Perceived Fairness and Threat in Athletics in regards to Trans Individuals

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Research Methods 2

3/18/26

Introduction

A secondary analysis of Professor Totton's was conducted in order to evaluate three research questions. The first being Professor Totton's original hypothesis that transgender women are viewed as less fair in athletics and as possessing a greater athletic ability in comparison to their cisgender peers, practicality if they are shown to be performing at the top of their competition compared to the bottom. In this case the independent variable is the athletes reported gender identity and the condition determining if they are at the top or bottom of their performance, the dependence is the perceived fairness and athletic ability average scales. This will be tested with a two way ANOVA.

The next hypothesis to be tested is the relationship between the athlete's gender identity condition and the perceived fairness, moderated by the participant's level of perceived symbolic threat. More specifically, participants who score high in perceived threat are expected to report lower fairness when it comes to transgender athletes and the reverse will occur with participants who score lower on the scale of perceived threat. For this analysis the dependent variable is the fairness average scale with the independent variables being the symbolic threat level and athlete gender identity condition. This will be tested using a 2 (Condition: Cisgender, Trangeder) x2 (Symbolic threat: High, Low) between-subject ANOVA, with symbolic threat being categorized with a median split.

The last hypothesis presented is participants who identify themselves as political conservatives, who have also participated in athletics themselves, will report a higher perceived threat than other groups. These individuals are thought to score higher on both the realistic and symbolic threat scales. Political orientation and aesthetic history will serve as the independent

variables and the dependent variables are the realist and symbolic threat average scales. In order to test this two separate 2 (Political Orientation: Conservative, Other) x 2 (Athletic Participation: Yes, No) between subject factorial ANOVAS will be conducted.

Results

I conducted a 2(Athletes Gender Identity: Cisgender, Trangender) x 2 (Performance Level: Top, Bottom) between subject factorial ANOVA using the perceived athletic ability scale as the dependent variable. Results showed a statistically significant main effect between athlete gender identity ($F(1, 201) = 11.66$, $p < .001$, $\eta^2_p < .55$) and performance level($F(1,201) = 43.77$, $p < .001$, $\eta^2_p < .179$) . More specifically transgender athletics were perceived to have higher athletic ability ($M = 3.26$, $SD = 1.42$) than their cisgender counterparts ($M = 3.55$, $SD = 1.27$). Top performers were scored significantly higher ($M = 4.46$, $SD = 1.22$) than bottom performers ($M = 3.26$, $SD = 1.42$). There was no significant interaction between identity and performance level ($F(1, 201) = 0.00$, $p = .991$, $\eta^2_p = .000$). The summary of these findings is displayed in Tables 1 and 2, and the interaction is visualized in Figure.

Table *1*

Descriptive Statistics for Perceived Athletic Ability by Gender Identity and Performance Level

Effect	N	Mean	SD
Gender Identity			
Cisgender	103	3.55	1.27
Transgender	102	4.18	1.55
Performance Level			
Bottom Performer	102	3.26	1.42
Top Performer	103	4.46	1.22
Identity * Performance			

Cis/Bottom	52	2.96	1.29
Cis/Top	51	4.25	0.93
Trans/Bottom	50	3.57	1.49
Trans/Top	52	4.76	1.39

Table *2*

Analysis of Variance for Perceived Athletic Ability by Gender Identity and Performance Level

Source	df	F	Sig.	Partial Eta Squared
Gender Identity	1	11.66	<.001**	.05
Performance Level	1	43.77	<.001**	.18
Identity * Performance	1	0.00	.991	.00
Error	201	(1.66)		

