

# First Year Ultrasound Education at Des Moines University

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Ultrasound specialists from the Society of Radiologists in Ultrasound and the Alliance of Medical School Educators in Radiology concluded that all medical students, regardless of their future specialties, can benefit from ultrasound as it will help them learn gross anatomy which will be of use to them in rotations. Ultrasound can also be tailored to the student's level of experience, allowing it to be applicable to students of every year [1].

Additionally, after evaluating University of South Carolina's School of Medicine integrated ultrasound curriculum, a study conducted by Hoppmann et al. found that students showed overwhelming support for ultrasound enhancing their medical education [2].

The ultrasound curriculum at Des Moines University (DMU) started in 2015 and was fully functional in 2017. This study questioned 178 DMU students about the first-year ultrasound curriculum.

The survey questions consisted of mostly 5 option Likert scale and one dichotomous question given to students in all four classes M1-M4. We reviewed ultrasound training in specific areas of education such as anatomy, cardiovascular physiology, clinical medicine, and trauma evaluation in spring of 2023. 178 DMU students responded which was 20.2% of DO students overall. The percentage of students in each class who responded to the survey are 27.56% M1, 34.62% M2, 18.59% M3, and 19.23% M4.

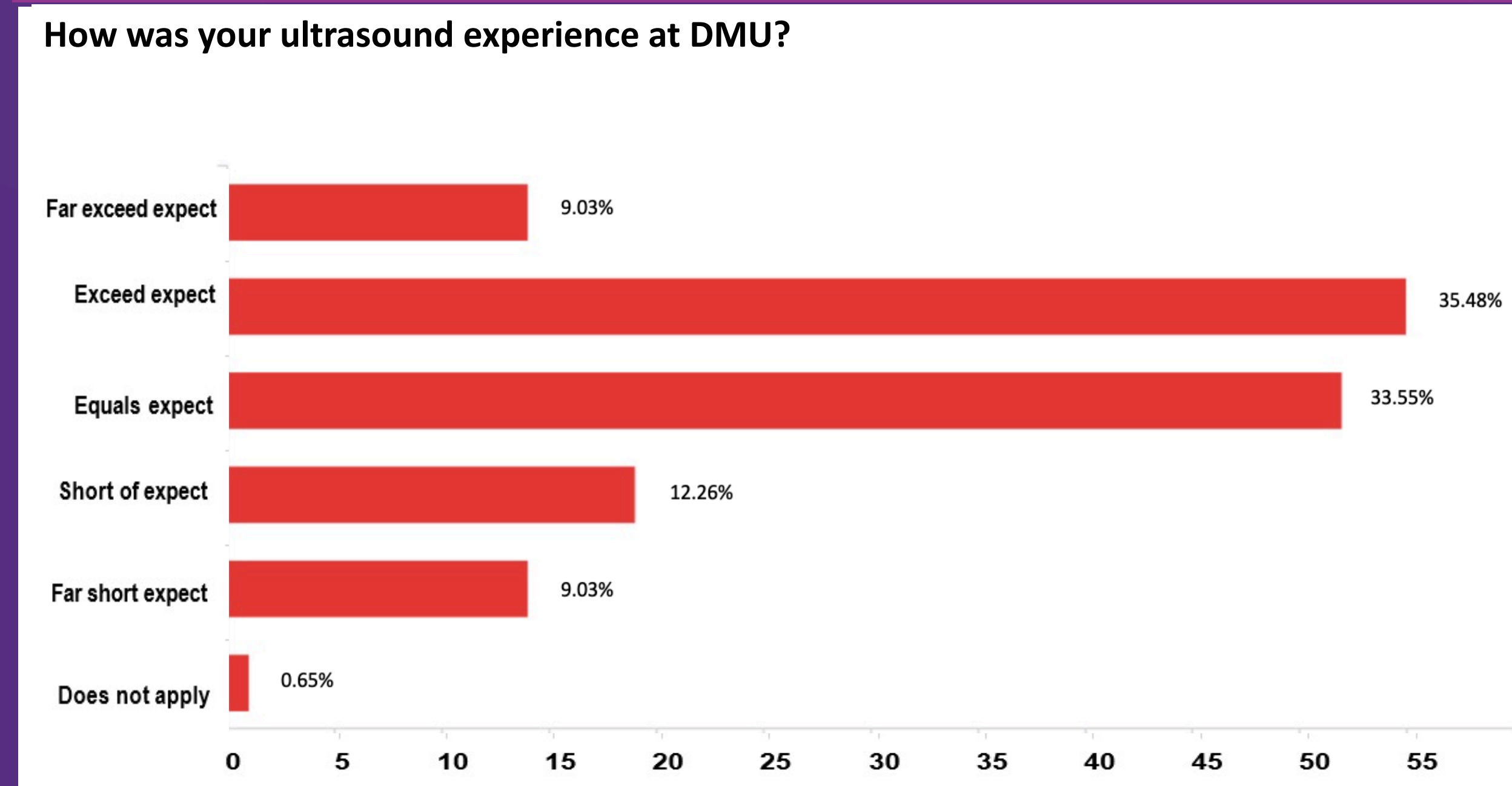


Figure 1. Survey of osteopathic medical students evaluating the overall ultrasound experience at DMU. The survey is based on the 5-point Likert scale, and data is expressed in percentage of student's responses from 155/178 surveyed.

