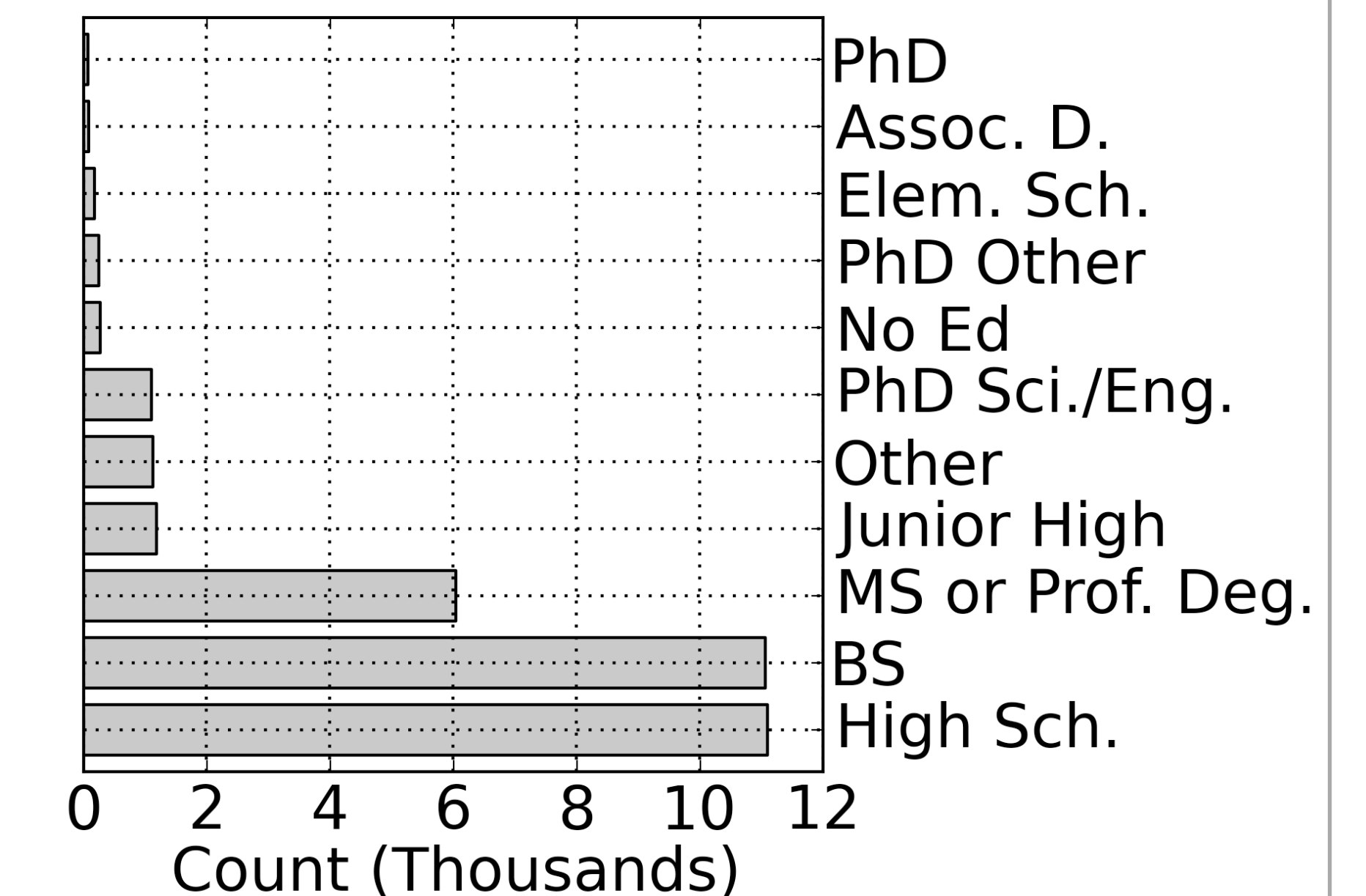
