



ANXIETY & DEPRESSION IN COLLEGIATE ATHLETES IN PRE AND POST SEASON

Presenters: Sydney Achee, DO & James A. Stroman II, DO

Faculty Advisor: Stefan Montgomery, MD

Spartanburg Regional Healthcare FM Residency Program

OUTLINE

- Introduction
- Study Aim
- Methods
- Results
- Discussion / Conclusions
- Limitations / Future Directions

INTRODUCTION

- ❖ Athletes, much like anyone else, are not immune to mental illness
- ❖ Participation in sports may help athletes cope with mental illness, mask symptoms of anxiety and depression, or may exacerbate underlying disease

- ❖ Anxiety and depression following sports injury/concussion is well documented
- ❖ However, studies investigating mood changes in college athletes related to pre and post competitive seasons are limited

STUDY AIM

- ❖ The aim of our study is to compare collegiate athlete anxiety and depression scores prior to season start and following season completion
- ❖ We also intend to compare scores based on sport type, sex, and year of competition

METHODS

- ❖ IRB approved survey-based study
- ❖ Study Participants: NCAA D1 athletes of various sports at USC Upstate
- ❖ Written consent obtained from each participant

- ❖ Exclusion Criteria:
 - ❖ Season ending injury
 - ❖ Prior mental health diagnosis
 - ❖ Concussion during season

METHODS

- ❖ Each consented athlete was asked to complete an anxiety/depression questionnaire prior to the start of their sport season and at conclusion of the season
- ❖ Questionnaires were validated from the State-Trait Anxiety Inventory for Adults and Center of Epidemiology Studies Depression Scale

RESULTS

- ❖ 180 responding participants were included, 284 responses were received
- ❖ Mean scores were compared using Wilcoxon-Mann-Whitney and Kruskal-Wallis tests
- ❖ 35 responses were paired for pre vs post-season individual comparison
- ❖ Data collection is ongoing

RESULTS

- ❖ Statistically significant differences were found in male (mean 14.43) and female (mean 18.51) overall scores (Wilcoxon, p 0.0000034)
- ❖ Statistically significant differences were found in male (mean 14.5) and female (mean 19.11) pre-season scores (Kruskal-Wallis, p 0.000035)
- ❖ No significant difference was found by response period, sport, or school year

RESULTS: PARTICIPANTS

School Year	Participants	Responses
Freshman	74	92
Female	44	59
Male	30	33
Sophomore	55	62
Female	24	29
Male	31	33
Junior	50	59
Female	19	25
Male	31	34
Senior	28	28
Female	18	18
Male	10	10
Senior+1	7	7
Female		
Male	7	7
Total	180	248

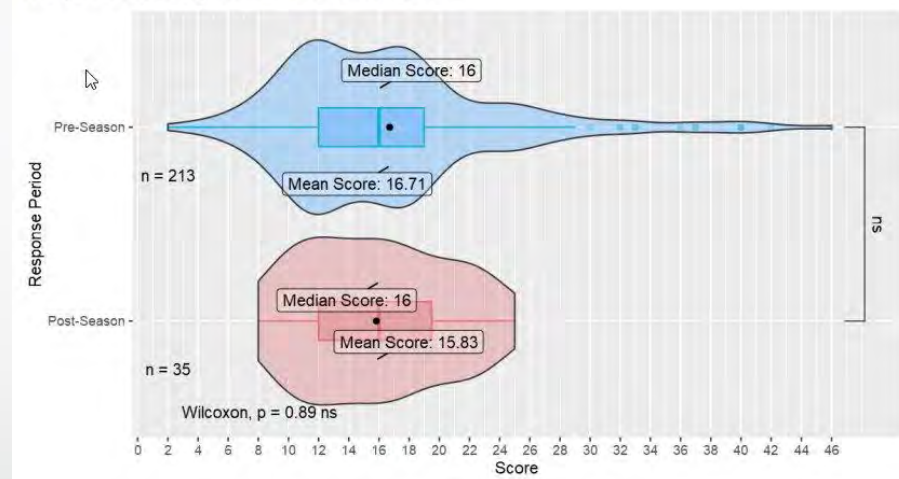
Sport	Participants	Responses
Baseball	49	60
Basketball	34	53
Golf		
Soccer	47	52
Softball	17	18
Track	12	12
Volleyball	21	53
Total	180	248

