experience taking cash/check/credit card payments for goods or services, please describe:

INFO:

11. Do you have training in or work experience doing reference, reader's advisory, or technology help?
    - No experience
    - Less than two years of experience
    - Two through four years of experience
    - Five or more years of experience
    a. If you said that you have training in or work experience doing reference, reader's advisory, or technology help, please describe:

12. Which best describes your work experience handling questions/complaints and researching answers to questions?
    - No experience
    - Less than two years of experience
    - Two through four years of experience
    - Five or more years of experience
    a. If you said that you have work experience handling questions/complaints and researching answers to questions, please describe:

13. Do you have work experience troubleshooting office machines (e.g., fax, printer, copier, scanner, etc.)?
    - No experience
    - Less than two years of experience
    - Two through four years of experience
    - Five or more years of experience

    a. If you said that you have work experience troubleshooting office machines (e.g., fax, printer, copier, scanner, etc.), please describe:

14. This full-time position requires the ability to work 39 hours/week, including regularly scheduled evenings and weekends, per the needs of the Library. My failure to maintain a regular, full-time schedule that includes evenings and weekends may result in dismissal.

        I understand and agree _____

15. I understand that I am responsible for maintaining the accuracy of my contact information, including my street address, my email address, and my contact telephone numbers. My failure to maintain accurate contact information may result in my not receiving information regarding this job announcement and/or may result in my not being further considered for this employment opportunity.

        I understand and agree _____

16. By completing this supplemental evaluation, you are attesting that the information you have provided is accurate. Any information you provide may be reviewed by the hiring manager. Any misstatements or falsification of information may eliminate you from consideration or may result in dismissal.

        I understand and agree _____

#1: MS Office exper.	#2: Front-line customer serv.	#3: Work exper. in library	#4: Exper. rep. org'ns in community/ @events	#5-7: Foreign Lang.	#8: Detailed clerical work	#9: Supervisory exper.	#10: Exper. taking payments	#11: Ref, RA, Tech help exper/ training	#12: Handling QQ/ complaints; researching answers	#13: Trouble-shooting office machines	Urbana Residency?	Subtotal Score	Vet?	Total Score

Disparate Impact Analysis
(an On-Line Internet based application)

Instructions: Please fill out the information into the form below. Once you have entered your data below, you may select the types of analysis to be conducted by checking the appropriate boxes. Then press the compute button at the bottom of the form to view the results.

Select the type of employment decision: Selection ⌄
Enter a title for your report:
2021 Full-Time Circulation Clerk/Information Assistant

Sex

Number of Male
29   Applicants
23   Selected

Number of Female
74   Applicants
60   Selected

Race

Number of Non-Minority
76   Applicants
61   Selected

Number of Minority
30   Applicants
23   Selected

Age

Number of Younger
___   Applicants
___   Selected

Number of Older
___   Applicants
___   Selected

Disability

Number of Non-Disabled
___   Applicants
___   Selected

Number of Disabled
___   Applicants
___   Selected

☑-Adverse Impact
☑-Chi-Square
☑-Standard Deviation
☑-Confidence Intervals
☑ Probability Distribution

Select the Statistical Tests you wish to execute by checking or unchecking the boxes on the left. Then press the 'Compute' button below.

Compute

Display: ☑ Description of Statistic ☑ Interpretation of Results

2021 Full-Time Circulation Clerk/Information Assistant

Adverse-Impact Report

Adverse Impact and the "four-fifths rule." - A selection rate for any race, sex, or ethnic group which is less than four-fifths (4/5ths) (or eighty percent) of the rate for the group with the highest rate will generally be regarded by the Federal enforcement agencies as evidence of adverse impact. _Uniform Guidelines on Employee Selection Procedures_

Rate of Female Applicants Selected	Rate of Male Applicants Selected	Adverse Impact Ratio for Female	Adverse Impact Ratio for Male
(60/74) = 0.8108	(23/29) = 0.7931	(0.8108/0.7931)=1.02	(0.7931/0.8108)=0.98
Adverse impact as defined by the 4/5ths rule was not found in the above data.			