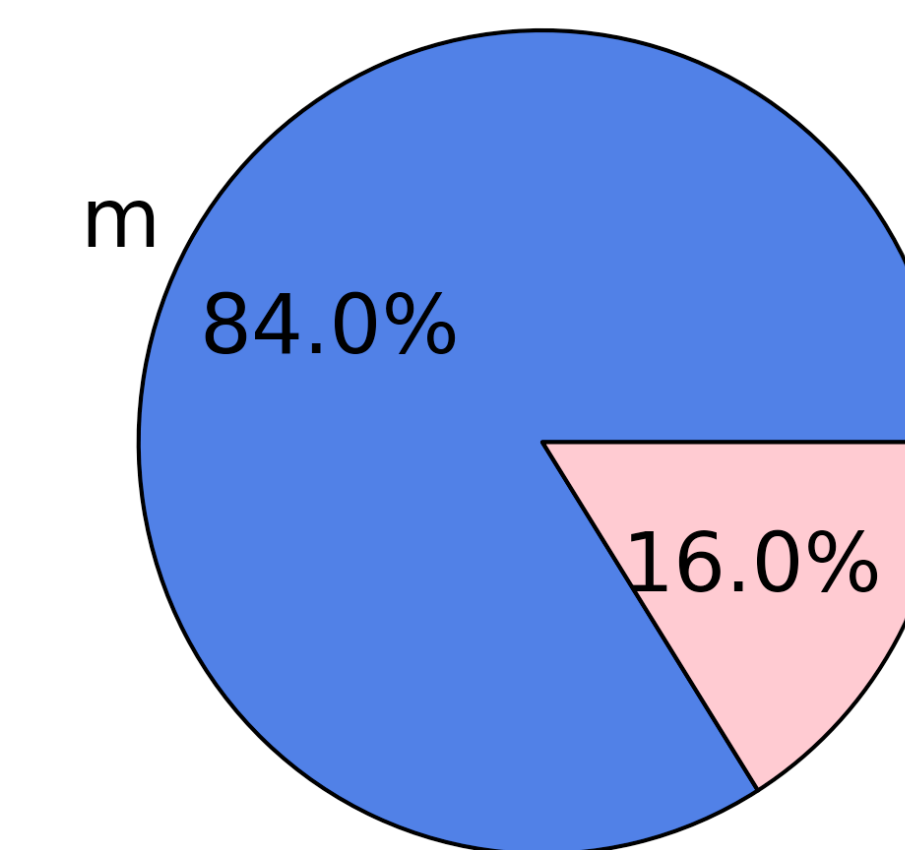