Response Period	Participants	Responses
Pre-Season	180	213
Post-Season	27	35
Total	180	248

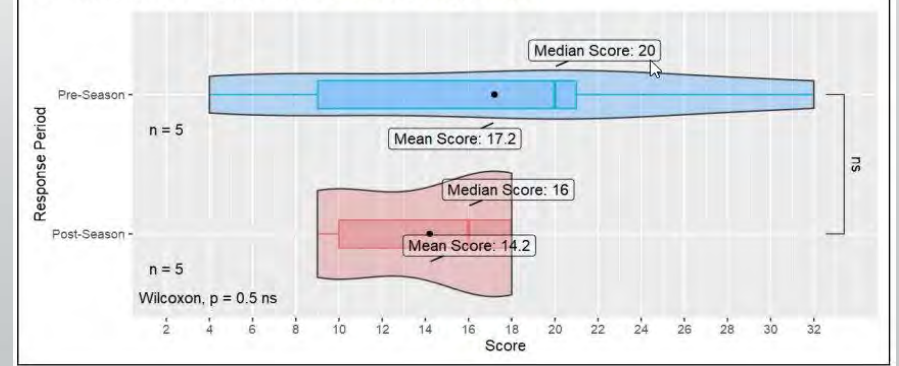
RESULTS: SCORES BY PERIOD

ResponsePeriod	Median of Score	Average of Score	Responses
Post-Season	15.50	15.75	35
Mild	14.50	14.71	27
Minimal	8.50	8.50	2
Moderate	23.00	23.00	6
Pre-Season	16.00	16.70	213
Mild	15.00	14.88	153
Minimal	7.00	7.14	21
Moderate	25.00	26.32	31
Moderately Severe	40.00	38.86	7
Severe	46.00	46.00	1
Total	16.00	16.56	248

