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The Biological Sex of an External Observer Does Not Influence Participant RPE

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Some studies have shown that the presence of an external observer can influence participant-reported ratings of perceived exertion (RPE) during a bout of exercise. Studies have investigated the impact of female observers on male participants but have not compared the general effect of same-sex and opposite-sex observers. **PURPOSE**: To investigate the impact of same-sex and opposite-sex external observers on reported RPE during a bout of exercise. **METHODS**: Thirteen subjects, six recreationally active males (Age: 21.0 ± 0.9 yrs, Height: 177.7 ± 7.2 cm, Mass: 87.6 ± 18.1 kg, Body Fat: 19.0 ± 4.6%, $Workload_{max}$: 220.8 ± 71.4 watts) and seven recreationally active females (Age: 20.4 ± 1.5 yrs, Height: 164.2 ± 5.4 cm, Mass: 70.1 ± 7.8 kg, Body Fat: 30.5 ± 7.3%, $Workload_{max}$: 160.7 ± 24.4 watts) participated in the study. The first visit consisted of a body composition assessment and a maximal workload test on the cycle ergometer. On three more visits, subjects were asked to complete a 5-minute warmup on a cycle ergometer, followed by a 20-minute bout at a constant workload equal to 70% of their maximum workload. In each visit, subjects were exposed to a different observer condition: no external observer (C), a same-sex observer (S), and an opposite-sex observer (O). The observers were of similar age to the participants. The testing order of the trials was determined by counterbalanced assignment. RPE overall (RPE-O), peripheral (RPE-P), and heart rate (HR) were assessed every minute. Blood lactate was assessed pre- and post-exercise. Delta-lactate was calculated as the difference between pre- and post-lactate. Repeated measures ANOVAs were used to compare the different observer conditions. **RESULTS**: Average RPE-O (C: 14.6 ± 2.0, S: 13.9 ± 3.0, O: 14.0 ± 1.9; p = .267), peak RPE-O (C: 17.1 ± 2.1, S: 16.5 ± 2.9, O: 16.8 ± 2.0; p = .564), average RPE-P (C: 15.4 ± 2.1, S: 14.5 ± 2.7, O: 14.6 ± 2.0; p = .108), and peak RPE-P (C: 17.7 ± 2.0, S: 17.2 ± 2.6, O: 17.4 ± 2.1; p = .555) were not significantly different across conditions. In addition, no significant differences were observed for average HR (C: 162.9 ± 12.4, S: 161.7 ± 15.0, O: 161.4 ± 13.7 bpm; p = .792), delta-lactate (C: 4.4 ± 2.2, S: 3.9 ± 2.1, O: 3.5 ± 3.1 $mmol \cdot L^{-1}$; p = .435), or post-lactate (C: 5.5 ± 2.2, S: 5.5 ± 1.8, O: 5.1 ± 2.4 $mmol \cdot L^{-1}$; p = .560). **CONCLUSION**: The presence of an external observer during the exercise bout did not impact participant RPE, regardless of the sex of the observer. **SIGNIFICANCE**: Previous studies have shown that the addition of female and male observers with male participants has influenced reported RPE of exercise, perhaps due to a desire to appear as if they are working harder and over-report, or the opposite, that they are more physically capable and then under-report. This study demonstrates that in this population of female and male college-aged students, the addition of a peer observer did not influence reported RPE.