

Work and Health
CHS M278/EHS M270
Spring 2012
Questionnaire Packet
Instructions and Scoring

Formulas for JCQ scale scores

1. Calculate your scores for the following items.

	<u>Your Score</u>	<u>Possible</u>
Job skill discretion = $[q1 + q3 + q5 + q7 + q9 + (5 - q2)] * 2$.	_____	12-48
Job decision-making authority = $[2*(q4 + q6 + q8)]*2$.	_____	12-48
Job demands = $3*(q10 + q11) + 2*(15 - q13 - q14 - q15)$.	_____	12-48
Job decision latitude = skill discretion + decision-making authority. _____	_____	24-96
Formulas for social support and job insecurity:		
Co-worker support = $q17 + q18 + q19 + q20$.	_____	4-16
Supervisor support = $q21 + q22 + q23 + q24$.	_____	4-16
Job insecurity = $q25 + q27 + (5 - q16)$.	_____	3-14

2. Job Strain can be determined using the following three methods. Please determine whether or not you have "Job strain" using only Method 2 and Method 3. Please show your work.

Method 1:

A score above the sample median on job demands as well as below the sample median on job decision latitude (but this requires a sample of more than one person, therefore in our case is not applicable).

Method 2:

A score above the national average on job demands as well as below the national average on job decision latitude. Population averages can be found on the next page.

3. Calculate z scores FOR ALL ITEMS to obtain a sense of how your scores compare to the national average. See formula and explanation of z-scores on the next page.

National averages for JCQ scales from 1969, 1972, and 1977
U.S. Quality of Employment Surveys (4,495 men and women)

	<u>Average</u>	<u>Standard Deviation</u>	<u>Your z score</u>
Job Skill Discretion =	33.5	8.50	_____
Job Decision-Making Authority =	36.8	9.90	_____
Job Decision Latitude =	70.3	15.6	_____
Job Demands =	30.9	8.48	_____
Co-Worker Support =	12.73	2.53	_____
Supervisor Support =	11.94	4.85	_____
Total Social Support =	24.6	4.26	_____
Job Insecurity =	4.91	1.97	_____

Sources: Karasek RA, Gordon G, Pietrokovsky C, Frese M, Pieper C, Schwartz J, Fry L, Schirer D. Job Content Instrument: Questionnaire and User's Guide. Los Angeles, CA: University of Southern California, 1985.

Karasek R, Brisson C, Kawakami N, Houtman I, Bongers P, Amick B. The Job Content Questionnaire (JCQ): An instrument for internationally comparative assessments of psychosocial job characteristics. Occup Health Psychology 1998;3:322-355. (Plus unpublished update, Robert Karasek, November 2000)

Method 3:

A job strain ratio term: (Demands*2)/Decision-Latitude.

A score > 1 would indicate job strain.

$$z = \frac{(\text{mean of your sample}) - (\text{national mean})}{\text{national standard deviation}}$$

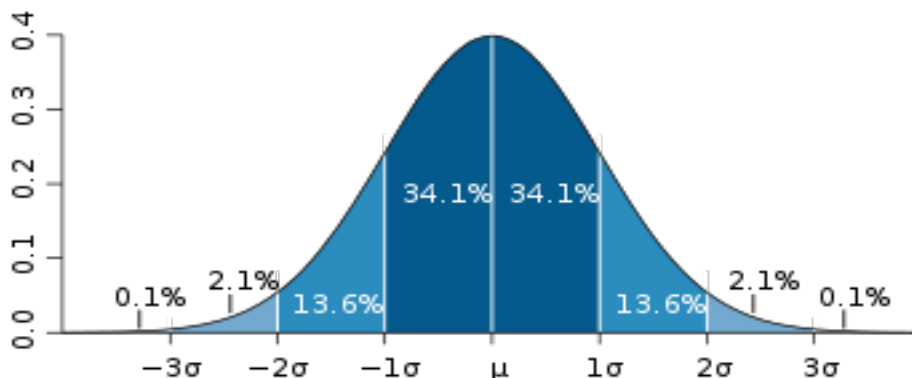
Since you have only administered the questionnaire to one person, it is not possible to find the mean (average) of your sample because it consists of only one number. Therefore, if your respondent has scored a 46 on Job Skill Discretion, you would take that number as a proxy for the mean, subtract the national mean (which in this case is 33.5) and divide it by the Standard Deviation (8.5) to find the z-score for Job Skill Discretion.