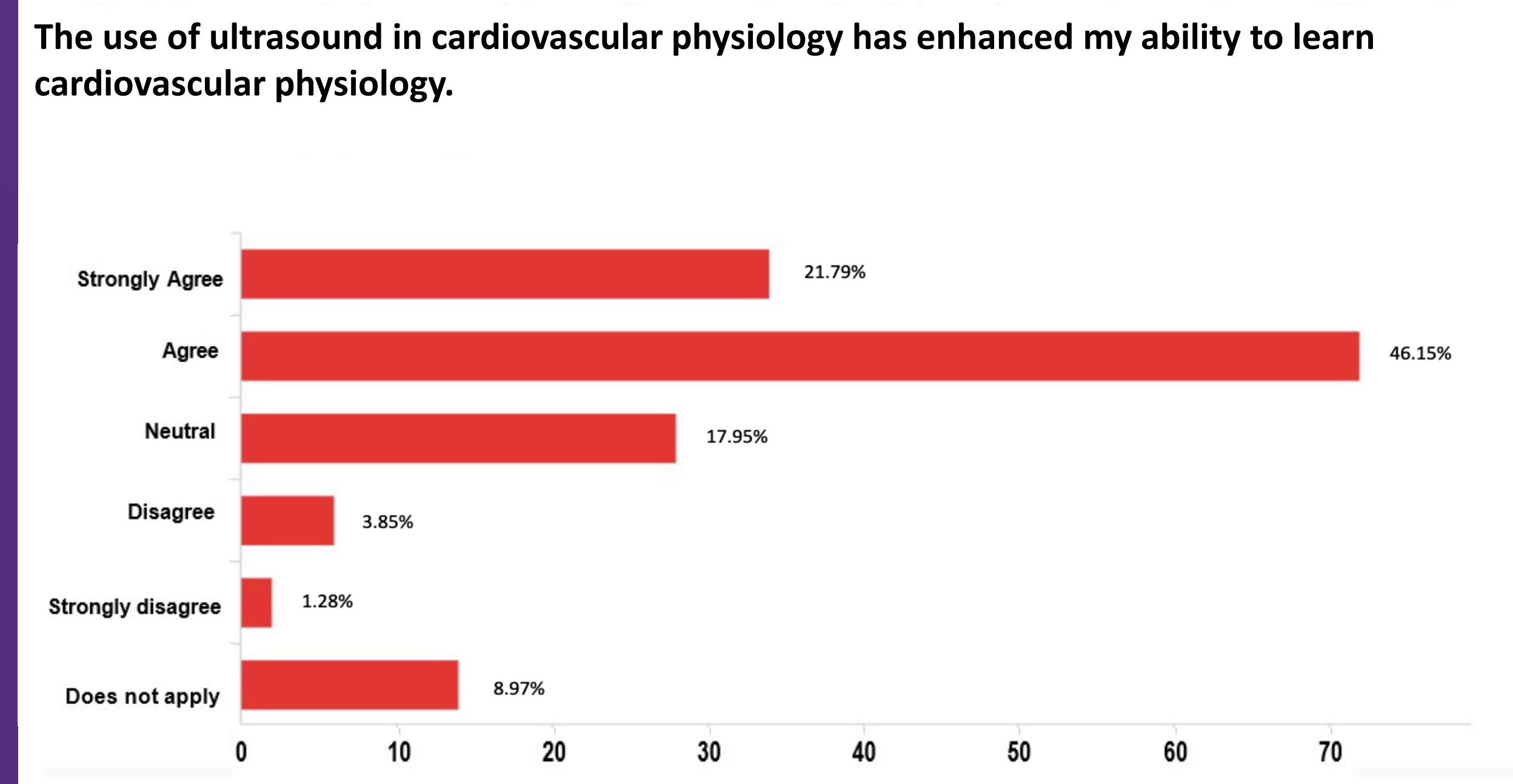


Figure 4. Survey of osteopathic medical students evaluating the impact ultrasound had on understanding cardiovascular physiology at DMU. The survey is based on the 5-point Likert scale, and data is expressed in percentage of student's responses from 156/178 surveyed.