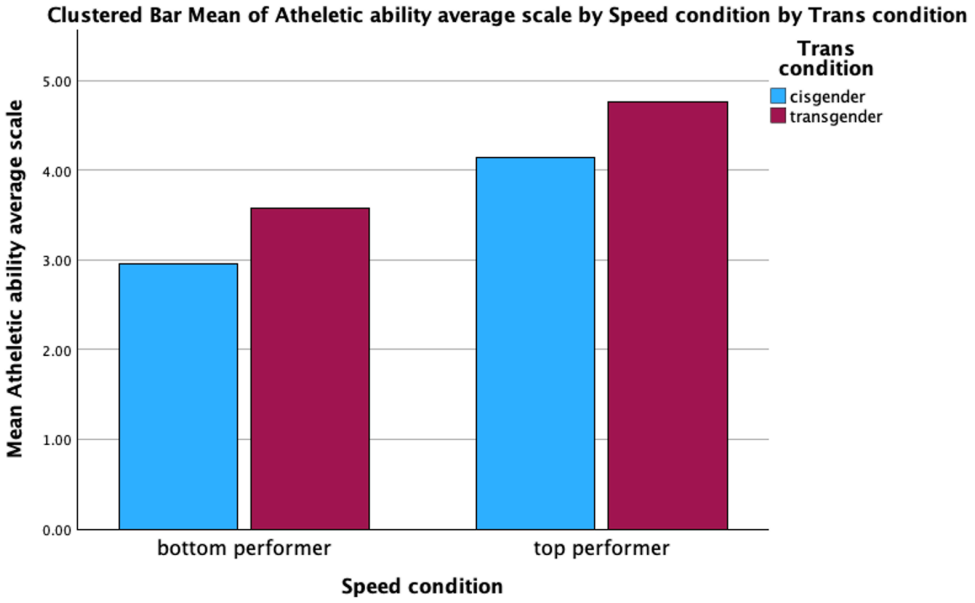
* Significant at the .05 level

** Significant at the .001 level

Note: Value in parentheses represents MS Error

Figure *1*

Bar Chart of Mean Fairness x Athletic Ability score by performance level and Athlete Identity



A 2 (Athlete Gender Identity: Cisgender, Trasngeder) x 2 (Symbolic Threat Level: Low, High) between-subject factorial ANOVA was performed using the average fairness scale as the

dependent variable. Results indicated that a significant main effect existed for athlete gender identity ($F(1, 199) = 59.89$, $p < .001$, $\eta^2_p = .231$), along with symbolic threat level, ($F(1, 199) = 13.33$, $p < .001$, $\eta^2_p = .063$). These results show a statistically significant interaction between the athlete identity and the perceived symbolic threat level. ($F(1, 199) = 18.55$, $p < .001$, $\eta^2_p = .085$.

To further look into the interaction, a follow up independent sample t-test was conducted for the high symbolic threat group. The test showed that participants who scored high in symbolic threats rated the trangeder athlete as significantly less fair ($M = 3.34$, $SD = 1.18$), than a cisgender athlete ($M = 5.96$, $SD = 1.26$)($p < .001$) representing a large effect size ($d = 1.62$). For participants with love symbolic threat, cisgender athletes ($M = 5.07$, $SD = 1.21$) were also shown as more fair than transgender athletes ($M = 5.07$, $SD = 1.70$),($t(92) = 2.45$, $p = .016$). This represents a much smaller effect size ($d = .51$) when compared to the high threat group. This interaction is shown in Table 3 and 4, and further visualized in figure 2.

Table *3*

Descriptive Statistics for Perceived Fairness by Gender Identity and Symbolic Threat

Effect	N	Mean	SD
Gender Identity			
Cisgender	102	5.87	1.22
Transgender	101	4.25	1.97
Symbolic Threat Level			
Low Symbolic Threat	116	5.47	1.49
High Symbolic Threat	87	4.51	2.07
Identity * Threat			
Cis/Low Threat	63	5.81	1.21
Cis/High Threat	39	5.96	1.26
Trans/Low Threat	53	5.07	1.70
Trans/High Threat	48	3.34	1.89

Table *4*

Analysis of Variance for Perceived Fairness by Gender Identity and Symbolic Threat Level

