



# **Student Outcomes in a Summer Pipeline Anatomical Sciences Course as a Predictor of Performance in Gross Anatomy in a Condensed Medical School Curriculum**

Emily B. Askew, PhD  
5<sup>th</sup> Annual Brody Medical Education Day  
April 10, 2019

# Collaborative Team Members

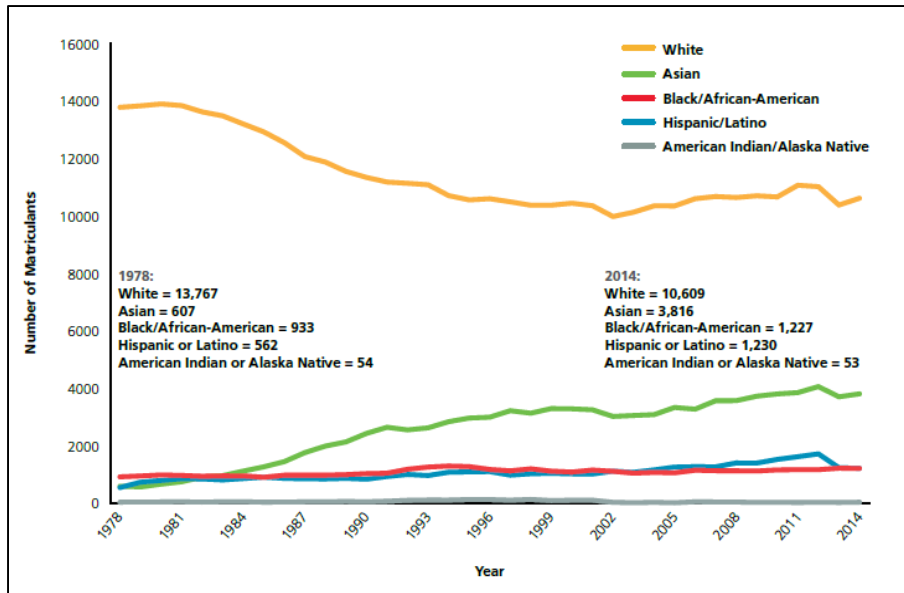
## Department of Anatomy and Cell Biology

- ❖ Emily B. Askew, PhD\*
- ❖ Kelly M. Harrell, PhD, MPT\*

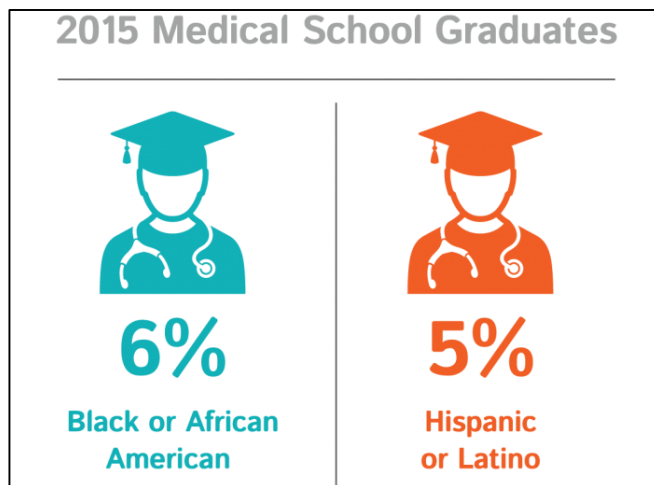
## Office of Diversity Affairs

- ❖ Irma Corral, PhD, MPH
  - ❖ (also Department of Psychiatry and Behavioral Medicine)
- ❖ Kendall M. Campbell, MD, FAAP
  - ❖ (also Department of Family Medicine)

# Underrepresented in Medicine



❖ “Underrepresented in medicine means those racial and ethnic populations that are underrepresented in the medical profession relative to their number in the population.” (AAMC)