Rate of Minority Applicants Selected	Rate of NonMinority Applicants Selected	Adverse Impact Ratio for Minority	Adverse Impact Ratio for NonMinority
(23/30) = 0.7667	(61/76) = 0.8026	(0.7667/0.8026)=0.96	(0.8026/0.7667)=1.05
Adverse impact as defined by the 4/5ths rule was not found in the above data.			

Chi-Square Report

Observed Expected	Selected	Not Selected	Row Totals
Male	23 23.3689	6 5.6311	29
Female	60 59.6311	14 14.3689	74
Column Total	83	20	103

Chi-Square = 0.0418
The value of the statistic is less than 3.841. This indicates that there is a 95 percent chance that these results have been obtained absent any form of bias. Therefore, you may conclude that these results fall within normal random variations and are not the result of bias.

Observed Expected	Selected	Not Selected	Row Totals
NonMinority	61 60.2264	15 15.7736	76
Minority	23 23.7736	7 6.2264	30
Column Total	84	22	106

Chi-Square = 0.1692
The value of the statistic is less than 3.841. This indicates that there is a 95 percent chance that these results have been obtained absent any form of bias. Therefore, you may conclude that these results fall within normal random variations and are not the result of bias.

Standard-Deviation Report

The difference between the proportion of the protected class Selected and the proportion of all Applicants Selected has a normal distribution with a mean and standard deviation. The statistic is shown below:

$$\frac{(r \; / \; n) - p}{sqrt(p \; * \; (1-p) \; / \; n) \; * \; sqrt(1-q)}$$

Analysis of proportion of Female Selected where:

- r = number of Female Selected.
- n = number of Selected (Female and Male).
- p = proportion of Applicants that are Female.
- q = proportion of Applicants Selected.

	Selected	Not Selected	Row Totals
Male	23	6	29
Female	60	14	74
Column Total	83	20	103

r = 60
n = 83
p = 74 / 103 = 0.718
q = (60 + 23) / (74 + 29) = 0.806

Standard Deviation Statistic = 0.204

These results show that the proportion of Female Selected is 0.204 standard deviations above the proportion of Applicants Selected. A result of less than 2 standard deviations is generally considered non-significant.

Analysis of proportion of Minority Selected where:

- r = number of Minority Selected.
- n = number of Selected (Minority and NonMinority).
- p = proportion of Applicants that are Minority.
- q = proportion of Applicants Selected.

	Selected	Not Selected	Row Totals
NonMinority	61	15	76
Minority	23	7	30
Column Total	84	22	106

r = 23
n = 84
p = 30 / 106 = 0.283
q = (23 + 61) / (30 + 76) = 0.792

Standard Deviation Statistic = -0.411

These results show that the proportion of Minority Selected is -0.411 standard deviations below the proportion of Applicants Selected. A result of less than 2 standard deviations is generally considered non-significant.

Confidence Interval Report

The proportion of the protected class Selected has an expected value that would fall within a specified confidence interval.
The statistic is shown below:
Observed value = (r / n)
Expected value = p

Standard Deviation = sqrt(p * (1-p) / n) * sqrt(1-q)

Confidence Interval:
Lower Bound = p - 1.96 * Std Dev
Upper Bound = p + 1.96 * Std Dev

Analysis of proportion of Female Applicants Selected where:

- r = number of Female Selected.
- n = number of Applicants Selected.
- p = proportion of Female among those Selected.
- q = proportion of Applicants Selected.

r = 60
n = 83
p = (74/(74+29))=0.718
q = ((60 + 23)/(74 + 29))=0.806
(r/n)=60/83=0.7229

The lower bound of the confidence interval is: 0.718-(1.96*0.022)=0.6758
The upper bound of the confidence interval is: 0.718+(1.96*0.022)=0.7611

Confidence Interval = 0.6758 to 0.7611

These results show that the proportion of Female Female (r/n=0.7229) is contained in the confidence interval.
Therefore a finding of disparate impact is not supported by this data.

