1.TABLE 11-2. Many companies use well-known celebrities as spokespersons in their TV advertisements. A study was conducted to determine whether brand awareness of female TV viewers and the gender of the spokesperson are independent. Each in a sample of 300 female TV viewers was asked to identify a product advertised by a celebrity spokesperson. The gender of the spokesperson and whether or not the viewer could identify the product was recorded.

Referring to Table 11-2, the calculated test statistic is

Male Celebrity Female Celebrity

Identify product 41 61

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| Could not identify 109 89  a.-0.1006  b.0.00  c.5.9418  d.6.1194  2. TABLE 11-4. One criterion used to evaluate employees in the assembly section of a large factory is the number of defective pieces per 1,000 parts produced. The quality control department wants to find out whether there is a relationship between years of experience and defect rate. Since the job is repetitious, after the initial training period any improvement due to a learning effect might be offset by a loss of motivation. A defect rate is calculated for each worker in a yearly evaluation. The results for 100 workers are given in the table below.  Referring to Table 11-4, of the cell for 1 to 4 years of training time and a high defect rate, what is the contribution to the overall ÷2 statistic for the independence test?  Years Since Training Period  <1 Year 1-4 Years 5-9 Years  High 6 9 9  Defect Rate: Average 9 19 23  Low 7 8 10  a.0.36  b.0.1296  c.0.015  d.0.0144  3. TABLE 11-4. One criterion used to evaluate employees in the assembly section of a large factory is the number of defective pieces per 1,000 parts produced. The quality control department wants to find out whether there is a relationship between years of experience and defect rate. Since the job is repetitious, after the initial training period any improvement due to a learning effect might be offset by a loss of motivation. A defect rate is calculated for each worker in a yearly evaluation. The results for 100 workers are given in the table below.  Referring to Table 11-4, a test was conducted to determine if a relationship exists between defect rate and years of experience. Which of the following *p* values would indicate that defect rate and years of experience are dependent? Assume you are testing at alpha = 0.05.  Years Since Training Period  <1 Year 1-4 Years 5-9 Years  High 6 9 9  Defect Rate: Average 9 19 23  Low 7 8 10  a.0.045  b.0.055  c.0.074  d.0.080  4. TABLE 11-4. One criterion used to evaluate employees in the assembly section of a large factory is the number of defective pieces per 1,000 parts produced. The quality control department wants to find out whether there is a relationship between years of experience and defect rate. Since the job is repetitious, after the initial training period any improvement due to a learning effect might be offset by a loss of motivation. A defect rate is calculated for each worker in a yearly evaluation. The results for 100 workers are given in the table below.  Referring to Table 11-4, what is the expected number of employees with less than 1 year of training time and a high defect rate?  Years Since Training Period  <1 Year 1-4 Years 5-9 Years  High 6 9 9  Defect Rate: Average 9 19 23  Low 7 8 10  a.4.17  b.4.60  c.5.28  d.9.17  5. TABLE 11-1. A study published in the *American Journal of Public Health* was conducted to determine whether the use of seat belts in motor vehicles depends on ethnic status in San Diego County. A sample of 792 children treated for injuries sustained from motor vehicle accidents was obtained, and each child was classified according to (1) ethnic status (Hispanic or non-Hispanic) and (2) seat belt usage (worn or not worn) during the accident.  Referring to Table 11-1, at 5% level of significance, there is sufficient evidence to conclude that  Hispanic Non-Hispanic  Seat belt worn 31 148  Seat belt not worn 283 330  A.use of seat belts in motor vehicles is related to ethnic status in San Diego County  B. use of seat belts in motor vehicle depends on ethnic status in San Diego County  C. use of seat belts in motor vehicles is associated with ethnic status in San Diego County  D. all of the above |
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