Power-Lifting Fingers

Your fingers are a lot stronger than you think. This experiment demonstrates that power and it is also a great party stunt.

**What to do:** One person sits erect in the straight-backed chair with hands clasped, head bent slightly forward, and neck stiff. The sitting person's entire body should be as unbending as possible.

Have each of the other five people extend one index finger. It helps to steady the hand with the other hand like this:

What happens: To everyone’s surprise the sitting person comes right up out of the chair. Be sure to caution the lifters not to let the person drop when he or she is in the air.

**Why:** Since the sitter remains stiff, his or her weight is evenly distributed among all five lifters. By having everyone move at the same instant, the weight remains divided evenly, so everyone lifts the same amount. So, if the sitter weighs 80 pounds (36 kg) this means each lifter only has to raise about 16 (7 kg) of those pounds.

Ask one person to stand beside each of the sitting person's knees. Have them slip their entire index fingers under the sitter's knees.
Two other people will stand behind the chair and place their entire index fingers under the sitter's armpits.
The fifth person may stand beside the sitter or in front, placing an index finger under the sitter's chin.
Tell everyone to take a deep breath and hold it. Count, "One, two, three." All five people lift straight up on "Three." Caution everyone to lift straight up and not to jerk.

**YOU NEED**

- straight chair
- six people

365 Simple Science Experiments
Churchill, Loeschnig, Mandell, 1997