Source	df	F	Sig.	Partial Eta Squared
Gender Identity	1	59.89	<.001**	.23
Symbolic Threat LEvel	1	12.33	<.001**	.06
Identity * Threat	1	18.55	<.001**	.09
Error	199	(2.33)		

* Significant at the .05 level

** Significant at the .001 level

Note: Value in parentheses represents MS Error

Figure 2

Bar Chart of Mean Fairness score by athletic ability and symbolic threat



I conducted two separate 2 (Political Orientation: Conservative, Other) x2 (Athletic Participation: Yes, No) between subject factorial ANVOAS to evaluate the predictors of threat. For realistic threat a significant main effect was found for political orientation($F(1, 200) = 9.43$, $p = .002$, $\eta^2_p = .045$,) , with conservative participants reporting a higher realist threat ($M = 3.56$, $SD = 1.72$) than other ($M = 2.79$, $SD = 1.65$). No significant main effect was found for athletic participation $F(1, 200) = 0.48$, $p = .487$) and the interaction was found to not be statistically significant. ($F(1, 200) = 0.28$, $p = .595$.). See tables 7, and 8 for a summary and a visual representation in figure 3.

For symbolic threat results also showed another significant main effect for political orientation ($F(1, 199) = 11.35$, $p < .001$, $\eta^2_p = .054$.). As expected conservative participants reported a significantly higher symbolic threat ($M = 4.21$, $SD = 1.98$) when compared to participants who reported as liberal or other ($M = 3.19$, $SD = 1.94$). No effect was found for athletic participation ($F(1, 199) = 0.73$, $p = .3930$ with no significant interaction benign shown as well($F(1, 199) = 0.16$, $p = .691$). A summary is provided in tables 5, 6, with a visualization of the difference in figure 4.

Table *5*

Descriptive Statistics for Symbolic Threat by Political Orientation and Athletic Participation

Effect	N	Mean	SD
Athletic Participation			
Yes	155	3.61	2.00
No	48	3.89	2.07
Political Orientational			
Other	106	3.19	1.94

Conservative	97	4.21	1.98
Participation * Orientation			
Yes/Other	81	3.51	1.88
Yes/Conservative	74	4.11	2.03
No/Other	25	3.30	2.16
No/Conservative	23	4.52	1.80

Table *6*

Analysis of Variance for Symbolic Threat by Political Orientation and Athletic Participation

Source	df	F	Sig.	Partial Eta Squared
Athletic Participation	1	0.73	.393	.00
Political Orientation	1	11.35	<.001**	.05
Participation * Orientation	1	0.16	.691	.00
Error	199	(3.85)		

* Significant at the .05 level

** Significant at the .001 level

Note: Value in parentheses represents MS Error

Figure *3*

Bar Chart of mean realistic threat score by political orientation

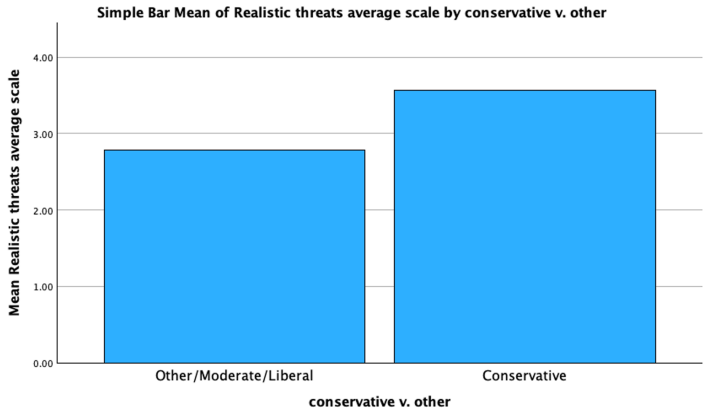


Table *7*

Descriptive Statistics for Realistic Threat by Political Orientation and Athletic Participation