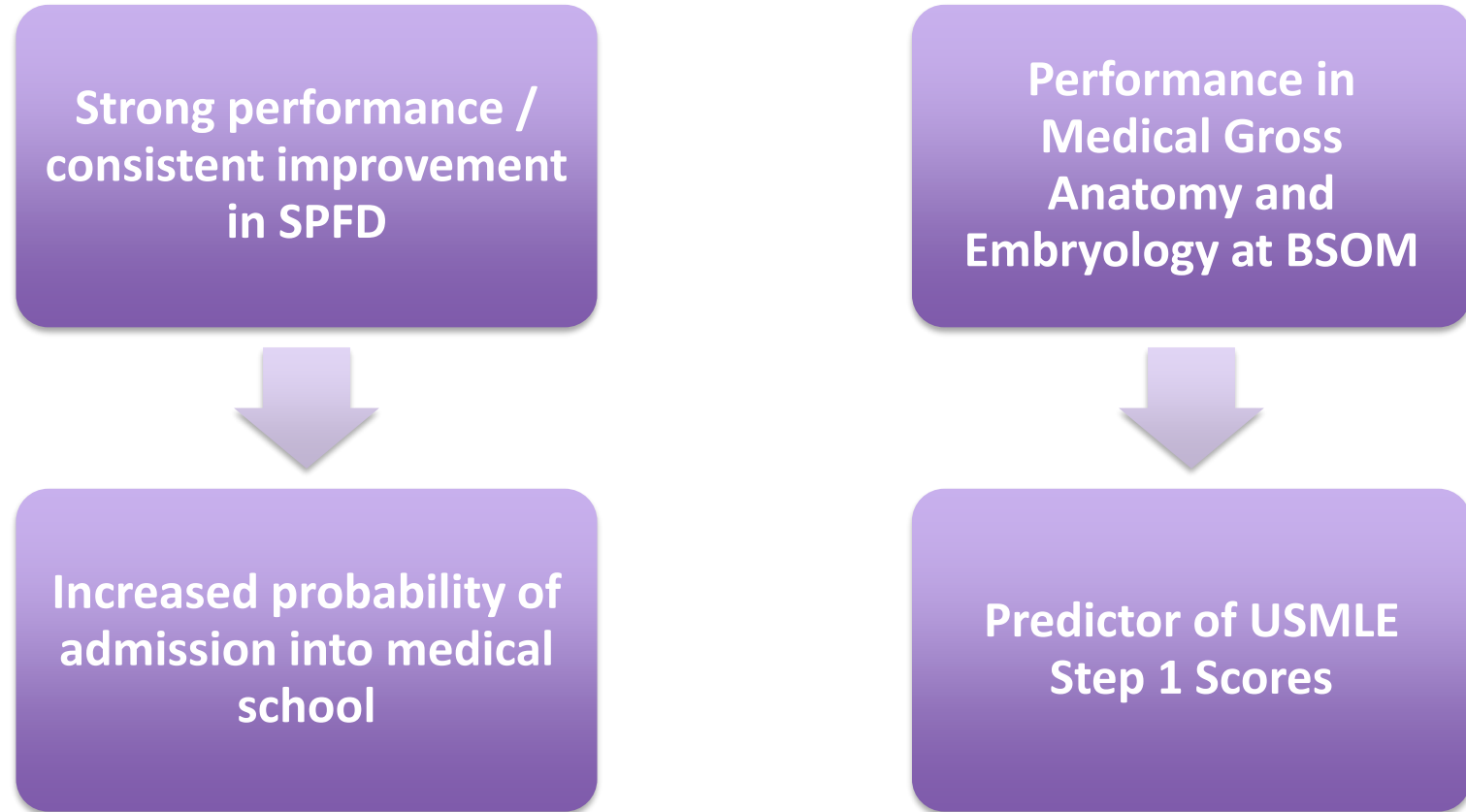
❖ Includes underrepresented minorities (URM) – African-Americans or blacks, Latinos and Native Americans, and those from disadvantaged backgrounds.

