Positive Correlation between Confidence and Surgical Limb Peak Isometric Extension Strength after Anterior Cruciate Ligament Reconstruction

Context: The purpose of this study is to examine the relationship between self-reported confidence and peak knee isometric extension torque in individuals after ACLR.

Methods: Twenty-six participants with a history of ACLR were included (15 females, age = 21.8 ± 8.7 years, height =169.4 ± 6.90 cm, weight = 7 5.3 ± 13.9 kg, time since surgery = 7.9 ± 4.4 months).
Participants completed the Anterior Cruciate Ligament Return to Sport After Injury (ACL-RSI) questionnaire and a standard isometric quadriceps strength assessment. The ACL-RSI questionnaire is reliable, valid and includes 3 subscales (emotion, confidence, and risk appraisal). Person-Product Moment correlation coefficients were used to examine the association between the ACL-RSI confidence subscale scores and bilateral peak isometric knee extension torque. Pearson-Product Moment correlation coefficients (r) were interpreted as very high (.90 to 1.00), high (.70 to .90), moderate (.50 to .70), low (.30 to .50) and no correlation (.00 to .30). Alpha was set *a priori* to $p<0.05$.

Results: The average ACL-RSI overall score was 63.0±26.8, and the average confidence subscale score was 68.5±27.2. There was no correlation between the ACL-RSI confidence subscale score and peak isometric quadriceps strength for the contralateral limb. There was a low positive correlation between confidence score and peak quadriceps strength for the ACLR limb ($r=0.415$, $p=0.0348$).

Conclusion: Confidence was only correlated with ACLR limb strength which may suggest that psychological responses are specific to the injured limb. Only the confidence subscale was used in this analysis but there may be other differences in correlation between the emotion and risk appraisal subscales and peak isometric strength.