Effect	N	Mean	SD
Athletic Participation			
Yes	156	3.11	1.77
No	48	3.40	1.58
Political Orientational			
Other	107	2.79	1.65
Conservative	97	3.56	1.72
Participation * Orientation			
Yes/Other	82	2.77	1.68
Yes/Conservative	74	3.48	1.80
No/Other	25	2.82	1.57
No/Conservative	23	3.83	1.44

Table *8*

Analysis of Variance for Realistic Threat by Political Orientation and Athletic Participation

Source	df	F	Sig.	Partial Eta Squared
Athletic Participation	1	0.47	.487	.00
Political Orientation	1	9.43	<.002**	.05
Participation * Orientation	1	0.28	.595	.00
Error	200	(2.86)		

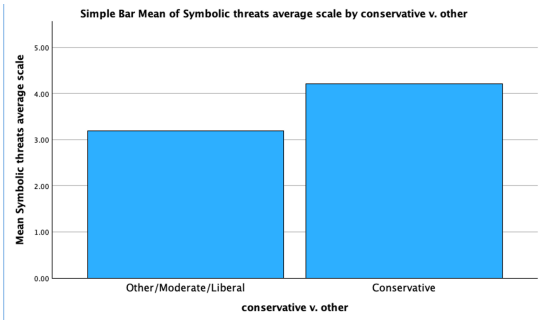
* Significant at the .05 level

** Significant at the .001 level

Note: Value in parentheses represents MS Error

Figure *4*

Bar Chart of mean symbolic threat score by political orientation



Discussion

By examining the roles of fairness and athletic ability regarding transgender athletes in sport, we can underline social anxieties rather than just athletic performance when considering the attitude towards transgender athletics. The results provided insight into Professor Totton's original hypothesis regarding the perception of the transgender athlete's athletic ability. Professor Totton suspected that negative attitudes towards trans athletes were mainly driven by the high-end performers. The data revealed a different realization that transgender athletes were perceived as possessing a higher athletic skill in comparison to their cisgender counterparts, regardless of their actual performance level. Whether the trans gender athletes finished at the very top or bottom of the competition, their identity alone was enough to trigger a perception of a "natural advantage". This tells us that the public is acting off a base stereotype spread through harmful rhetoric rather than any actual inherent physical advantage.

The second hypothesis, which examined perceived fairness, was found to be strongly supported by a significant interaction between the athletic identity and the symbolic threat that the participants reported. The data showed that the perception of unfairness in sports was not a

general reaction but rather was heavily moderated by the individual's personal level of symbolic threat. Participants who felt that transgender athletes were threatening their way of life or the social norms that they felt were an essential part of society were found to view transgender athletes as more unfair. This suggests that the public debate over the fairness of transgender athletes may just be a proxy for a deeper cultural issue that exists in the social sphere and not specifically in relation to transgender athletes. This becomes important when confronted with the 3rd hypothesis of political orientation and perceived threat. By no surprise, it was found that conservative participants reported higher levels of both symbolic and realistic threat when it came to transgender athletes. Interestingly, whether or not they themselves had participated in sports had no effect whatsoever on the reported levels of threat, further suggesting an issue with base ideology than athletic advantage.

The large effect sizes seen for the first hypothesis suggest that identity matters, but the public has a strong perception of the top versus the bottom performers. However, the medium effect size seen for the second hypothesis indicates a major factor of psychological threat in shaping the opinion of the public. Efforts to change the public attitude may be less effective than targeting the underlying cultural anxiety that exists. The actual fairness of the game is not shown to be in play; rather, people's own beliefs and the mass beliefs are what affect the perception of transgender athletes. Inherently, a limitation exists with the use of only US participants due to the fact that sports and athletics have always existed on the world stage, and it is hard to have this discussion with events such as the Olympics not coming up eventually. Additionally, our use of a medium split loses the nuance that was gathered by using a scaled question.