CONCLUSION: Current findings suggest that S-RPE for a bout of CPR may not represents the average RPE, but reflects the RPE reported during the later stages of exercise. In this case, S-RPE represented exertion levels reported during the final two-thirds of the exercise session. Similar findings have been reported during aerobic and resistance training studies, where S-RPE represents exertion of the later stages of activity.

Table 1. S-RPE and RPE values for each minute of CPR

Min 1	Min 2	Min 3	Min 4	Min 5	Min 6	Session
2.8±1.4*	3.4±1.7*	4.1±1.7	4.6±1.9	4.8±2.0	5.0±2.1	4.7±1.9

*significantly less than S-RPE, p<0.05

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Enjoyment In Low Intensity Continuous Training Versus High Intensity Interval Training In An Iso-caloric Design

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(No relationships reported)

PURPOSE: To examine the enjoyment during and after one exercise session of continuous aerobic exercise (CE) versus one session of high intensity aerobic interval training (HIIT) in an iso-caloric design.
METHODS: Seven young healthy participants (3 males, 4 females, age: 23.4±2 years, maximal oxygen uptake: 52±8.7 $ml \cdot kg^{-1} \cdot ml^{-1}$) were recruited to undergo two different exercise sessions of similar total caloric expenditure in randomized order: 1) one CE session at 70% of heart rate maximum (HRmax) and 2) one HIIT session of 4x4 minutes intervals at > 90% of HRmax with 3 minutes rest between interval sets. Maximal oxygen uptake (VO2max) and HRmax were tested prior to the experiment. During and after both exercise session, the participants reported perceived exercise enjoyment using an 8-item short form of the Physical Activity Enjoyment Scale (PACES) (Raedeke, 2007, *J Appl sport Psychol*). This is a reduced scale of the original 18-item scale from Kendzierski & DeCarlo (1991, *J. Sport Exerc Psychol*). Additionally, the participants also reported rating of perceived exertion (RPE) (Borg, 1981, *Med Sci Sport Exerc*), during and after both exercise sessions.
RESULTS: There were no difference in PACES score between HIIT and CE during (HIIT: 94.4±12.9, CE: 91.1±16.3, $p = 0.61$) and after the two exercise sessions (HIIT: 96.6±13.2, CE: 94.4±15.4, $P = 0.75$). The participants reported higher RPE both during and after the HIIT session compared with the CE session (During HIIT: 15.4±1.3, CE: 9.8±1.2, $p < 0.01$, after HIIT: 17.0±1.3, CE: 10.0±1.3, $p < 0.001$). When pooling the reported PACES scores, there were no difference in perceived enjoyment between the HIIT and CE session (95.5±12.4 vs 92.4±15.4, respectively, $p = 0.68$). The participants reported higher RPE for the HIIT session compared with the CE session in the pooled analysis (16.2±1.0 vs 9.9±1.3, $p < 0.001$).
CONCLUSION: Although a higher perceived exertion was reported following high intensity exercise, participants reported similar enjoyment following exercise independent of exercise intensity in this iso-caloric design. Thus, if enjoyment is the depending factor for engaging in exercise, one should expect similar exercise adherence probability following HIIT and CE when prescribing aerobic exercise as preventive medicine.

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Comparison Of Two Cold Water Immersions Protocols On Psychological Variables Of Recovery

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In sport, recovery is a multifactorial process and one modality commonly recommended for athletes is cold water immersion (CWI). Few studies, have analyzed the psychological effects of CWI protocols, specifically with regards to pain and perceived recovery.
PURPOSE: Compare the effects of two CWI protocols on psychological variables of recovery.
METHODS: Forty healthy male participants (age 21.8 ± 2.76 years, weight 73.15 ± 8.15 kg, height 176.6 ± 5.3 cm, and 13.5 ± 3.4% body fat). Participants performed a fatigue protocol (8 sets of 30-second countermovement jumps with 90-second of rest between sets). Were randomized to one of three recovery conditions: control group (CG) (12-min sitting in a 23 °C room), continuous cold water immersion (CnCWI) (12-min in water at 12 ± 0.4 °C), and intermittent cold water immersion (InCWI) (12-min in water at 12 ± 0.4 °C as follows: 2-min in cold water, 1-min in a controlled environment at 23 °C, until the 12-min of immersions were completed). Delayed onset muscle soreness (DOMS) was assessed trough a Visual Analog Scale (VAS-Pain) and perceived recovery were used. Both were evaluated at pre, post-CWI, 24 and 48 hours post. A mixed ANOVA was used. Significance was accepted at $p < 0.05$.
RESULTS: Statistically significant differences were found in DOMS ($F_{(8,148)} = 5.15$. $p < .001$. $\omega_p^2 = .174$) in post immersion CnCWI *vs.* CG (2.7± 2,28 vs. 6.42 ± 1.9, $p < 0.001$) and InCWI vs. CG (2.7 ± 2.1 vs. 6.42 ± 1.9, $p < 0.001$), in the post 24h CnCWI vs. CG (3.07 ± 2.3 vs. 5.1± 1.7, $p < 0.011$) and InCWI *vs.* CG (3.2 ± 1.8 vs. 5.1± 1.7, $p < 0.01$). In the post 48h testing, results showed CnCWI vs. CG (3.3 ± 2.3 vs. 6,1 ± 2.2, $p < 0.002$) and InCWI vs. CG (3 ± 1.9 vs. 6.1 ± 2.2, $p < 0.001$). In terms of perceived recovery ($F_{(6,111)} = 2.49$. p=.027. ω_p^2= .070), results included post immersion CnCWI *vs.* CG (15.92 ± 1.7 vs. 14 ± 1.2, $p < 0.001$) and InCWI vs. CG (16.3 ± 1.6 vs. 14 ± 1.2, $p < 0.001$), in the post 24h CnCWI vs. CG (16.3 ± 2.4 vs. 12.8 ± 1.12, $p < 0.001$) and InCWI *vs.* CG (14.9 ± 2 vs. 12.8 ± 1.12, $p < 0.001$). In the case of post 48h, results were CnCWI vs. CG (15.9 ± 2.6 vs. 12 ± 3.3, $p < 0.001$) and InCWI vs. CG (15.3 ± 2.6 vs. 12 ± 3.3, $p < 0.001$).
CONCLUSION: CWI protocols are effective in reducing DOMS and improving perceived recovery all post fatigue measurements. Either the CnCWI or InCWI protocol could be used as both had similar effects on psychological variables of recovery.

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Time Courses of Changes In Perceptual, Respiratory, and Neuromuscular Responses in the Severe Intensity Domain

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The severe intensity domain zone 1 (SIZ_1) includes intensities between critical velocity (CV) and 50%Δ (Δ = difference between CV and VO_2peak), where exhaustion may occur below VO_2peak. The severe intensity domain zone 2 (SIZ_2) includes intensities > 50%Δ but < 175% CV, where VO_2peak is reached at exhaustion.
PURPOSE: This study examined the time course of changes in ratings of perceived exertion (RPE), breathing frequency (f_b), electromyographic amplitude (EMG AMP) and EMG mean power frequency (MPF) during exhaustive treadmill runs within the SIZ_1 and SIZ_2.