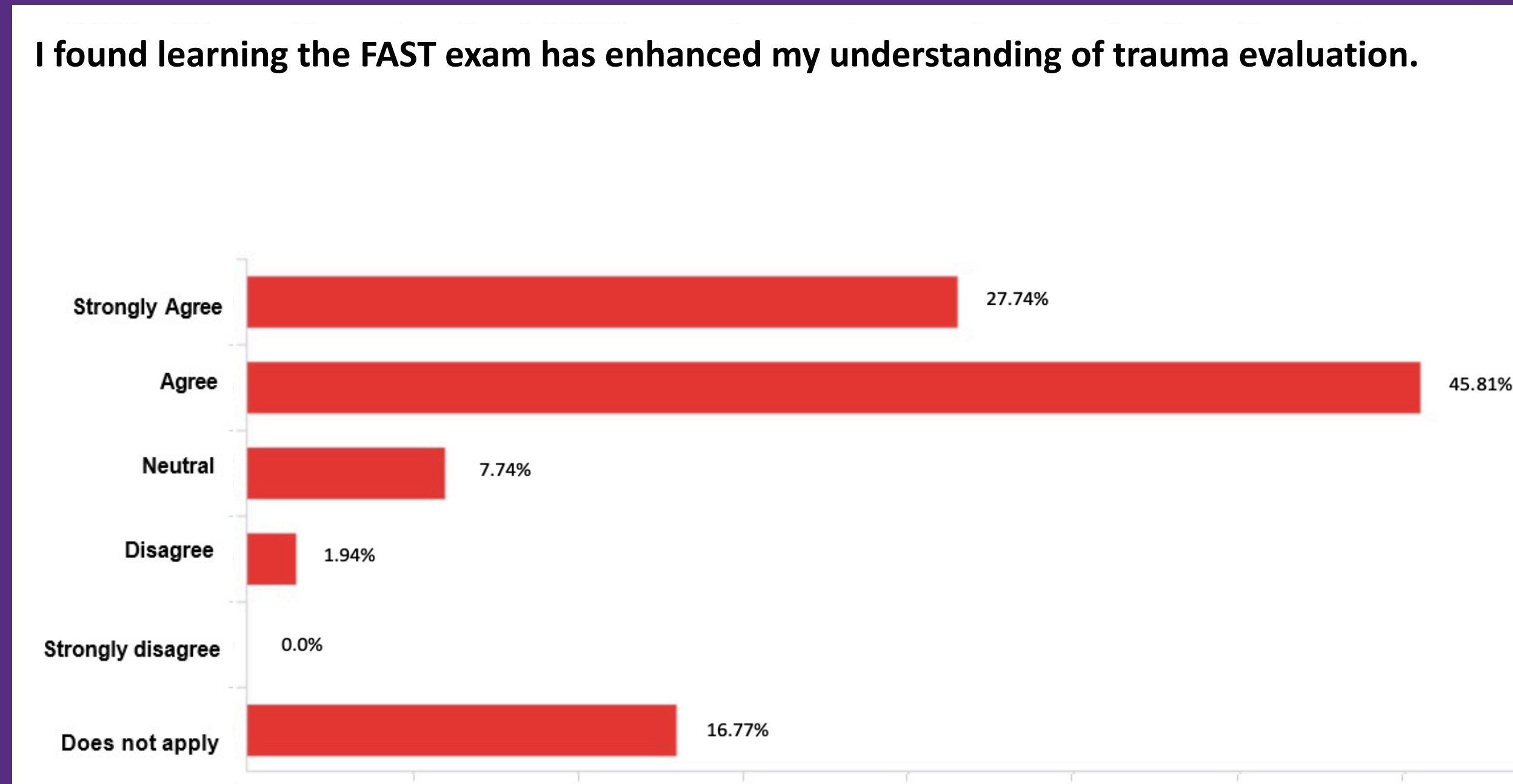


Figure 6. Survey of osteopathic medical students evaluating how learning the FAST exam influenced their understanding of trauma evaluation. The survey is based on the 5-point Likert scale, and data is expressed in percentage of student's responses from 155/178 surveyed.