# Summer Program for Future Doctors (SPFD)

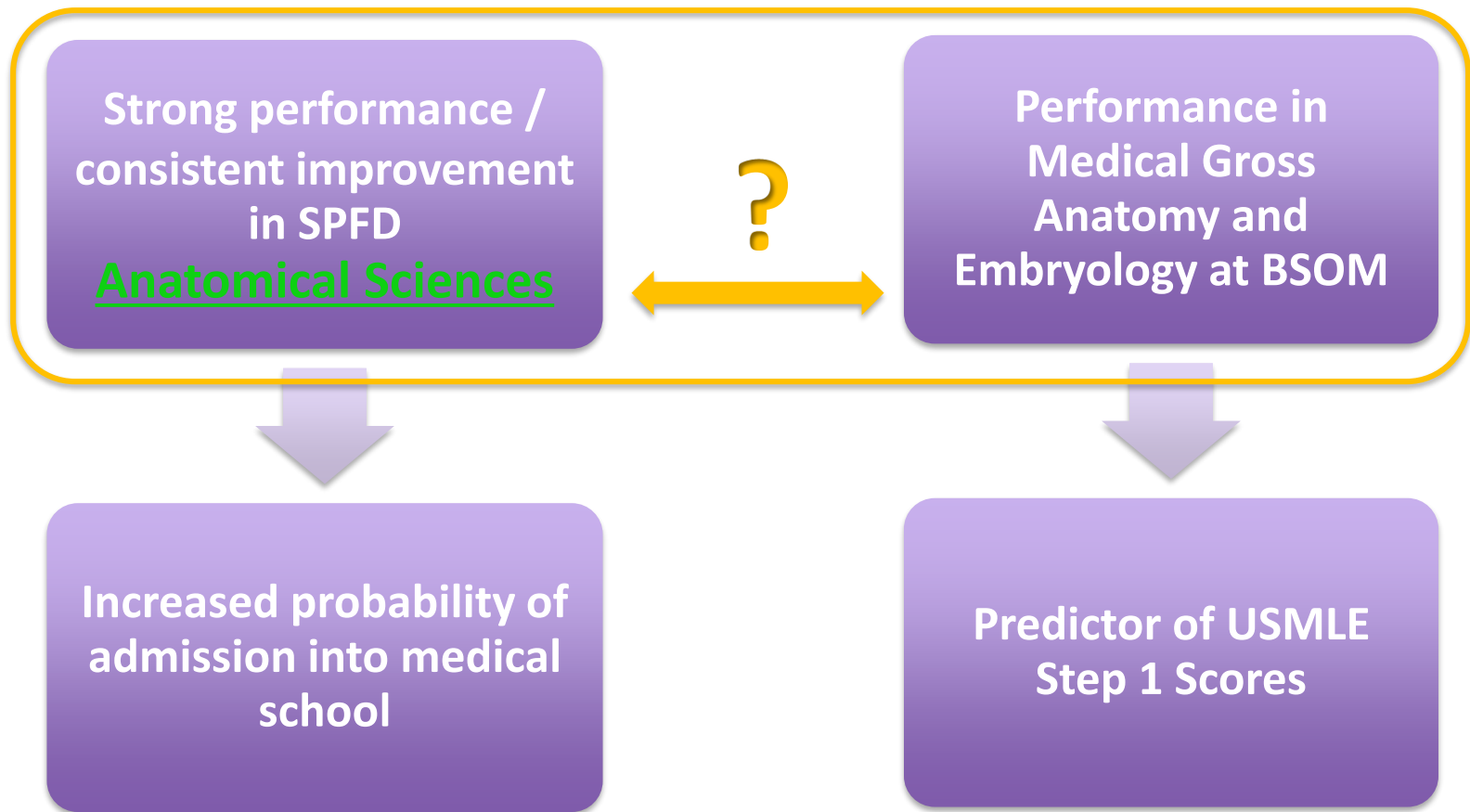


- ❖ Established in 1978
- ❖ 8-week program includes >220 hours of medical curriculum:
  - ❖ Anatomical Sciences, Biochemistry, Neuroscience and Physiology
- ❖ Non-matriculating and matriculating participants
- ❖ URM, disadvantaged and non-traditional students are encouraged to apply

