

Thank you for the opportunity to review this paper. The authors have used a unique approach to add to the body of knowledge. This paper is acceptable for publication pending minor revisions; namely the introduction and the discussion can be tightened to eliminate repetitiveness and to enhance clarity. Specific comments and suggestions by section to follow.

Abstract:

Line:

10: I think you hypothesized (but I understand lead author works in NZ).

13: We used Training, testing data etc. to create.....

15: use a semi-colon after quality; the slope of the line was used....

29: There is a leap here. The greater variability in women may be related reflects to the number of each sex involved in the activity. On the men's side, the pool is larger and deeper and the talent that rises is more homogenous. Think about Jay Vine's quote in Cycling News the other day. He mentioned that when racing nationally in Australia he was one of five guys that could literally ride from the back to the front of a 70-man peloton. Not in the pro-peloton. Everyone is super fit and needs team mates to traverse the peloton. This doesn't mean that the female subjects wouldn't benefit from personalized training programs, as would any athlete.

Introduction:

1: Track cycling is a subset of sport cycling and includes.....

I suggest you merge paragraph three and two and eliminate redundancy. The gist of these two paragraphs is to highlight differences between the sexes. Then make a new paragraph three that states more research needed on sprint cyclist in general and especially women, including studies on training.

As it is now note that line 53 states sprint men and women train the same. Line 70-71 repeats that message. Then line 73 to open current para three goes to fact that you can't find any studies comparing men and women training programs before segueing back to sex differences before going back to few comparative studies before going back to "paucity of research on female athletes". This phrasing is likely better than paucity of research using data from females....

Line 69: These differences suggest that training programs for sprint cyclists.

What is the aim of paragraph four? How/why do we segue to here and brief peek at a study comparing field and lab tests in kids? Is this to address using field data rather than lab data? A response to a previous criticism?

Lines 101-106 are repetitive. Point already made.

Ultimately aim small and miss small. This study is a good start at looking at differences between the sexes relative to track cycling. Yet so much of the introduction continues to circle back to training, even though there are no studies looking at this.

Methods and Results:

These are fine. Should table three's caption include the units—watts per kg or what not? Can table two be folded into three. Show the differences between sexes at the respective measuring points?

Discussion:

Like the intro we seem to have a wide aim despite a narrow focus. In the opening paragraph you say you estimated energy systems. Didn't see that in methods and results. You did speculate that there may be differences in power curve between sexes, but then move onto potential need for sex specific training.

In all, the aim was the lack of data on track cyclists especially females and how one can now use field data captured from cyclists to make comparisons. That is cool. The rest may be where your interest and expertise lie, but I think it clouds your contribution.

Use your opening paragraph to redefine your major purpose.

Line 235 says slopes are the same and finishes with there are no differences. State in once. Then the next sentence says the same thing. I don't get it.. There were no differences between men and women at any duration with the slope thing. One and done.

Line 239 you state slopes the same again.

242: why does this suggest women are more efficient? And then you just move on after that bold statement. Maybe you should pull back in things from intro here? Or maybe just not go where you have data. Maybe a future research question?

Line 259: as females mature

Line 281: not sure of capitalization of high-performance cyclists here.

I would minimize the training things and be leery of intra group variability—for sure it was there, but you had a small sample from a small and varied pool.