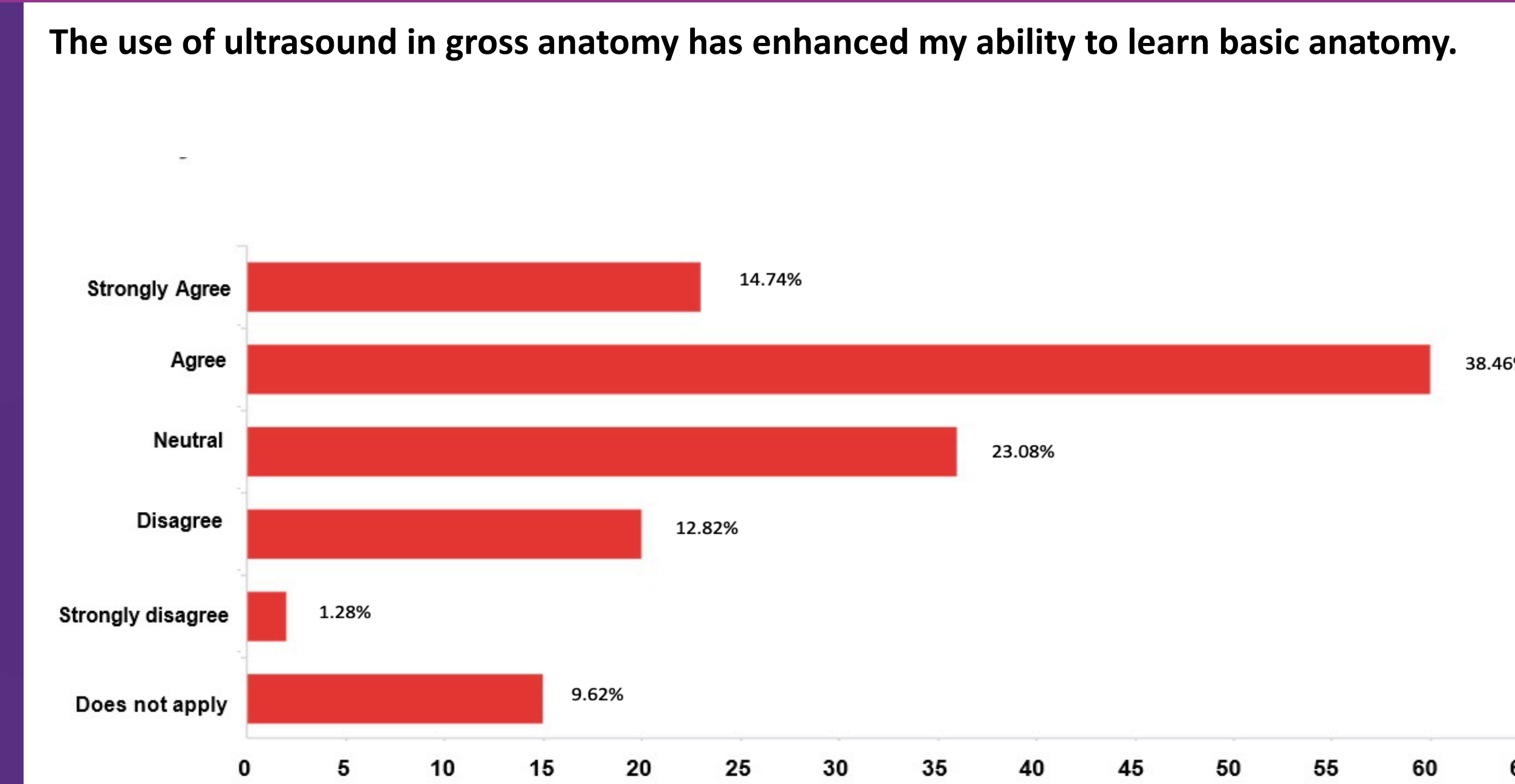


Figure 2. Survey of osteopathic medical students evaluating the impact ultrasound had on understanding anatomy at DMU. The survey is based on the 5-point Likert scale, and data is expressed in percentage of student's responses from 156/178 surveyed.

