

Physical Strength and Job Performance

Source: [Rice Virtual Lab in Statistics](#)

Link: http://www.ruf.rice.edu/~lane/case_studies/physical_strength/index.html

How does one select employees to perform physically demanding jobs? This case study examines the relationship between isometric strength tests and job performance for 147 workers.



Background

Is being physically strong still important in today's workplace? In our current high-tech world one might be inclined to think that only skills required for computer work such as reading, reasoning, abstract thinking, etc. are important for performing well in many of today's jobs. There are still, however, a number of very important jobs that require, in addition to cognitive skills, a significant amount of strength to be able to perform at a high level. Take, for example, the job of a construction worker. It takes a lot of strength to lift, position, and secure many building materials such as wood boards, metal bars, and cement blocks. In addition, the tools used in construction work are often heavy and require a lot of strength to control. When was the last time you tried to operate a jackhammer?

There are many more jobs such as electrician and auto mechanic that also require strength. An interesting applied problem that arises is how to select the best candidates from among a group of applicants for physically demanding jobs. One obvious way might be to take them to a job site and have them demonstrate that they are strong enough to do the job. Unfortunately, this approach might be too time consuming if you are having to select a large number of people from a large applicant pool. Also, you risk injury to applicants who are not strong enough to do the job. A solution to this problem is to develop a measure of physical ability that is easy and quick to administer, does not risk injury, and is related to how well a person performs the actual job. A study by Blakely, Quiñones, and Jago (1995) published in the journal *Personnel Psychology* reports on the research results of just such a measure. That study, and this case study, looks at methods for determining if these strength tests are related to performance on the job. The principles and methods associated with this case study also apply to any number of variables other than strength and job performance