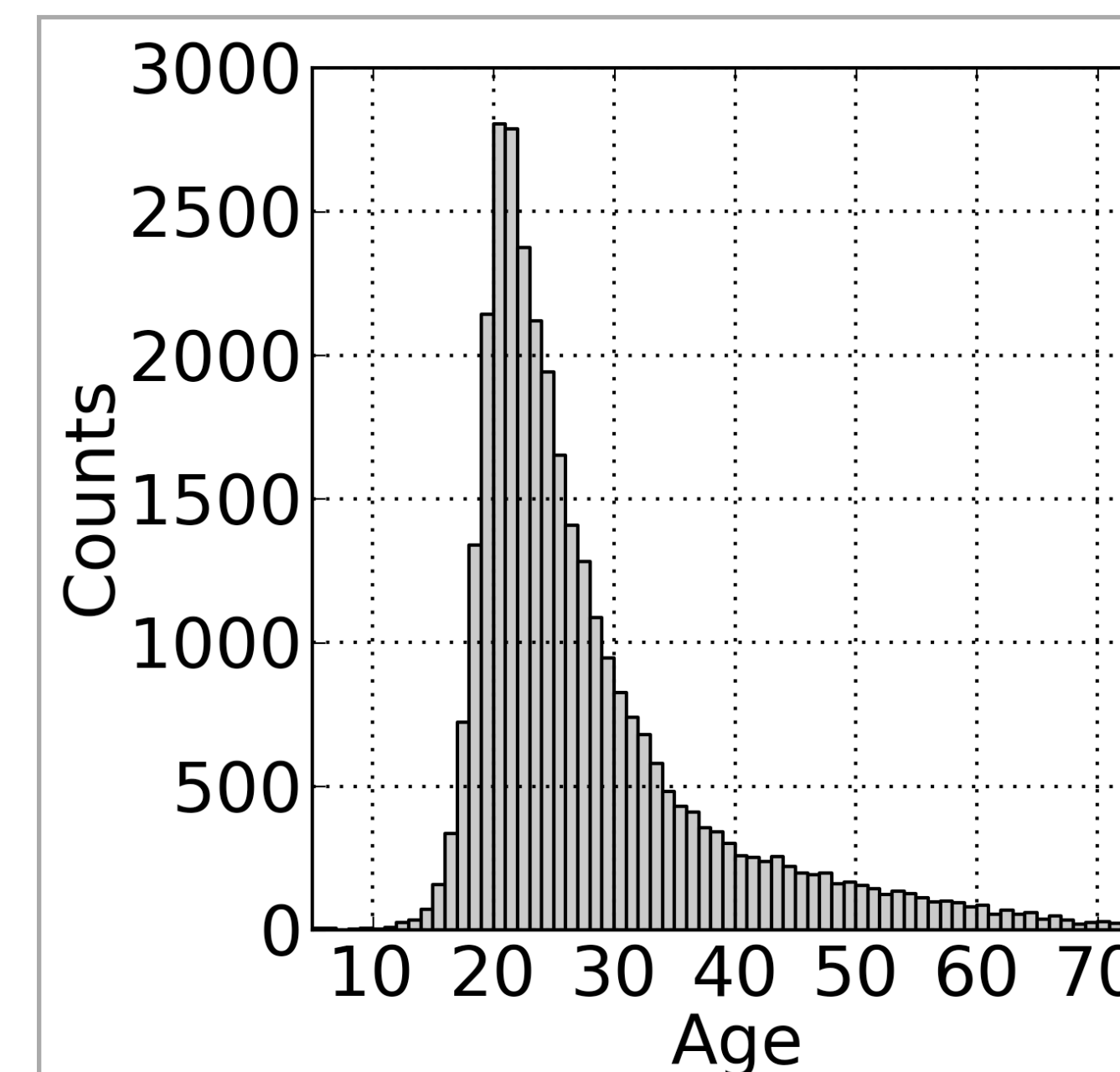