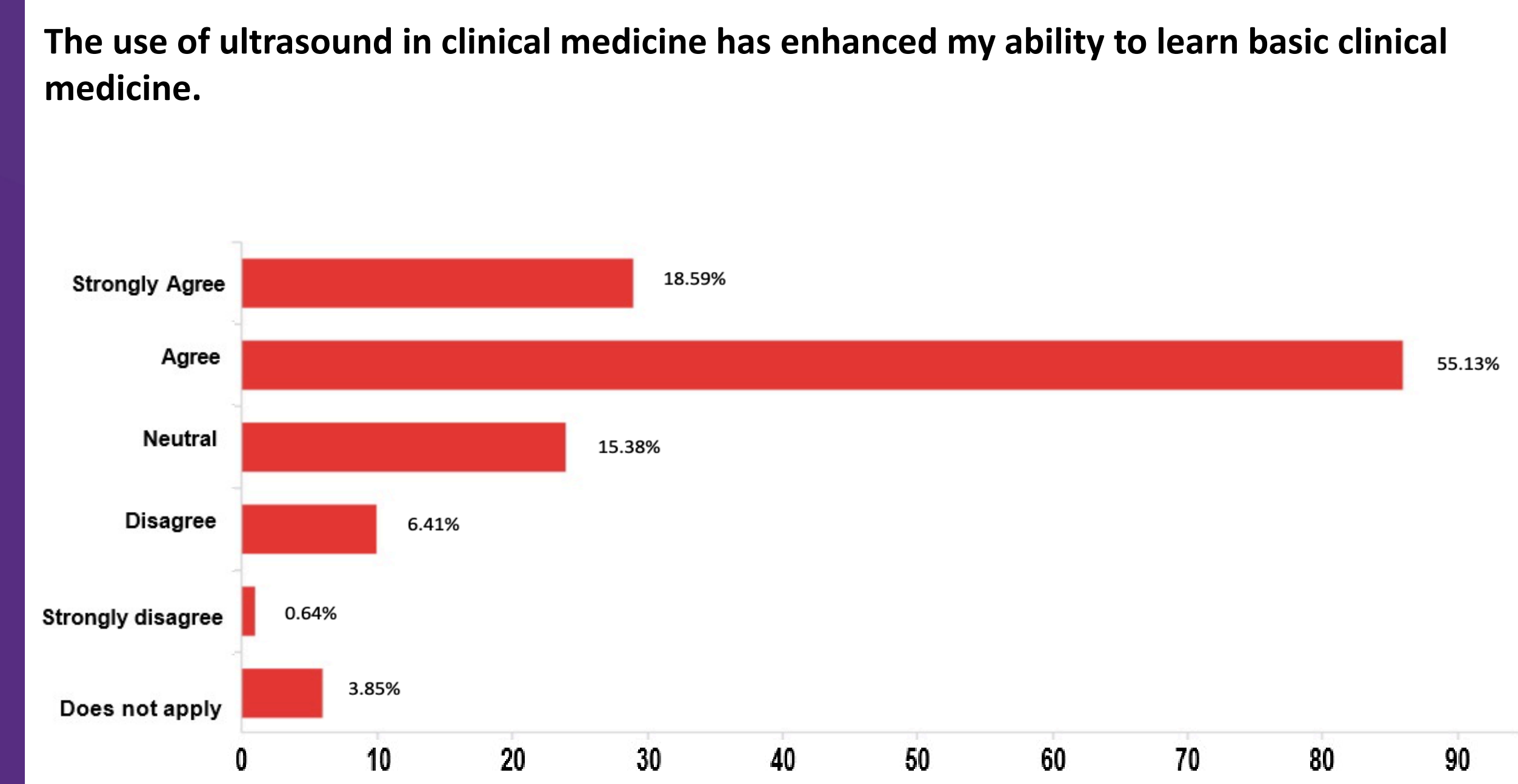


Figure 5. Survey of osteopathic medical students evaluating the impact ultrasound had on understanding clinical medicine at DMU. The survey is based on the 5-point Likert scale, and data is expressed in percentage of student's responses from 156/178 surveyed.