Analysis of proportion of Minority Applicants Selected where:

- r = number of Minority Selected.
- n = number of Applicants Selected.
- p = proportion of Minority among those Selected.
- q = proportion of Applicants Selected.

r = 23
n = 84
p = (30/(30+76))=0.283
q = ((23 + 61)/(30 + 76))=0.792
(r/n)=23/84=0.2738

The lower bound of the confidence interval is: 0.283-(1.96*0.022)=0.2391
The upper bound of the confidence interval is: 0.283+(1.96*0.022)=0.3269

Confidence Interval = 0.2391 to 0.3269

These results show that the proportion of Minority Minority (r/n=0.2738) is contained in the confidence interval.
Therefore a finding of disparate impact is not supported by this data.

Probability Distribution Report

| Number Female Selected	Number Male Selected	Rate of Female Applicants Selected	Rate of Male Applicants Selected	Adverse Impact Ratio of Female	Adverse Impact against Female ?	Probability	Cumulative Probability
54	29	(54/74)	(29/29)	0.7297	YES	0.000571	0.000571
55	28	(55/74)	(28/29)	0.7698	YES	0.006021	0.006592
56	27	(56/74)	(27/29)	0.8128	NO	0.028598	0.035189
57	26	(57/74)	(26/29)	0.8591	NO	0.081278	0.116468
58	25	(58/74)	(25/29)	0.9092	NO	0.154849	0.271316
59	24	(59/74)	(24/29)	0.9634	NO	0.209965	0.481281
Selected->60	23	(60/74)	(23/29)	1.0223	NO	0.209965	0.691246
61	22	(61/74)	(22/29)	1.0866	NO	0.158334	0.84958
62	21	(62/74)	(21/29)	1.157	NO	0.091297	0.940877
63	20	(63/74)	(20/29)	1.2345	NO	0.040577	0.981454
64	19	(64/74)	(19/29)	1.3201	NO	0.013948	0.995402
65	18	(65/74)	(18/29)	1.4152	NO	0.003707	0.999108
66	17	(66/74)	(17/29)	1.5215	NO	0.000758	0.999866
67	16	(67/74)	(16/29)	1.641	NO	0.000118	0.999985
68	15	(68/74)	(15/29)	1.7766	NO	0.000014	0.999999
69	14	(69/74)	(14/29)	1.9315	NO	0.000001	1
70	13	(70/74)	(13/29)	2.1102	NO	0	1
71	12	(71/74)	(12/29)	2.3187	NO	0	1
72	11	(72/74)	(11/29)	2.5651	NO	0	1
73	10	(73/74)	(10/29)	2.8608	NO	0	1
74	9	(74/74)	(9/29)	3.2222	NO	0	1

Given that 83 were Selected from a pool of 29 Male and 74 Female it was possible to have Selected from 54 to 74 females.

Adverse Impact would be found if you Selected 55 or fewer Female.

The probability of Adverse Impact occurring even if the employment decisions were random (i.e. unbiased) is 0.0066 (the sum of the probabilities of having Selected 55 or fewer Female).

Since the probability of Adverse Impact occurring even if the selection was random (i.e. unbiased) is less than 10%, an observed Adverse Impact may be significant since there is a low probability that Adverse Impact would have occurred by chance.

Probability Distribution of the variable: Number of Female Selected.

54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
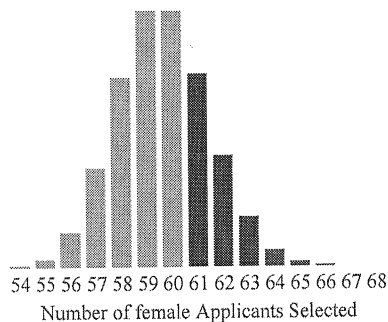Number of female Applicants Selected
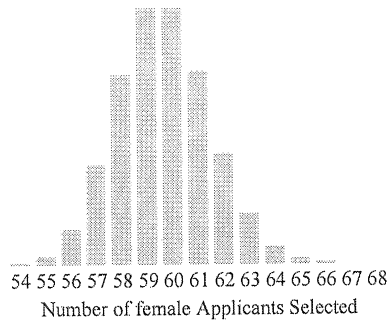
The probability distribution of having Selected from 54 to 74 females is displayed above. The graph above is shown starting with 54 since the probabilities below this point are near zero. As can be seen, the most likely event (highest probability) to have occurred by chance (or decisions not affected by any form of bias) is to have Selected 59 female Applicants. This represents the mean of the probability distribution. Approximately half of the probability distribution is above this point and approximately half is below this point. The total area contained in the probability distribution is equal to 1. Thus, probabilities for each number of female Applicants Selected are a fraction of the total probability distribution. The larger areas of the distribution represent higher probabilities of occurance. Adding the individual probabilities up to a certain point enable you to compute the probability of having Selected that many or fewer females Applicants. Adding the individual probabilities from a certain point and higher enable you to compute the probability of having Selected that many or more females Applicants.

