Effect of Imagery on Force Output in a Deadlift

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Introduction

- Imagery is a common tool used by athletes in order to attempt to improve overall performance
- Motor imagery is a mental process in which an individual rehearses a specific action which has been said to improve various athletic performance

Hypothesis

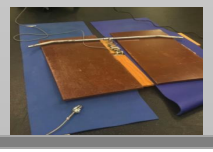
There will be an increase in peak force output and an increase in RFD when a MI script is used prior to a 1RM deadlift opposed to No MI script prior to a 1RM deadlift.

Methods

Participants: 14 total, 9 male and 6 female, mean age =21.4 years (range age 18-27), all with experience weight training and deadlifting, performed two deadlift tests on two separate days.

Data Collection: All participants completed the same warm-up on each testing day. They then listened to an imagery script or not, which was followed by a maximal contraction with the force transducer.

Participant #	Test Day 1	Test Day 2
1	Imagery Script	No imagery Script
2	No imagery Script	Imagery Script
3	Imagery Script	No imagery Script
4	No imagery Script	Imagery Script
5	Imagery Script	No imagery Script
6	No imagery Script	Imagery Script
7	Imagery Script	No imagery Script
8	No imagery Script	Imagery Script
9	Imagery Script	No imagery Script
10	No imagery Script	Imagery Script
11	Imagery Script	No imagery Script
12	No imagery Script	Imagery Script
13	Imagery Script	No Imagery Script
14	No Imagery Script	Imagery Script

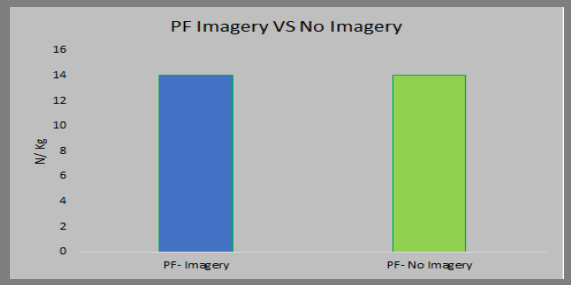


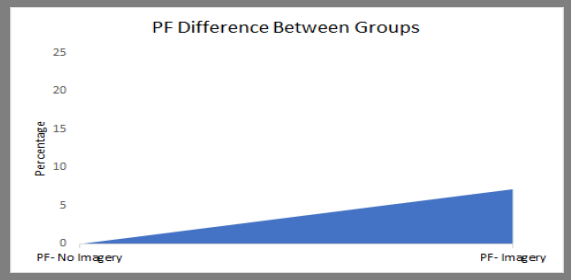
Mental Imagery Script

I would like you to imagine yourself performing one maximal effort deadlift. This may be easier if you close your eyes. You should attempt to feel yourself standing on the platform and feel the barbell in against the palm of your hands. You must now stay completely still and relaxed continuing to imagine yourself standing over the barbell. I will now count down from five and when I say "start" I want you to imagine yourself lifting the barbell up with as much force as possible. During the imagery you should attempt to feel the tightness of all your muscles in your hamstrings and lower back as they contract. Also, you should attempt to see and feel yourself executing the movement at all time, but do not physically move. "5, 4, 3, 2, 1". (Wilson, C., Smith, D., Burden, A., & Holmes, P. 2010. P. 420).

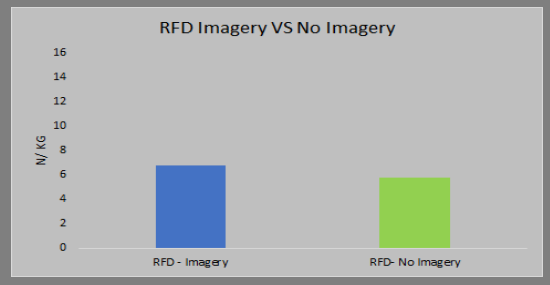
Results

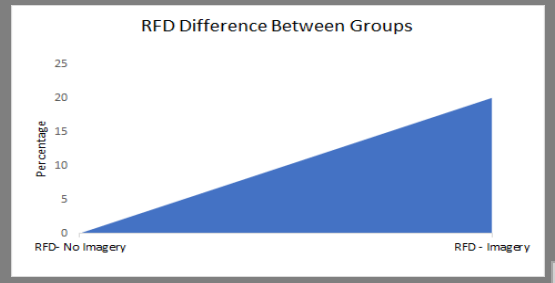
Peak Force





Rate of Force Development

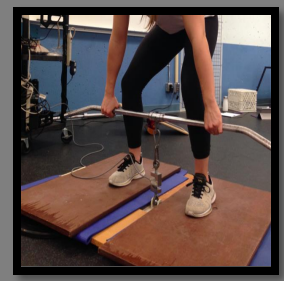


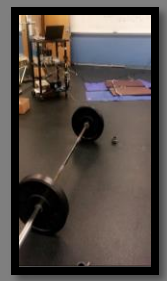


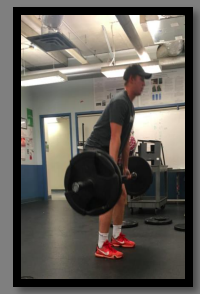
- Fail to reject the null hypotheses
- A single factor ANOVA revealed no significant difference ($P < 0.05$) in PF between groups ($p = 0.97$, SD = ± 4.54)
- A single factor ANOVA revealed no significant difference ($P < 0.05$) in RFD between groups ($p = 0.55$, SD = ± 4.20
- There was a 7. 17% increase in the participants PF 1-RM deadlift
- There was a 20.05% increase in the participants RFD 1-RM deadlift

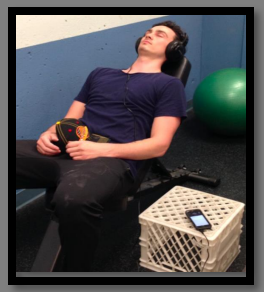
Discussion

- The results confirm prior research which suggests a subliminal activiation of the motor system
- Results showed a small increase in PF and RFD after participants listened to the imagery script.
- One-time script was not enough to provide a stastically significant difference
- Imagery script was still able to increase RFD and could potentially be used to increase overall performance









Conclusion

- Our results did not provide statistical significant difference although did show increases for both PF and RDF
- Future research should consider focusing on a more specific population
- Future research should also consider adjusting the length and style; as well as using imagery training throughout

Reference:

Wilson, C., Smith, D., Burden, A., & Holmes, P. (2010). Participant-generated imagery scripts produce greater EMG activity and imagery ability. *European Journal of Sport Science*, *10*(6), 417–425. Retrieved from https://0-search.ebscohost.com.orca.douglascollege.ca/login.aspx?direct=true&db=s3h&AN=55053270&site=ehost-live&scope=site