In order to evaluate the implication of your z-score, it is important to understand normal distribution and standard deviation. A normal distribution of data means that the data is evenly distributed and most of the examples in a set of data are close to the "average," while relatively few examples tend to one extreme or the other.

Not all sets of data will have graphs that look this perfect. Some will have relatively flat curves, others steep or skewed to the left or right. But all normally distributed data will have something like a "bell-shaped curve". The mean or μ , is that point which divides the population in half.

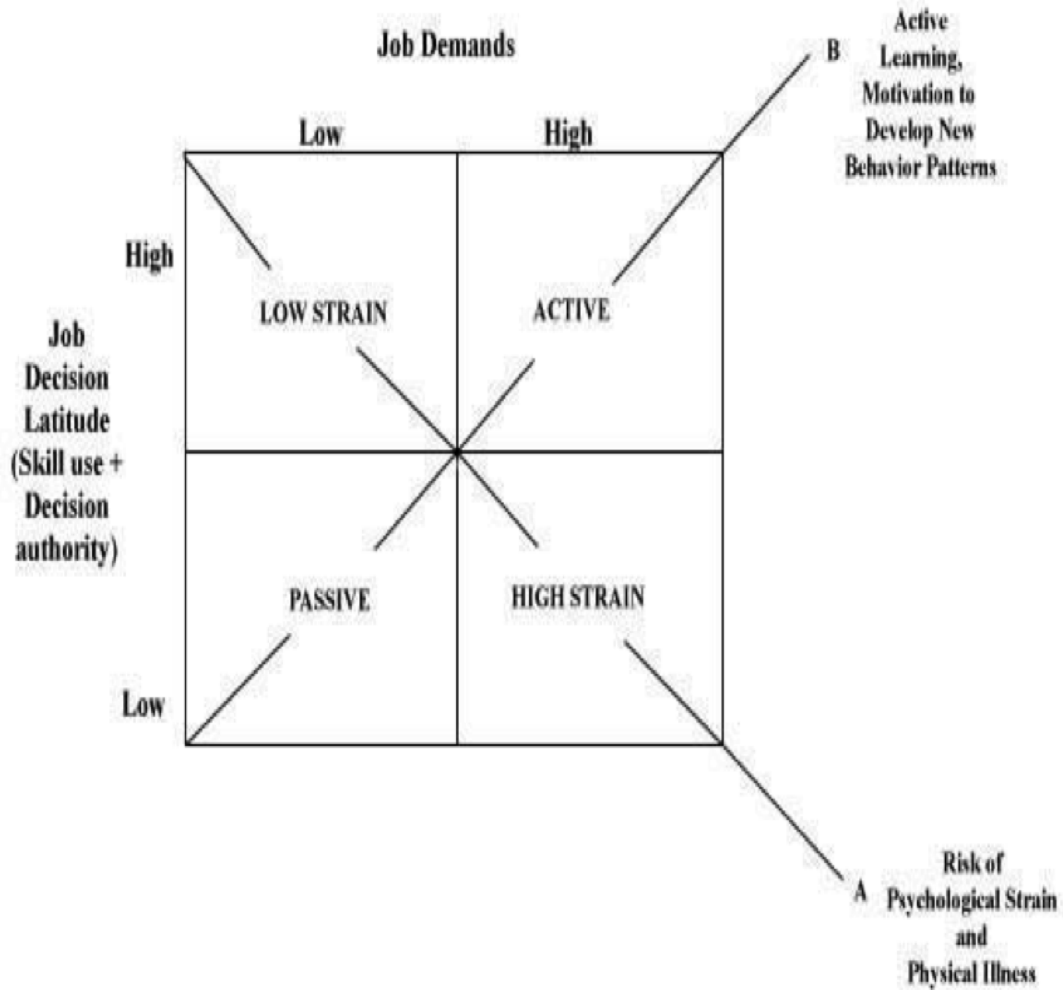
Standard deviation describes how tightly data is clustered around the mean in a given sample. When the examples are tightly bunched together and the bell-shaped curve is steep, the standard deviation is small. When the examples are spread apart and the bell curve is relatively flat, you have a relatively large standard deviation.