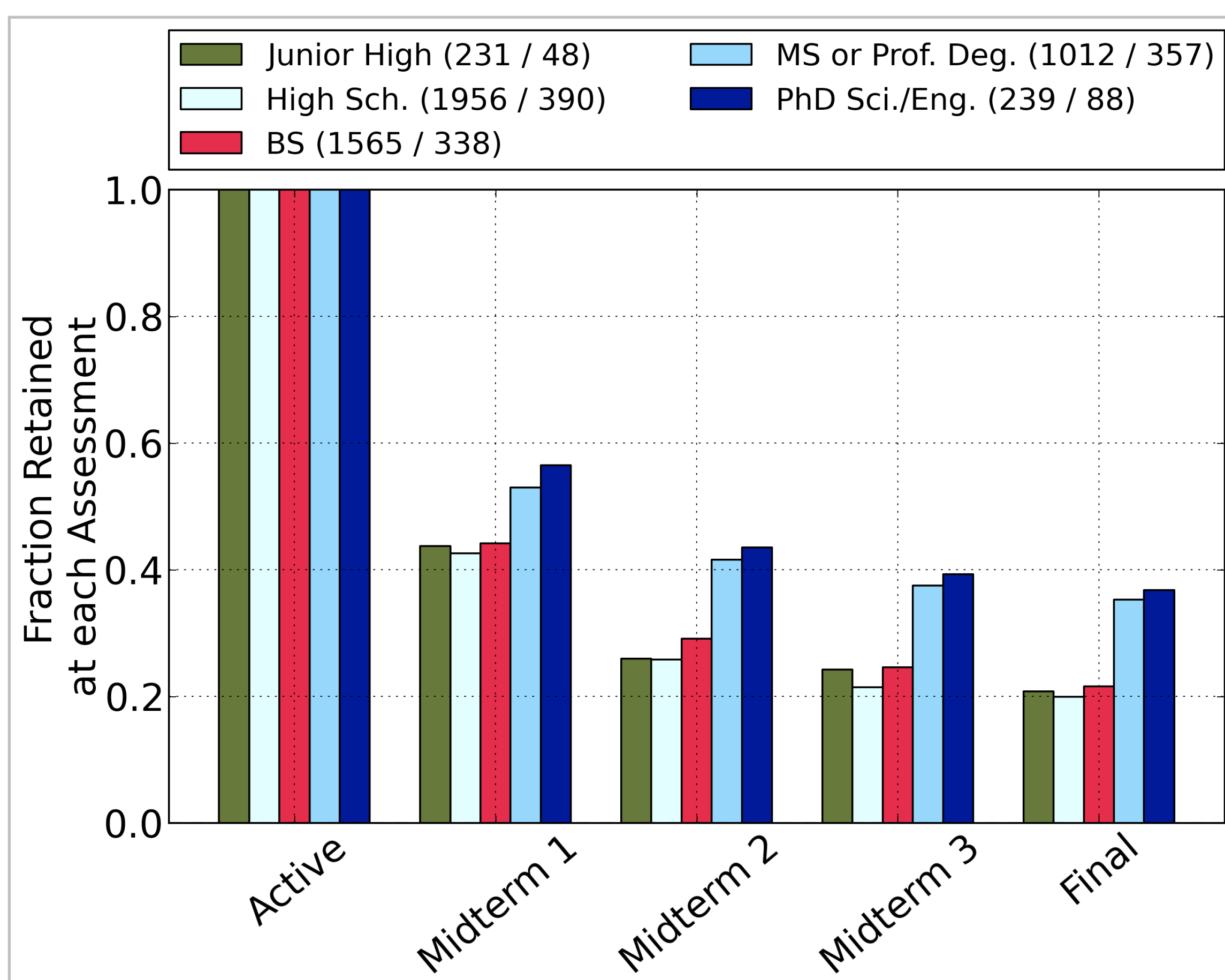