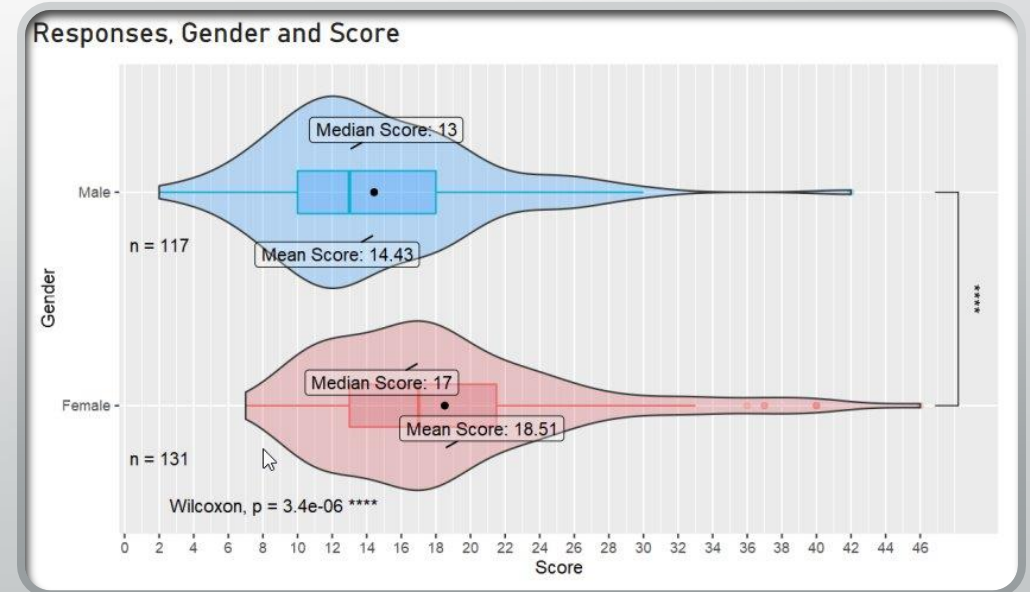
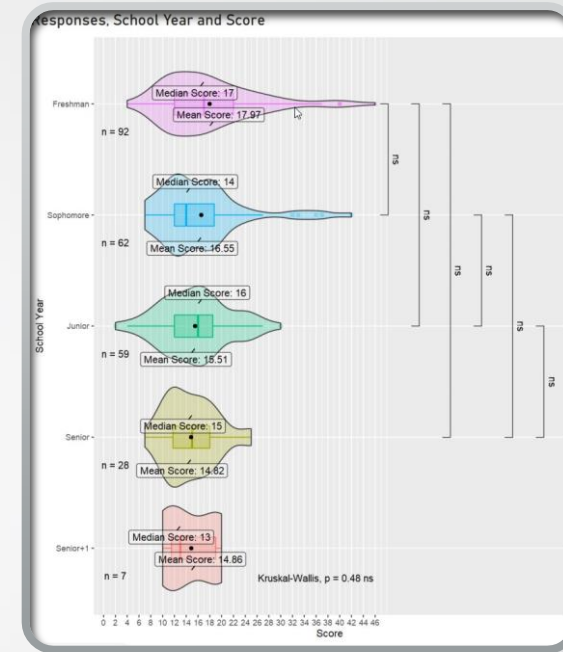
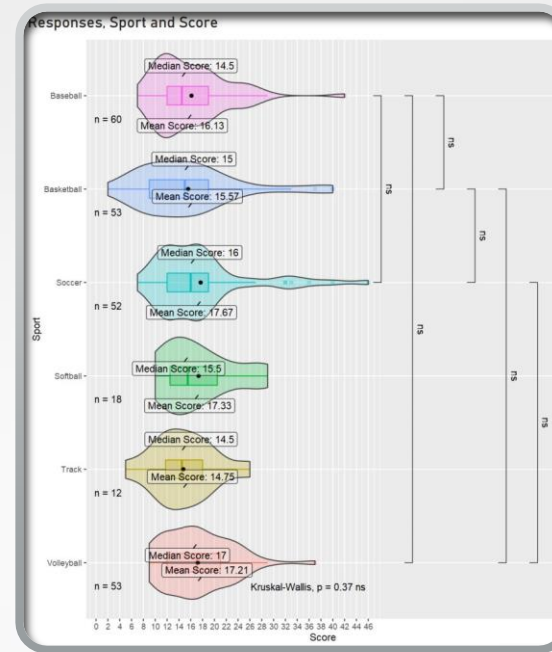
Responses, Response Period and Score



Pre-Season vs. Post-Season Paired Comparison



RESULTS: SCORES BY GENDER, YEAR, AND SPORT TYPE



DISCUSSIONS/ CONCLUSIONS

- ❖ Significant differences in scoring between males and females for anxiety and depression, both pre-season and overall, have been found
 - ❖ It appears that females consistently have higher scores for anxiety and depression
 - ❖ Due to potential increased risks, mental health screening for female athletes should be considered by team physicians
- ❖ We have not yet seen a significant difference in scoring based on sport, year of competition, or response period
 - ❖ Additional paired data collection may help us determine if other factors may have effects on anxiety and depression rates in college age athletes

LIMITATIONS

- ❖ Our ability to consistently collect post-season surveys has been limited thus far
- ❖ Improvements in our post-season collection methods may shed light on additional categorical differences, we are working with USC Upstate to improve this

Sport	Pre-Season	Post-Season	Total
Baseball	60		60
Minimal	4		4
Mild	46		46
Moderate	9		9
Moderately Severe	1		1
Basketball	45	8	53
Minimal	13	2	15
Mild	23	6	29
Moderate	6		6
Moderately Severe	3		3
Soccer	50	2	52
Minimal	2		2
Mild	39	2	41
Moderate	6		6
Moderately Severe	2		2
Severe	1		1
Softball	18		18
Mild	14		14
Moderate	4		4
Track	12		12
Minimal	1		1
Mild	10		10
Moderate	1		1
Volleyball	28	25	53
Minimal	1		1
Mild	21	19	40
Moderate	5	6	11
Moderately Severe	1		1
Total	213	35	248

FUTURE DIRECTIONS

- ❖ While we have been able to obtain surveys from athletes who have participated in sports for multiple years, we have not cross-compared these surveys
- ❖ In the future, we may consider pairing surveys for individuals at different stages in their college careers to ascertain if continued participation has effects on mental health