One standard deviation away from the mean in either direction on the horizontal axis accounts for somewhere around 68 percent of the people in this group. Two standard deviations away from the mean account for roughly 95 percent of the people. And three standard deviations account for about 99 percent of the people.



4. On the next page, circle the Job Strain Quadrant you belong to.

Karasek job strain model



Reference: Schnall PL, Landsbergis PA, Baker D.
Job Strain and Cardiovascular Disease. Annual Review of Public Health; 15:381-411, 1994

5. Using the scoring worksheet provided on the next page, determine whether an Effort-Reward Imbalance is present. Note that items 21-24 are reverse scoring.

ERI Questionnaire Scoring Worksheet

$$\text{Extrinsic Effort} = \boxed{\text{Q12}} + \boxed{\text{Q13}} + \boxed{\text{Q14}} + \boxed{\text{Q15}} + \boxed{\text{Q16}} + \boxed{\text{Q17}} = \boxed{}$$

$$\text{Your score} = \boxed{} \quad \boxed{} \quad \boxed{} \quad \boxed{} \quad \boxed{} \quad \boxed{} = \boxed{}$$

Scoring: Disagree = 0, Agree = 1
Range of the 6 item score: 0 to 6.

Scores >3 then Extrinsic effort present.

$$\text{Esteem Reward} = \boxed{\text{Q18}} + \boxed{\text{Q19}} + \boxed{\text{Q20}} + \boxed{\text{Q21}} + \boxed{\text{Q26}} = \boxed{}$$

$$\text{Your score} = \boxed{} + \boxed{} + \boxed{} + \boxed{} + \boxed{} = \boxed{}$$

Scoring: Items 18-20, 26: Disagree = 0, Agree = 1
Items 21: Agree = 0, Disagree = 1

$$\text{Monetary Gratification} = \boxed{\text{Q28}}$$

$$\text{Your score} = \boxed{}$$

$$\text{Status Control} = \boxed{\text{Q22}} + \boxed{\text{Q23}} + \boxed{\text{Q24}} + \boxed{\text{Q25}} + \boxed{\text{Q27}} = \boxed{}$$

$$\text{Your score} = \boxed{} \quad \boxed{} \quad \boxed{} \quad \boxed{} \quad \boxed{} = \boxed{}$$

Scoring: Items 22-24: Agree = 0, Disagree = 1
Items 25-27: Disagree=0, Agree =1

$$\text{Reward} = \boxed{\text{Esteem Reward}} + \boxed{\text{Monetary Gratification}} + \boxed{\text{Status Control}} = \boxed{}$$

$$\text{Your score} = \boxed{} + \boxed{} + \boxed{} = \boxed{}$$

11 items – scale score 0 to 11
If score < 7 then low reward present

If both Extrinsic Effort and Low Reward are present, subject has Effort Reward Imbalance.

6. Calculate your score for the General Health Questionnaire.

General Health Questionnaire Scoring

Likert Scale = 0, 1, 2, 3 from left to right.

12 items; 0 to 3 for each item.

Total scores range from 0 to 36.

Scores vary by study population.

Scores of about 11-12 are typical.

A score greater than 15 suggests evidence of distress.

A score greater than 20 suggests severe problems and psychological distress.