

A 6-week exercise program to improve jump height, speed, and change in direction ability in ADFP freestyle dancers

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INTRODUCTION

Dance is an artistic and aesthetic form of sport which is not often included in the sporting world with dancers being unrecognised as athletes (Russell, 2013). Freestyle disco dance has become a popular form of dance in the UK. The Association of Dance & Freestyle Professionals (ADFP) currently has 45,909 registered dancers (ADFP, n.d) leading to a need for research in this style of dance due to the growing popularity of the sport. To the author's knowledge, there is only one other research project that investigated freestyle disco dancers (Salmon et al., 2021). Previous research has demonstrated that dance training alone may not provide dancers with enough strength and power to improve the individual characteristics required during dance (Dowse et al., 2020). Most previous research has been conducted with ballet dancers and other styles of dance warrant being researched to broaden knowledge. Performance structures during freestyle disco are notably different from those of classical styles (Salmon et al., 2021). Therefore, the primary objectives of this study were to identify if a six-week exercise intervention had any effect on jump height in freestyle disco dancers. The secondary objectives were to identify if the exercise intervention had any effect on speed and change in direction ability. It was hypothesised that a six-week exercise intervention would improve jump height, speed, and change in direction ability in ADFP freestyle disco dancers.

METHODOLOGY

Fourteen ADFP-registered freestyle disco dancers (male: 2; female: 12) aged 8-17 years volunteered to participate. In a single group, unblinded, pre-test-post-test trial, participants completed two experimental sessions separated by six 6-weeks. Jump height was assessed through a CMJ, recorded via the Optojump; change in direction ability was assessed using the Illinois agility test, recorded via Timing gates; and speed was assessed using a 5m sprint, recorded via Timing gates. The intervention met for 30 minutes each week for 6 weeks to complete the exercise programme consisting of numerous lower limb exercises. Alongside the intervention, participants were asked to complete a home plan twice a week. A paired t-test was performed to determine significant differences between pre-and post-test scores.

RESULTS

There was a significant difference of 3.83cm between the pre-and post-test jump height, in favour of post-test scores which according to Cohen is a large effect size (1.24). There was a 0.25-second difference between pre-and post-test Illinois agility favouring the post-test score, however, this was not deemed statistically significant ($p > 0.05$). No significant difference was found between pre-and post-test sprint times ($p > 0.05$).

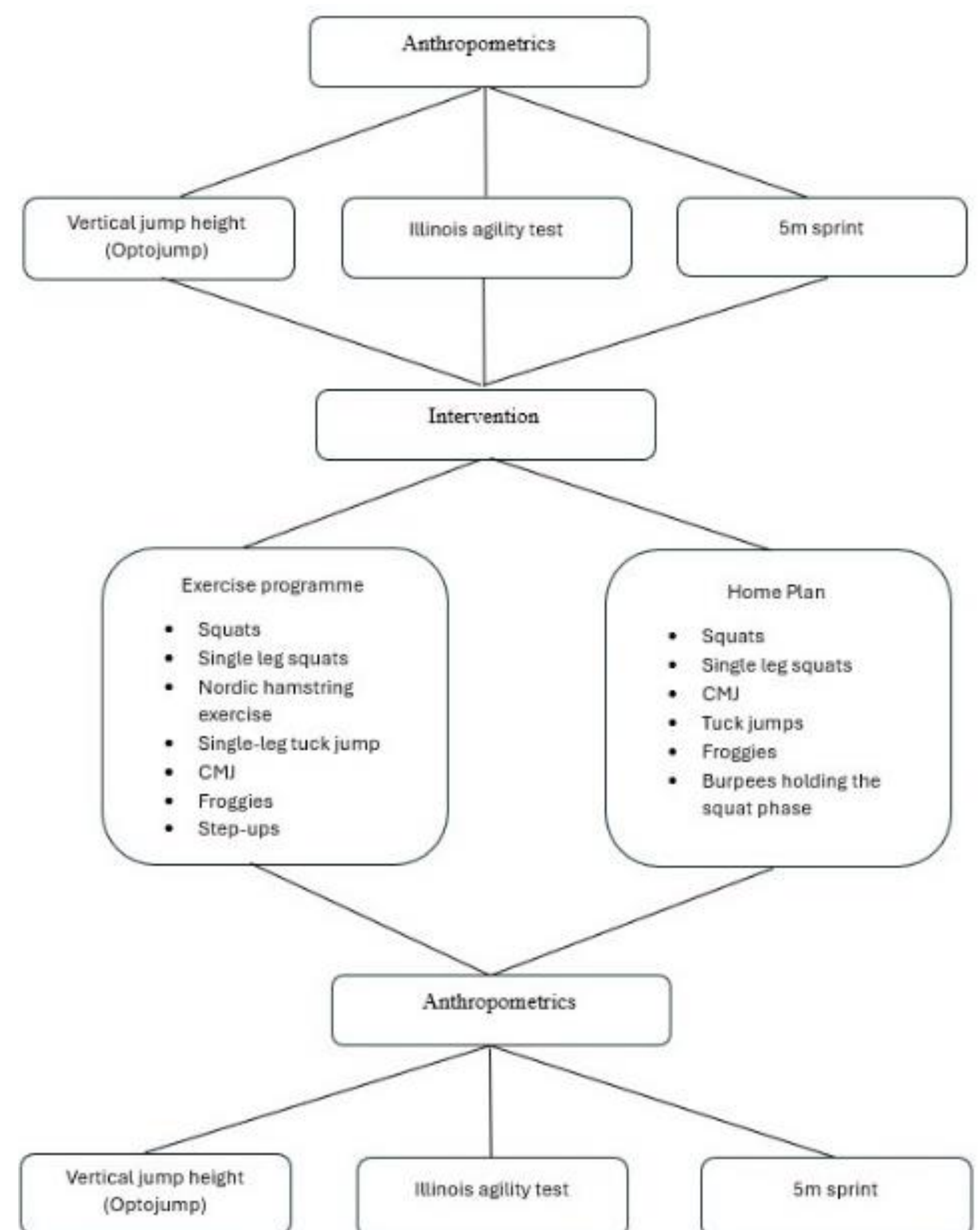


Figure 1 Trial Schematic

Paired Samples T-Test pre and post-test jump height

			statistic	df	p	Mean difference	SE difference	Cohen's d	Effect Size
Pre-Jump height (cm)	Post-Jump height (cm)	Student's t	-4.29	11.0	0.001	-3.83	0.894		1.24

Note. $H_0: \mu_{\text{Measure 1}} - \mu_{\text{Measure 2}} = 0$

Table 1 Paired samples t-test pre- and post-test jump height.

CONCLUSIONS

There is very little published research on training interventions in freestyle disco dancers, with the idea of this study to contribute to the research. The main research aim was to investigate the physiological characteristics involved with movements, in this case, jump height, speed, and change in direction ability. It can thus be suggested that a six-week exercise intervention could improve the jump height of ADFP freestyle disco dancers but had little to no effect on improving speed or change in direction ability.

REFERENCES

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