

ARE POWERLIFTING ATHLETES COMPETING IN DRUG TESTED FEDERATIONS WEAKER THAN THEIR UNTESTED

COUNTERPARTS?

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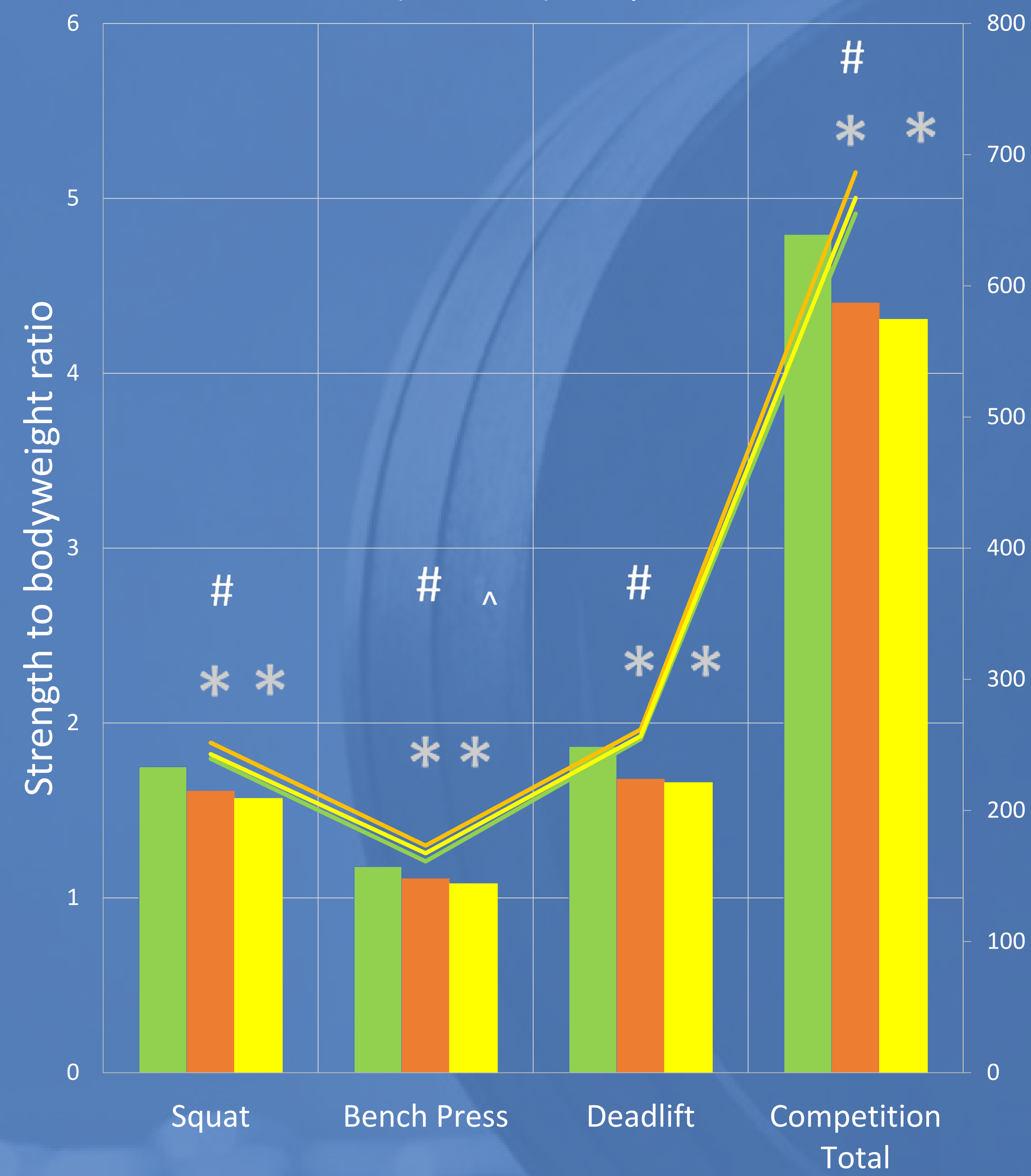
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- Purpose**
- Powerlifting federations conducting competitions can be “tested” (WADA compliant) or “untested” (no testing for PEDs).
 - We sought to understand whether athletes in tested competition are weaker than their untested counterparts.