# The Link Between SPFD, Anatomy and BSOM Student Performance



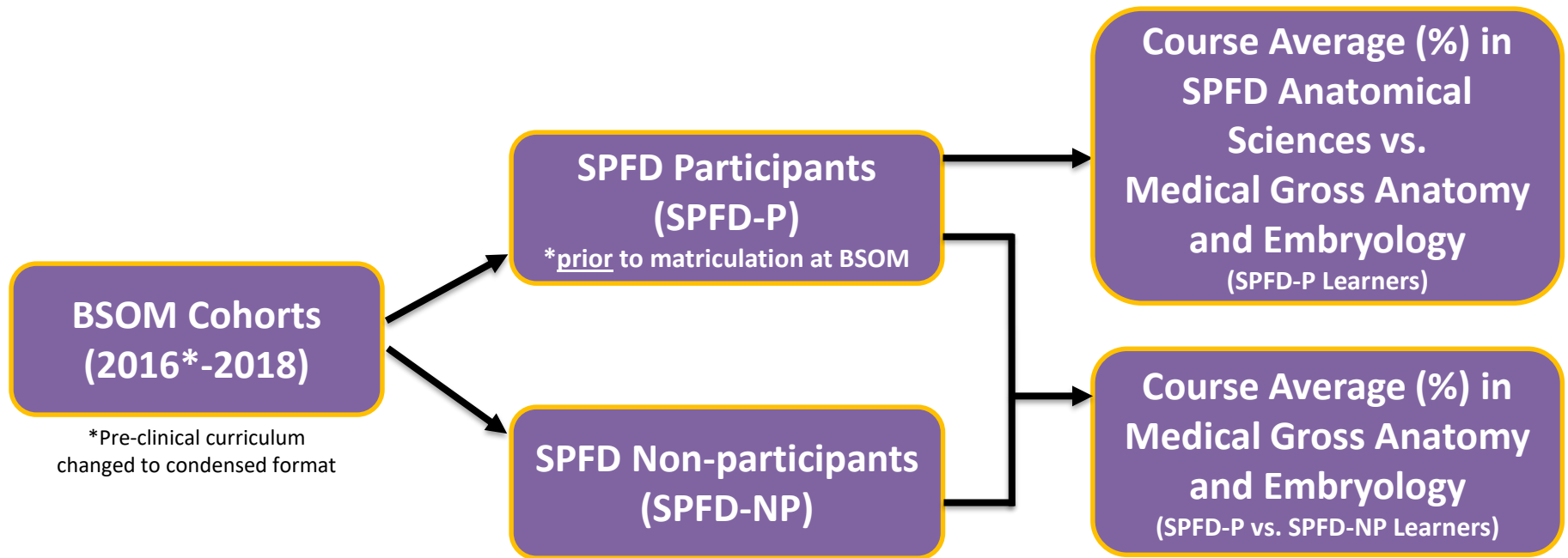
# The Link Between SPFD, Anatomy and BSOM Student Performance



# Research Questions

- 1. Does performance in SPFD Anatomical Sciences correlate with outcomes in the first-year BSOM Medical Gross Anatomy and Embryology course?**
- 2. In Medical Gross Anatomy and Embryology, do students that participated in SPFD have higher final course averages than BSOM cohort peers who did not participate in the program?**