The characteristics of the probability distribution--its mean and standard deviation--are a function of the number of female and male Applicants and the number of Applicants to be Selected. Though it is possible to have Selected from 54 to 74 female Applicants, the individual probabilities of having Selected each number of female Applicants can be computed and accumulated. As noted before, these individual probabilities are a function of the number of female and male Applicants and the number of Applicants to be Selected.

Using the distribution above, a 90 percent confidence interval on the variable 'Number of Female Selected' would have a lower bound of 57 and an upper bound of 63.

The significance of having Selected 60 or fewer Female is graphically displayed below.

54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
Number of female Applicants Selected

As noted earlier, Adverse Impact, according to the 4/5ths rule, would be found if you Selected 55 *or fewer* female Applicants.

You have Selected 60 female Applicants. The probability of having Selected 60 *or fewer* Female is equal to the cumulative probability for having Selected 60 Female Applicants. The cumulative probability of having Selected 60 female Applicants is 0.6912 and is graphically displayed, in red, above.

Since the probability is greater than 10%, we are unable to reject the hypothesis that the decisions occurred due to chance. Therefore, we must conclude that it is entirely possible that having Selected 60 or fewer female Applicants is an event that occurred due to chance and not from discriminatory actions by the employer.

Probability Distribution Report

| Number Minority Selected	Number NonMinority Selected	Rate of Minority Applicants Selected	Rate of NonMinority Applicants Selected	Adverse Impact Ratio of Minority	Adverse Impact against Minority ?	Probability	Cumulative Probability
8	76	(8/30)	(76/76)	0.2667	YES	0	0
9	75	(9/30)	(75/76)	0.304	YES	0	0
10	74	(10/30)	(74/76)	0.3423	YES	0	0
11	73	(11/30)	(73/76)	0.3817	YES	0	0
12	72	(12/30)	(72/76)	0.4222	YES	0	0
13	71	(13/30)	(71/76)	0.4638	YES	0	0
14	70	(14/30)	(70/76)	0.5067	YES	0.000001	0.000001
15	69	(15/30)	(69/76)	0.5507	YES	0.000011	0.000012
16	68	(16/30)	(68/76)	0.5961	YES	0.000089	0.000101
17	67	(17/30)	(67/76)	0.6428	YES	0.000554	0.000656
18	66	(18/30)	(66/76)	0.6909	YES	0.002683	0.003339
19	65	(19/30)	(65/76)	0.7405	YES	0.010167	0.013506
20	64	(20/30)	(64/76)	0.7917	YES	0.03029	0.043796
21	63	(21/30)	(63/76)	0.8444	NO	0.07101	0.114807
22	62	(22/30)	(62/76)	0.8989	NO	0.130723	0.24553
Selected->23	61	(23/30)	(61/76)	0.9552	NO	0.187939	0.433469
24	60	(24/30)	(60/76)	1.0133	NO	0.208984	0.642452
25	59	(25/30)	(59/76)	1.0734	NO	0.177021	0.819474
26	58	(26/30)	(58/76)	1.1356	NO	0.111584	0.931058
27	57	(27/30)	(57/76)	1.2	NO	0.050463	0.981521
28	56	(28/30)	(56/76)	1.2667	NO	0.015409	0.99693
29	55	(29/30)	(55/76)	1.3358	NO	0.002834	0.999764
30	54	(30/30)	(54/76)	1.4074	NO	0.000236	1

Given that 84 were Selected from a pool of 76 NonMinority and 30 Minority it was possible to have Selected from 8 to 30 minorities.