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Abstract. Massive Open Online Courses are an exciting, yet unknown, new avenue for instruction and research. In the Spring of 2013, MITx released its first introductory physics MOOC through the edX platform, generating a total enrollment of 43,000 students from around the world. We describe the population of participants in terms of their age, gender, level of education, and country of origin, highlighting both the diversity of 8.02x enrollees as well as gender gap and retention. Using three midterm exams and the final as waypoints, we highlight performance by different demographic subpopulations and their retention rates. Our work is generally aimed at making a bridge between available MOOC data and topics associated with the Physics Education Research community.



Attrition: How many were active?

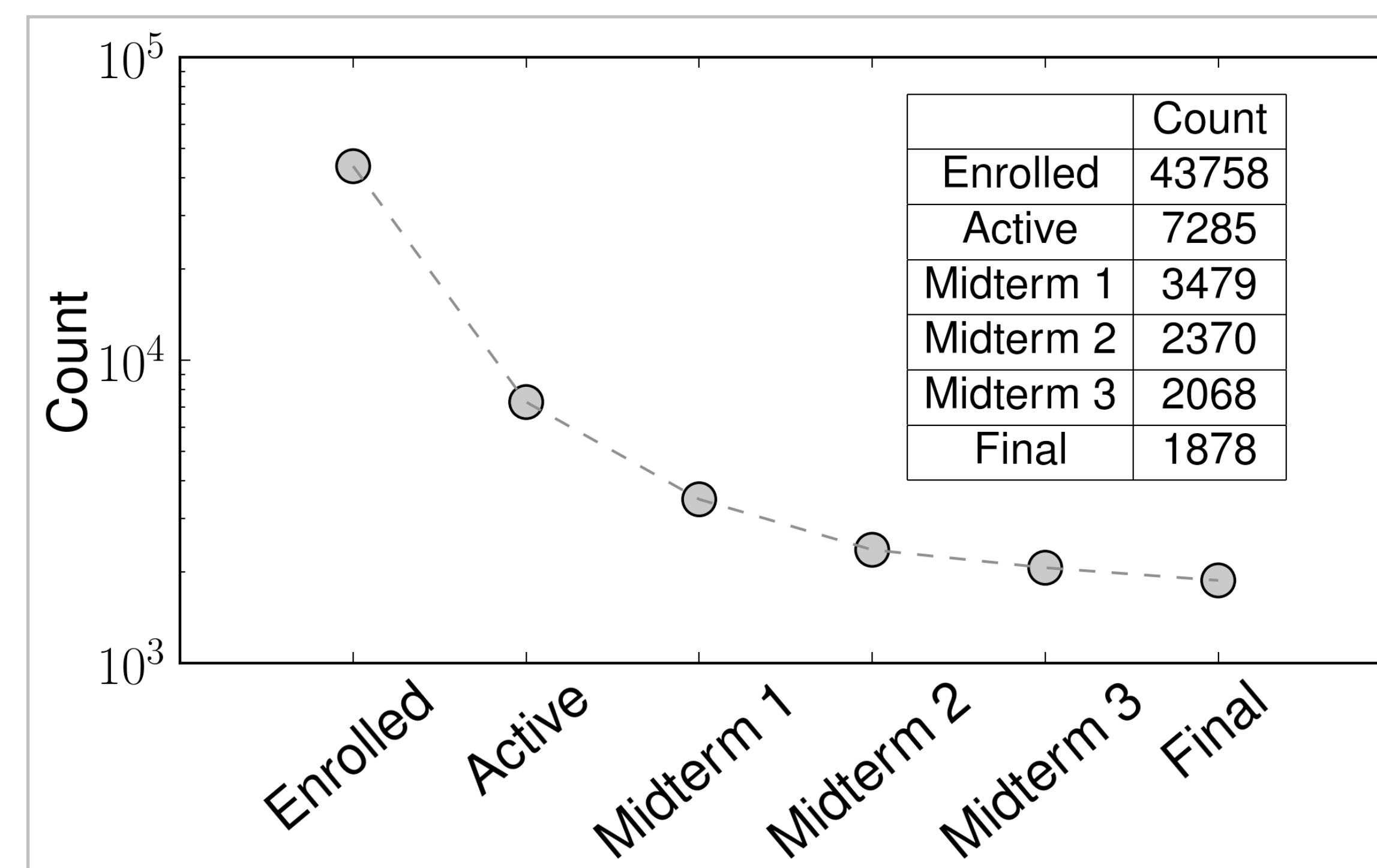


Up: Retention through participation for various levels of education: Junior High, High School, BS, MS/Prof. Deg., and PhD Sci./Eng. "Fraction Retained" represents the number of participants with score > 0 / number of "Active" participants.