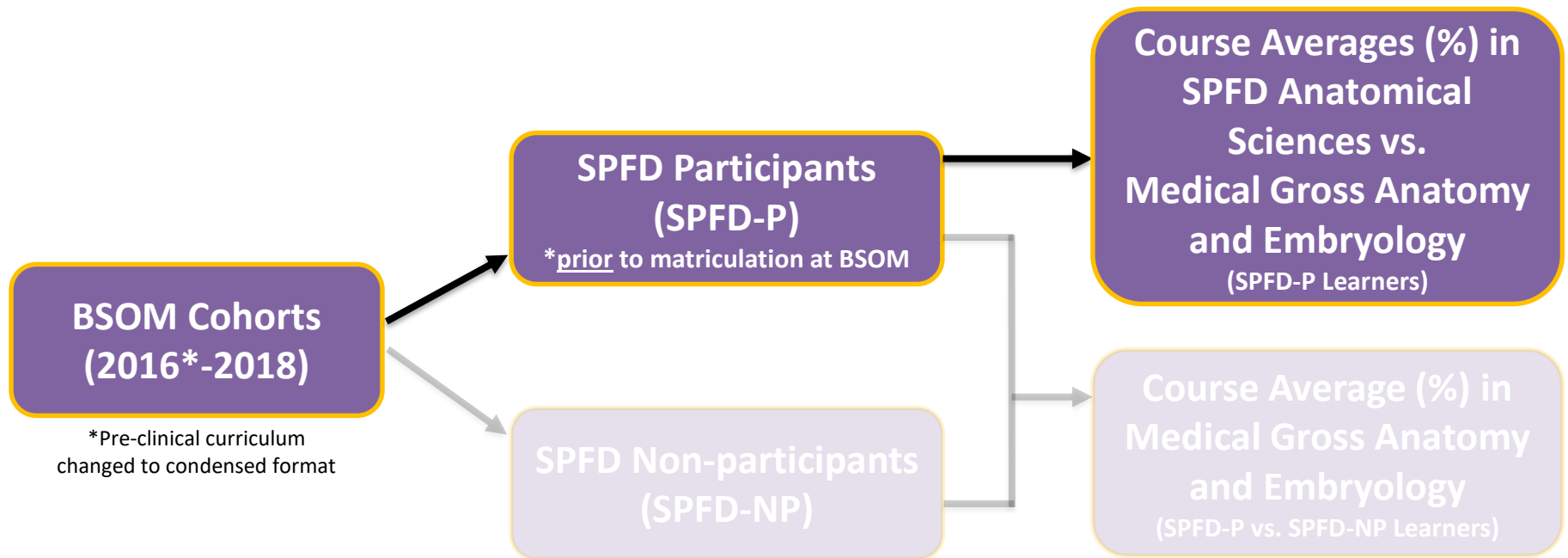
# Study Design



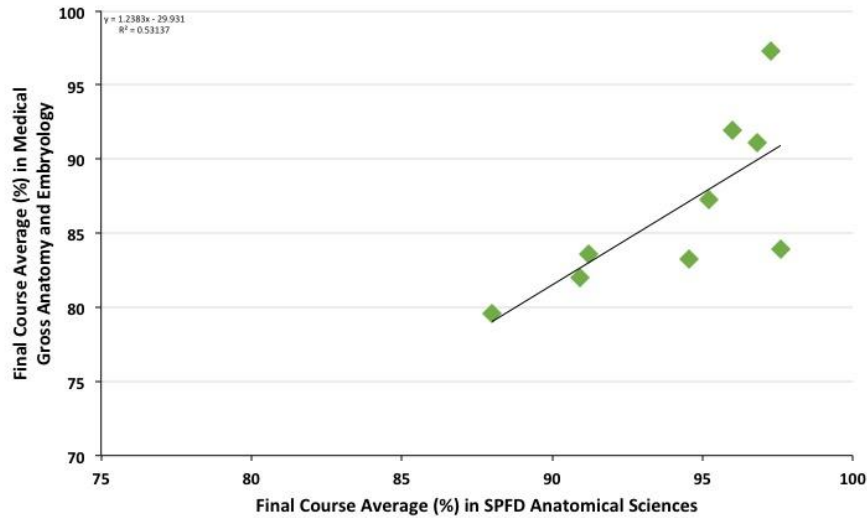
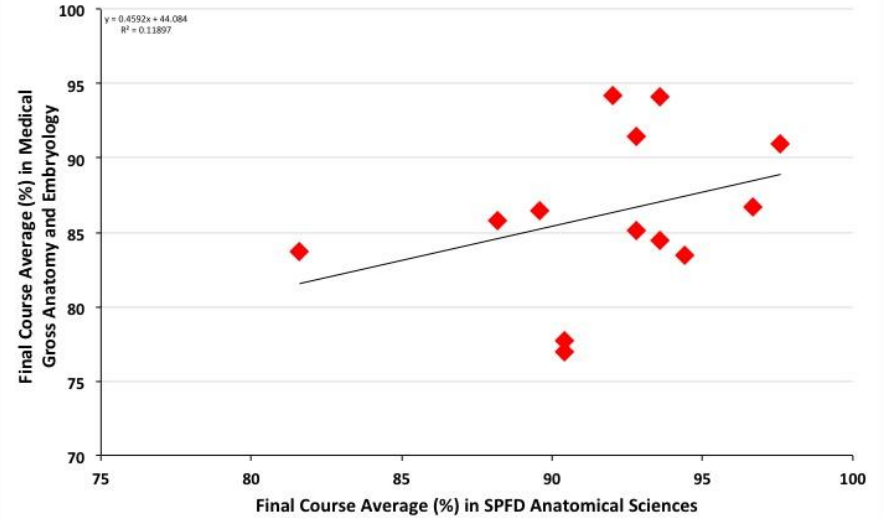
