**Introduction:** Caffeine has effects on muscle, fat, and the nervous system, with no negative effects (I would add that the amount matters). The benefit of caffeine has also been extended to athletic performance. The effects of caffeine on resistance training performance is debated with some variations of studies showing no effect while others showing an effect.

One of the speculated benefits is reducing the perceived exertion experienced doing the same lift at the same intensity.

**Study Design:** 14 participants were recruited (young men, 18-25 years of age, with at least one year training experience) - participants had to be moderate caffeine users (250mg or less). Participants came into the laboratory and performed a one repetition max test for bench press and leg press. In other visits, they performed 3 sets of bench press and leg press to failure at 80% of their one repetition maximum - after consuming caffeine (5mg per kilogram of bodyweight) or placebo (no caffeine). Participants were asked not to consume caffeine for 24 hours prior to testing.

**Discussion:** It is possible that because there is significant variability between individuals in their response to caffeine, that plays a factor in detecting effectiveness in other studies. Mechanistically, it is possible that the perception of pain could reduce voluntary muscle contraction as pain acts as an agonist (a counter force) against muscle contraction. Adenosine binding to alpha-2 adrenergic receptors could increase the sensation to pain.