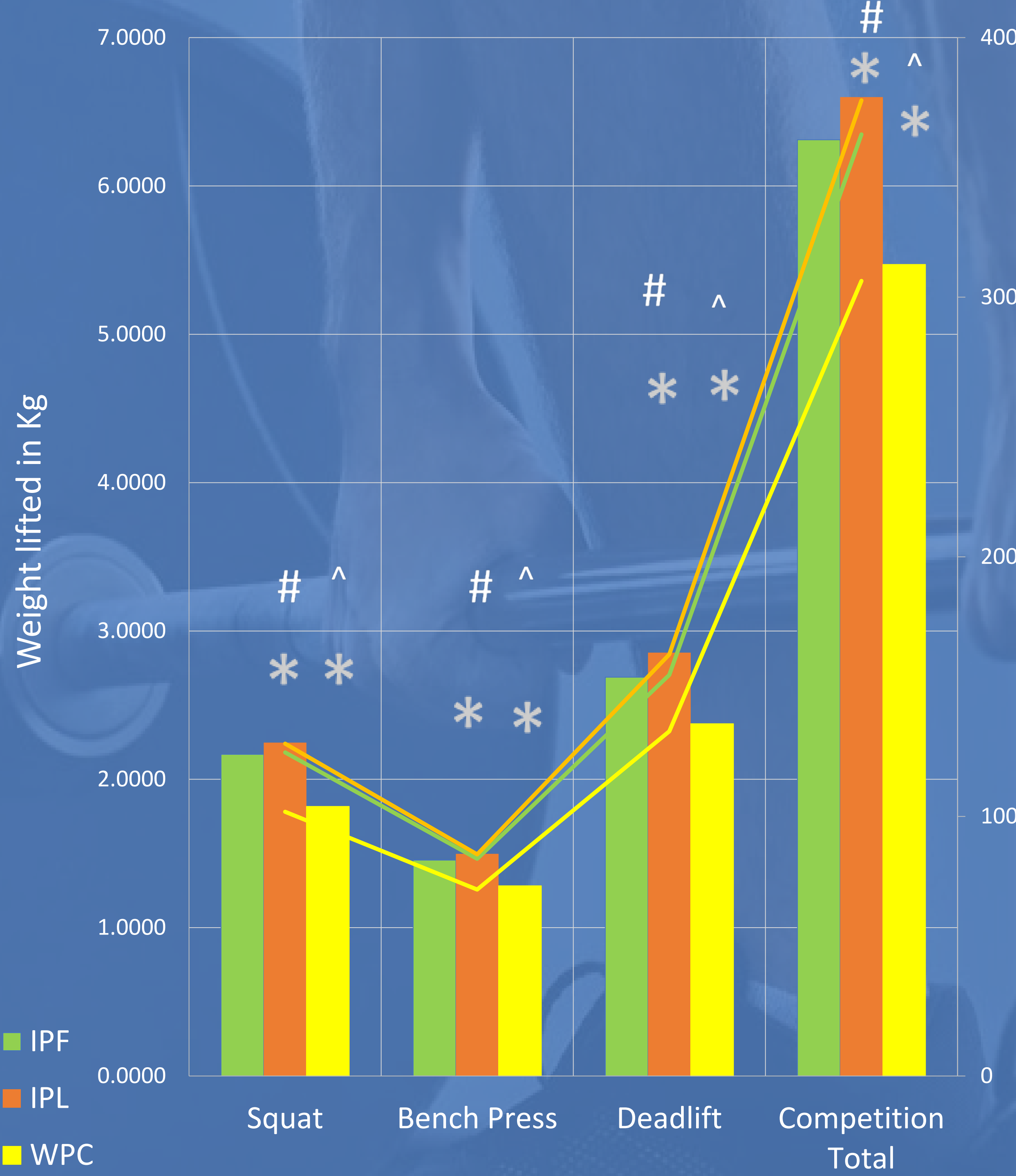
- Methods**
- We extracted data from n = 1,266,362 competition results from a public database (openpowerlifting.org).
 - Included males in “RAW” competitions in weight classes 59 and 120+ kg (IPF) and, 52,56, 60 and 140+ kg (IPL, WPC)
 - Athletes were classified by bodyweight as being
 - Lightweight <59kg or
 - Heavyweight >140kg
 - Compared maximum competition scores (Squat, Bench Press, Deadlift, Total) for males in tested (IPF) and untested federations (IPL, WPC).
 - We compared absolute and relative (to bodyweight) strength for the SQ, BP, DL, and Total.
 - We compared measures using one-way ANOVAs and used Tukey post-hoc analysis to determine between group differences.

Powerlifting federations that test for PEDs produce relatively stronger heavyweight athletes

Comparisons of relative (bars) and absolute (lines) strength for heavyweight powerlifters in tested (IPF) and untested (IPL, WPC) competition



Comparisons of relative (bars) and absolute (lines) strength for lightweight powerlifters in tested (IPF) and untested (IPL, WPC) competition



*Represents a difference to IPF value for Relative strength (left vertical axis) # Represents a difference between IPF and IPL for absolute strength (right vertical axis)
 ^Represents a difference between IPF and WPC for absolute strength

Practical Applications

Coaches should consider the training and competition preparation strategies used by tested athletes to improve relative strength. The tested nature of the sport may encourage athletes and coaches to develop optimal strategies ahead of using ergogenic aids.

Results
Lightweight:
 IPF athletes are stronger than WPC but weaker than IPL for **all measures of relative strength.**

IPF athletes are stronger than WPC but weaker than IPL for **all measures of absolute strength.**

Heavyweight:
 IPF athletes are stronger than WPC and IPL for **all measures of relative strength.**

IPF athletes are weaker than IPL for **all measures of absolute strength.**

Conclusions
 The difference in strength performance of tested and untested athletes depends on the weight class for competition.

Heavyweight athletes in tested competition have greater relative strength but lesser absolute strength than their untested counterparts.

Lightweight athletes are stronger than WPC athletes but weaker than IPL suggesting that testing status is less relevant to performance for lighter athletes.