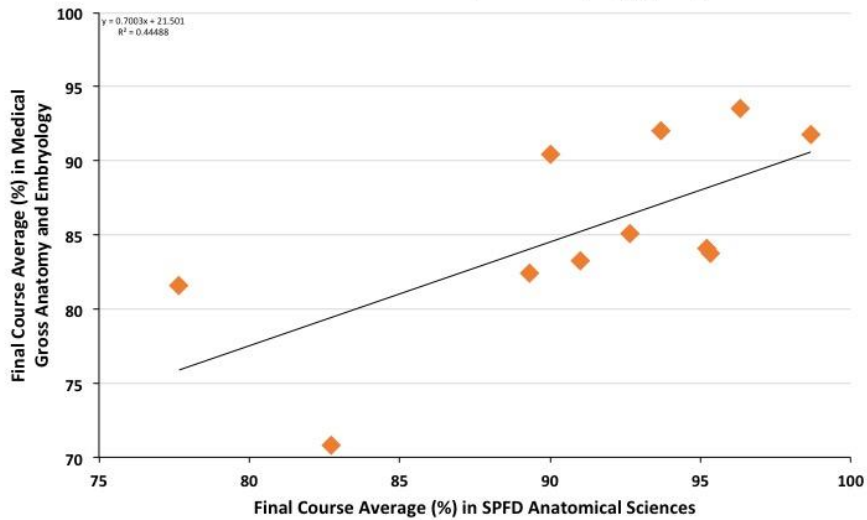
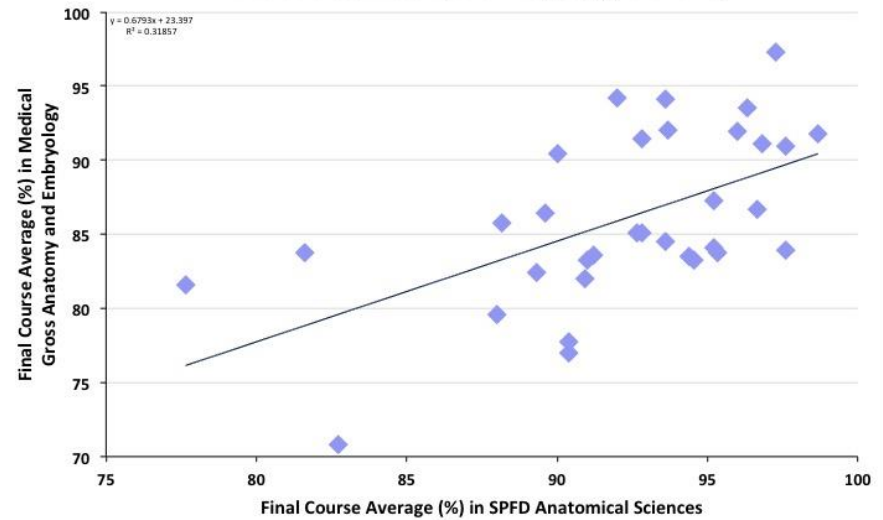
\*Pre-clinical curriculum changed to condensed format

