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## BACKGROUND

Wearing face masks has been shown to have little effect on exercise performance.<sup>1</sup> No research however exists on the effects of face mask wearing during dance performances.

- Dancers may perceive face mask wearing differently due to the unique nature of dance movement, and due to the differences between dance classes and performances.<sup>2,3</sup>

## PURPOSE

To determine: 1) perceived and 2) measured effects of face mask wearing in university level contemporary dancers during a multi-stage, incremental, dance-specific aerobic field test (DAFT). (REB21-1612)

## METHODS

University contemporary dance students: enrolled in the same course at the UofC, aged 18-30 years (N=30) were recruited to participate over one academic semester.

**Inclusion criteria:** Had not previously completed the DAFT.

**Pre-participation:** Get-Active (CSEP) questionnaire and 11 item Perception of Face Mask Wearing (5-point Likert Scale; Strongly Disagree – Strongly Agree)<sup>4</sup> survey were administered.

**Participation:** Two trials (T1; T2) of the DAFT were completed while wearing disposable 3-ply face masks.

**Dependent Variables:** Heart rate (HR; bpm) and Rating of Perceived Exertion (RPE) were recorded following each of the 5 stages of the DAFT. Delayed Onset of Muscle Soreness (DOMS), was recorded 48 hours post each of the trials.

**Analysis:** Paired t-test ( $p \leq 0.05$ ) were run to compare differences in HR, RPE and DOMS between trials.

## THE DANCE-SPECIFIC AEROBIC FITNESS TEST

5 stages

- Progressive
- 4 min. of movement per stage
- 16-count sequence of dance movement



## RESULTS

**Participants:** n=15, age range 18-21 years

**Perception of Face Mask Wearing Questionnaire:**

- 93% (n=14) reported experiencing shortness of breath while dancing in a face mask
- 87% (n=12) reported having difficulty dancing for prolonged periods of time while wearing a face mask
- 53% (n=8) reported decreased stamina
- 40% (n=6) reported increased fatigue

**Dependent Variables Figures 1,2,and 3:**

- **HR:** No significant difference following Stages 2, 4 and 5
- **RPE:** No significant difference following Stages 2-5
- **DOMS:** significantly different between T1 and T2 ( $p = 0.03$ )

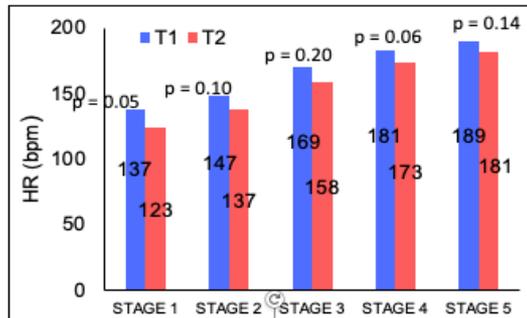


Figure 2. Mean heart Rate changes between T1 and T2 across 5 stages of the DAFT.

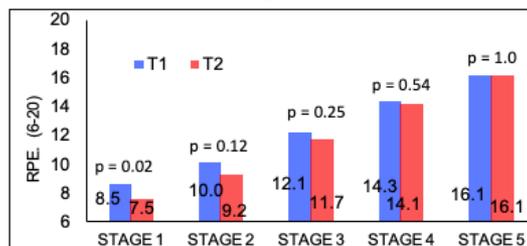


Figure 2. Mean Rate of Perceived Exertion changes between T1 and T2 across 5 stages of the DAFT.

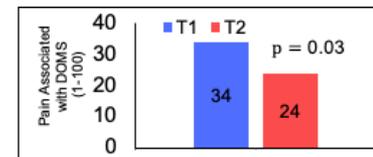


Figure 3. Mean Pain values associated with delayed muscle onset between T1 and T2.

## DISCUSSION

Dancer's responses to their perceptions of face mask wearing emphasized by difficulty in breathing rather than the ability to execute movement.

- HR and RPE increased with each stage of the DAFT as expected in a progressive exercise protocol.
- DOMS values were significantly lower for T2 also expected, given that the dancer's were more familiarized with the movements in T2.
- HR, RPE and DOMS mean values for T1 were higher across all stages except stage 5 when compared to T2, possibly identifying a learning effect had occurred. During stage 5 however, mean values for RPE for T1 and T2 were identical (16.1; hard-very hard), suggesting that the DAFT results in a high physiological intensity<sup>5</sup> and in this population was likely influenced by mask wearing given the high heart rates (T1 189; T2 181 BTM).
- When restrictions are lifted a comparison test without mask should be considered.

## REFERENCES

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