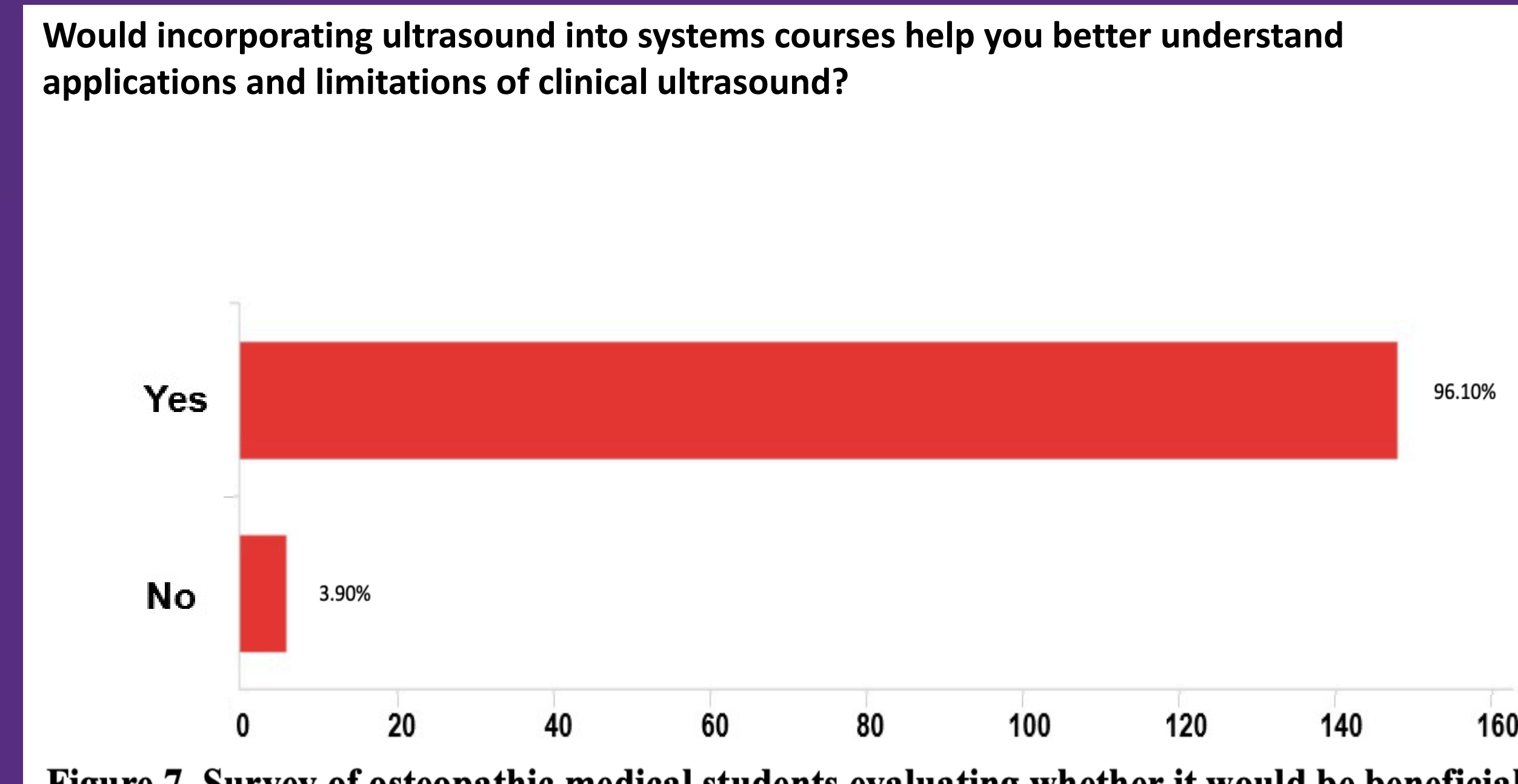


Figure 7. Survey of osteopathic medical students evaluating whether it would be beneficial to incorporate ultrasound into systems courses at DMU. The survey is based on a dichotomous scale, and data is expressed in percentage of student's responses from 154/178 surveyed.