- ❖ **BSOM Medical Gross Anatomy and Embryology**
  - ❖ 16-weeks long course taught in Block 1 of 1<sup>st</sup> year
  - ❖ Human gross anatomy (lectures, flipped classrooms and cadaver dissection), human embryology (lectures) and radiology (flipped classrooms)
- ❖ **SPFD Anatomical Sciences**
  - ❖ Taught throughout the SPFD program (8-weeks)
  - ❖ Human anatomy lectures + anatomy laboratories (prosected specimens)
  - ❖ Histology lectures + 2 laboratories (starting in 2017)





# 1. Does Performance in SPFD Anatomical Sciences Correlate with Outcomes in Medical Gross Anatomy and Embryology?

**A.****Performance in SPFD Anatomical Sciences vs. Medical Gross Anatomy and Embryology (2016)****B.****Performance in SPFD Anatomical Sciences vs. Medical Gross Anatomy and Embryology (2017)****C.****Performance in SPFD Anatomical Sciences vs. Medical Gross Anatomy and Embryology (2018)****D.****Performance in SPFD Anatomical Sciences vs. Medical Gross Anatomy and Embryology (2016-2018)**

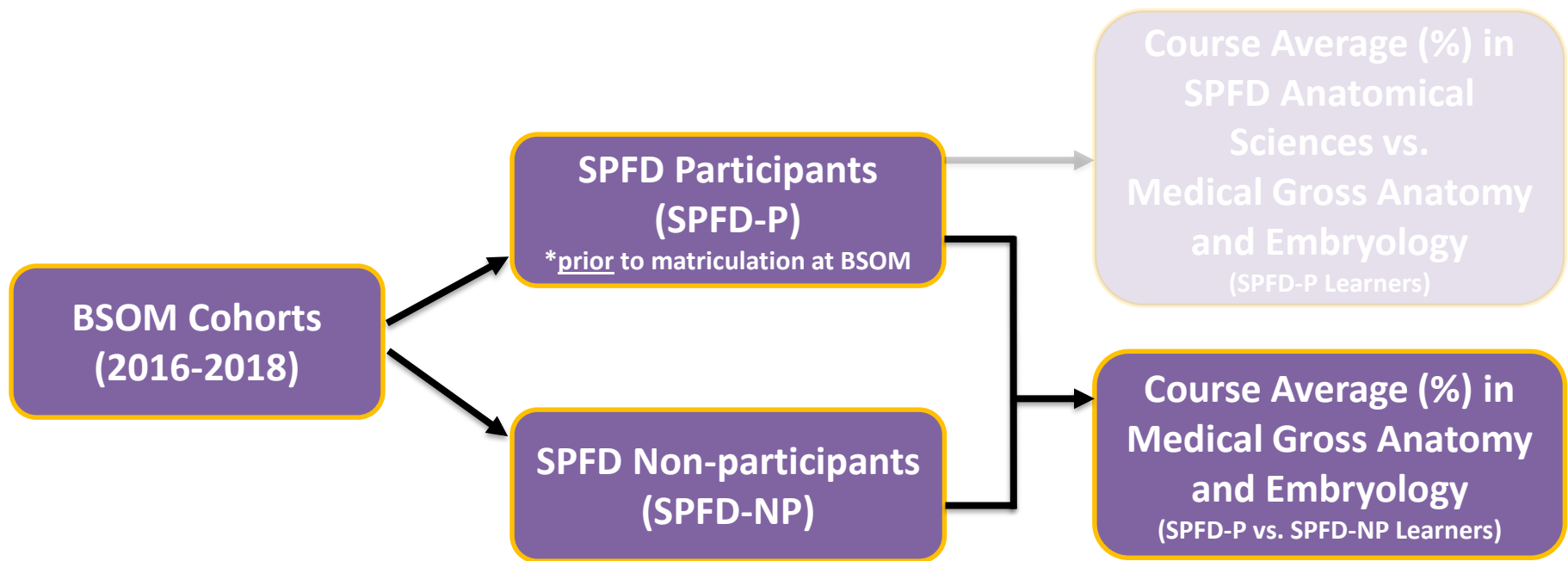
**Pearson Correlations of Association Between Performance in  
SPFD Anatomical Sciences and Medical Gross Anatomy and Embryology**

			<b>SPFD Anatomical Sciences</b>
2016	<b>Medical Gross Anatomy and Embryology</b>	R	0.729*
		Sig. (2-tailed)	0.026
2017	<b>Medical Gross Anatomy and Embryology</b>	R	0.345
		Sig. (2-tailed)	0.248
2018	<b>Medical Gross Anatomy and Embryology</b>	R	0.667*
		Sig. (2-tailed)	0.025
2016-2018	<b>Medical Gross Anatomy and Embryology</b>	R	0.564*
		Sig. (2-tailed)	0.001

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- ❖ Moderate, positive correlations between student performance in SPFD Anatomical Sciences and Medical Gross Anatomy and Embryology (\* =  $p \leq 0.05$ ).