Adverse Impact would be found if you Selected 20 or fewer Minority.

The probability of Adverse Impact occurring even if the employment decisions were random (i.e. unbiased) is 0.0438 (the sum of the probabilities of having Selected 20 or fewer Minority).

Since the probability of Adverse Impact occurring even if the selection was random (i.e. unbiased) is less than 10%, an observed Adverse Impact may be significant since there is a low probability that Adverse Impact would have occurred by chance.

Probability Distribution of the variable: Number of Minority Selected.

8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
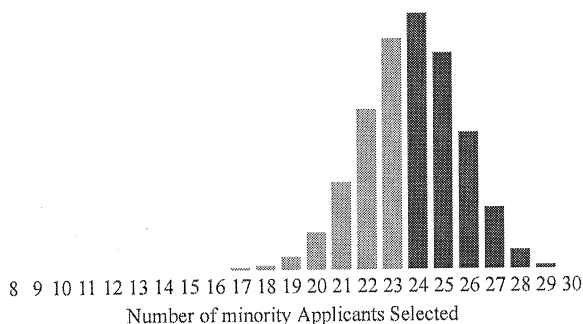
Number of minority Applicants Selected
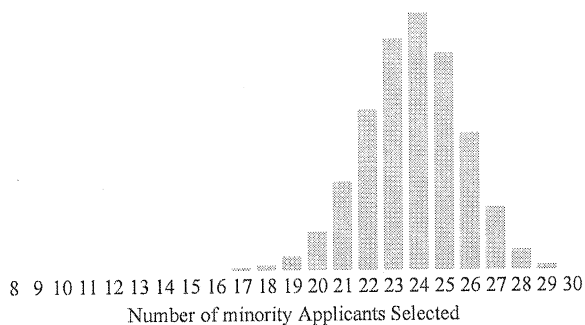
The probability distribution of having Selected from 8 to 30 minorities is displayed above. The graph above is shown starting with 8 since the probabilities below this point are near zero. As can be seen, the most likely event (highest probability) to have occurred by chance (or decisions not affected by any form of bias) is to have Selected 24 minority Applicants. This represents the mean of the probability distribution. Approximately half of the probability distribution is above this point and approximately half is below this point. The total area contained in the probability distribution is equal to 1. Thus, probabilities for each number of minority Applicants Selected are a fraction of the total probability distribution. The larger areas of the distribution represent higher probabilities of occurance. Adding the individual probabilities up to a certain point enable you to compute the probability of having Selected that many or fewer minorities Applicants. Adding the individual probabilities from a certain point and higher enable you to compute the probability of having Selected that many or more minorities Applicants.

The characteristics of the probability distribution--its mean and standard deviation--are a function of the number of minority and non-minority Applicants and the number of Applicants to be Selected. Though it is possible to have Selected from 8 to 30 minority Applicants, the individual probabilities of having Selected each number of minority Applicants can be computed and accumulated. As noted before, these individual probabilities are a function of the number of minority and non-minority Applicants and the number of Applicants to be Selected.

Using the distribution above, a 90 percent confidence interval on the variable 'Number of Minority Selected' would have a lower bound of 21 and an upper bound of 27.

The significance of having Selected 23 or fewer Minority is graphically displayed below.

8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

Number of minority Applicants Selected

As noted earlier, Adverse Impact, according to the 4/5ths rule, would be found if you Selected 20 *or fewer* minority Applicants.

You have Selected 23 minority Applicants. The probability of having Selected 23 *or fewer* Minority is equal to the cumulative probability for having Selected 23 Minority Applicants. The cumulative probability of having Selected 23 minority Applicants is 0.4335 and is graphically displayed, in red, above.

Since the probability is greater than 10%, we are unable to reject the hypothesis that the decisions occurred due to chance. Therefore, we must conclude that it is entirely possible that having Selected 23 or fewer minority Applicants is an event that occurred due to chance and not from discriminatory actions by the employer.

Send questions or comments to webmaster@hr-guide.com. Thank you.