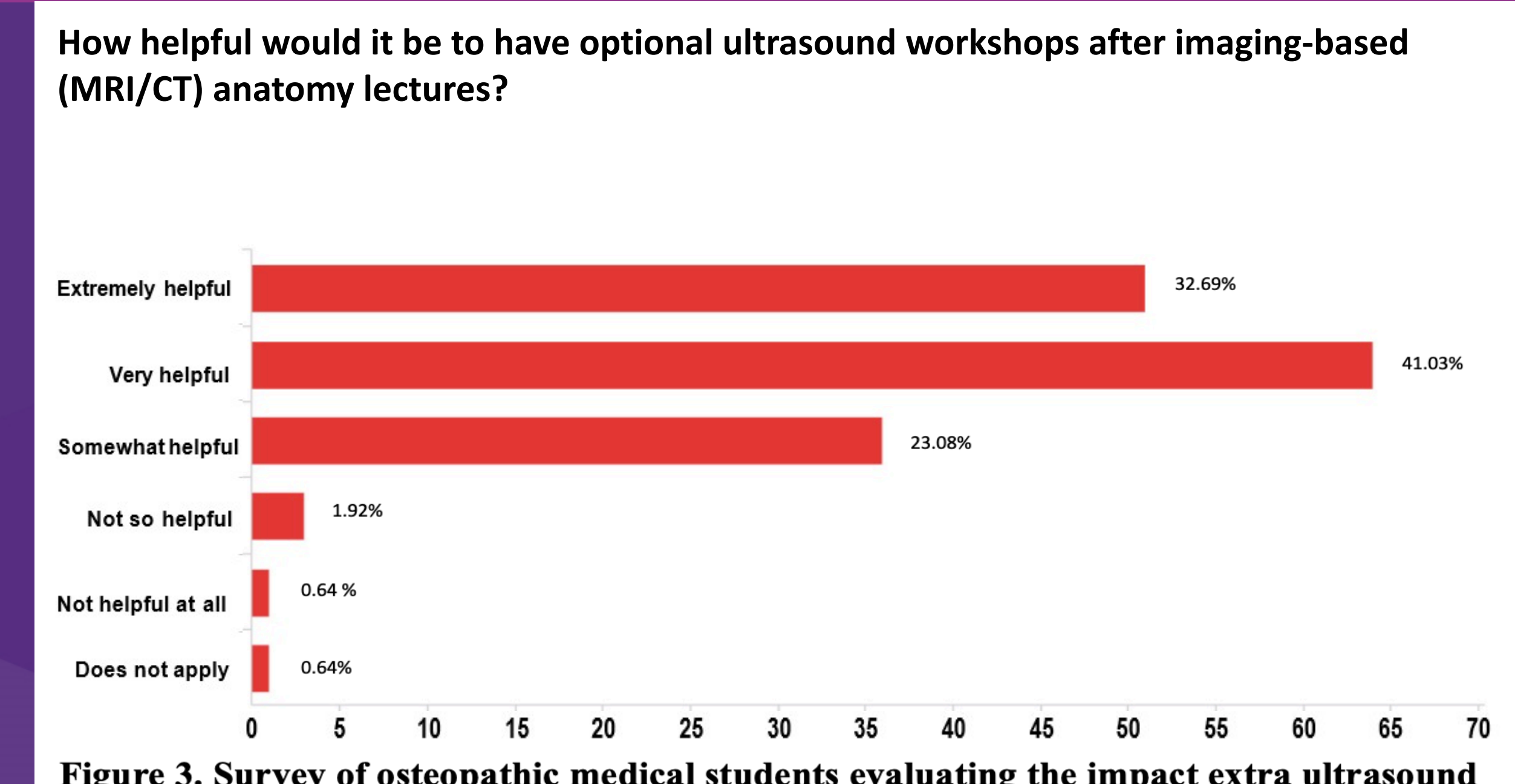


Figure 3. Survey of osteopathic medical students evaluating the impact extra ultrasound workshops would have on understanding imaging-related anatomy at DMU. The survey is based on the 5-point Likert scale, and data is expressed in percentage of student's responses from 156/178 surveyed.

1. This survey revealed that the ultrasound curriculum is well received by osteopathic medical students at DMU.

2. Ultrasound has shown to be beneficial in better understanding clinical medicine, trauma, anatomy, and physiology.

3. Not only has ultrasound improved students' knowledge of these concepts but students also identified that they would benefit from more incorporation of ultrasound into their education.

1. Baltarowich OH, Di Salvo DN, Scouff LM, Brown DL, Cox CW, DiPietro MA, Glazer DI, Hamper UM, Manning MA, Nazarian LN, Neutze JA, Romero M, Stephenson JW, Dubinsky TJ. National ultrasound curriculum for medical students. *Ultrasound Q.* 2014 Mar;30(1):13-9. doi: 10.1097/RUQ.0000000000000066. PMID: 24901774.

2. Hoppmann RA, Rao VV, Poston MB, Howe DB, Hunt PS, Fowler SD, Paulman LE, Wells JR, Richeson NA, Catalana PV, Thomas LK, Britt Wilson L, Cook T, Riffle S, Neuffer FH, McCallum JB, Keisler BD, Brown RS, Gregg AR, Sims KM, Powell CK, Garber MD, Morrison JE, Owens WB, Carnevale KA, Jennings WR, Fletcher S. An integrated ultrasound curriculum (iUSC) for medical students: 4-year experience. *Crit Ultrasound J.* 2011 Apr;3(1):1-12. doi: 10.1007/s13089-011-0052-9. Epub 2011 Feb 1. PMID: 21516137; PMCID: PMC3064888.