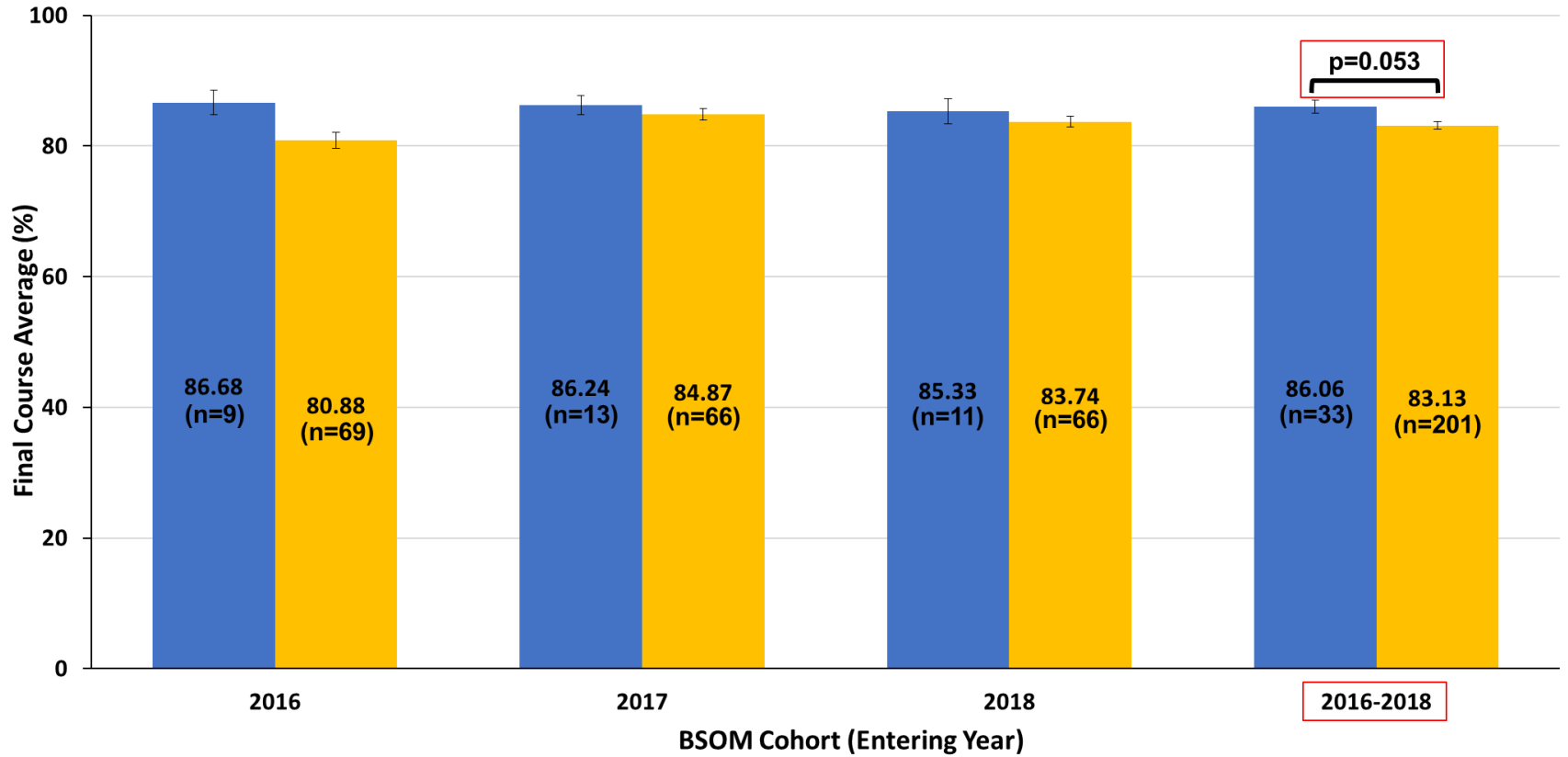


**2. In Medical Gross Anatomy and Embryology, do students that participated in SPFD (SPFD-P) have higher final course averages than BSOM cohort peers who did not participate in the program (SPFD-NP)?**

**A.**

### Medical Gross Anatomy and Embryology - Comparison of Final Course Averages

■ SPFD-P ■ SPFD-NP



# Discussion

- ❖ Results of this study suggest that achievement in SPFD Anatomical Sciences, as measured by final course averages, serves as a predictor of performance in Medical Gross Anatomy and Embryology in a condensed medical school curriculum.
- ❖ Future areas of investigation include:
  - ❖ Use of performance in SPFD Anatomical Sciences to gauge the need for early academic intervention for incoming BSOM medical students
  - ❖ Impact of SPFD on underrepresented learners as medical students

# Acknowledgements

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- ❖ Dr. Richard Ray
  - ❖ Director – Summer Program for Future Doctors
- ❖ Students of SPFD and BSOM