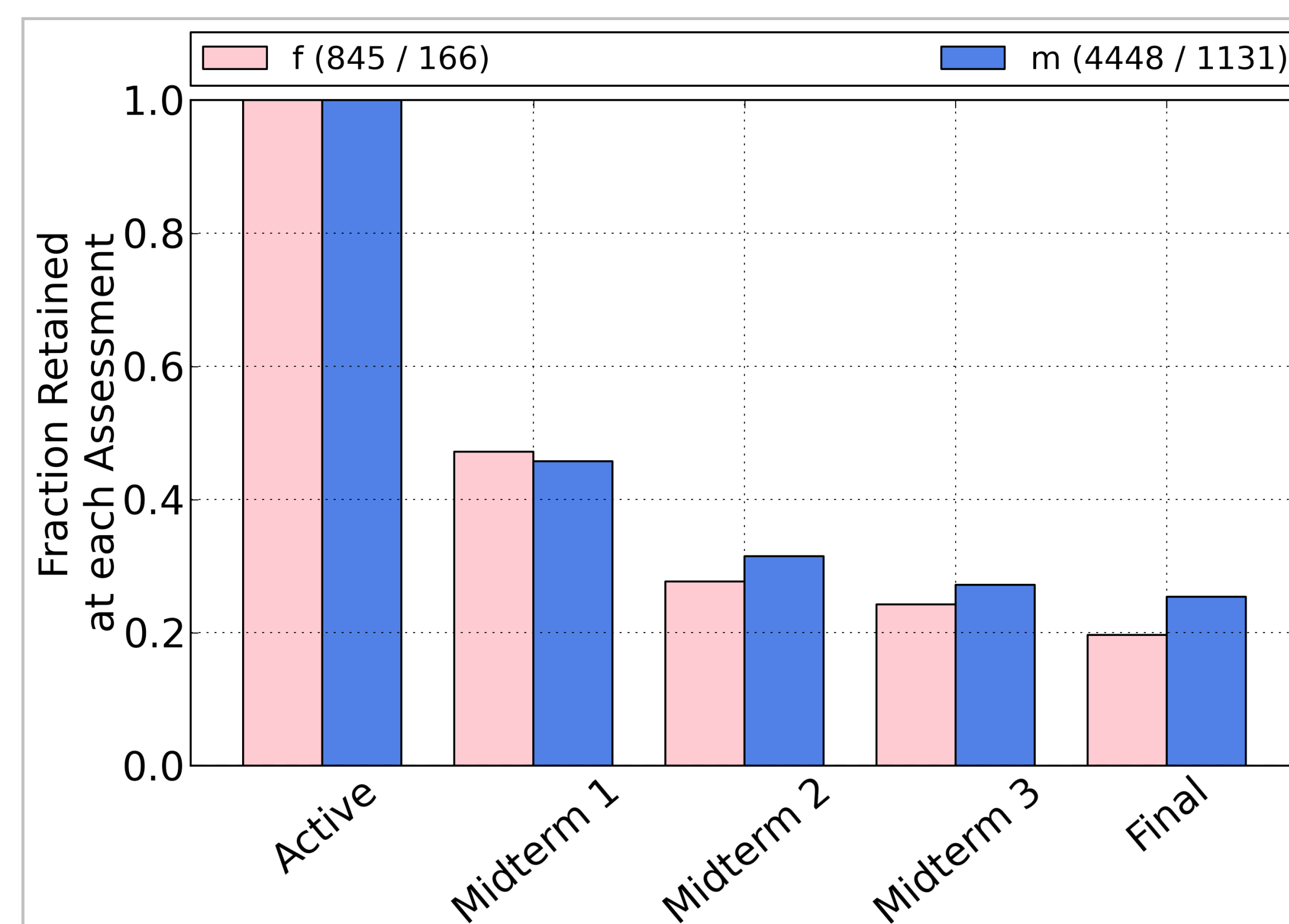
Right: Retention through participation against gender. "Fraction Retained" is measured with respect to "Active" participants.

The ratio of Active to Final examinees is given in the legend (Active/Final)

Active participants logged more than 500 events before the first midterm (roughly equivalent to 2 weeks work of assignments)



Up: Plot of number of enrollees, active students, and participants in examinations. Enrollees join at any time, while Active participants are counted over the first four weeks of the course, and examinations proceed in a linear fashion spaced roughly three weeks apart.



Who took the course?

Top: Self reported demographics by 32,504 of the 43,000 enrollees.

Right: Selected demographics against country of origin: enrollment count, mean age, percentage of enrollment older than 25, and percentage females.

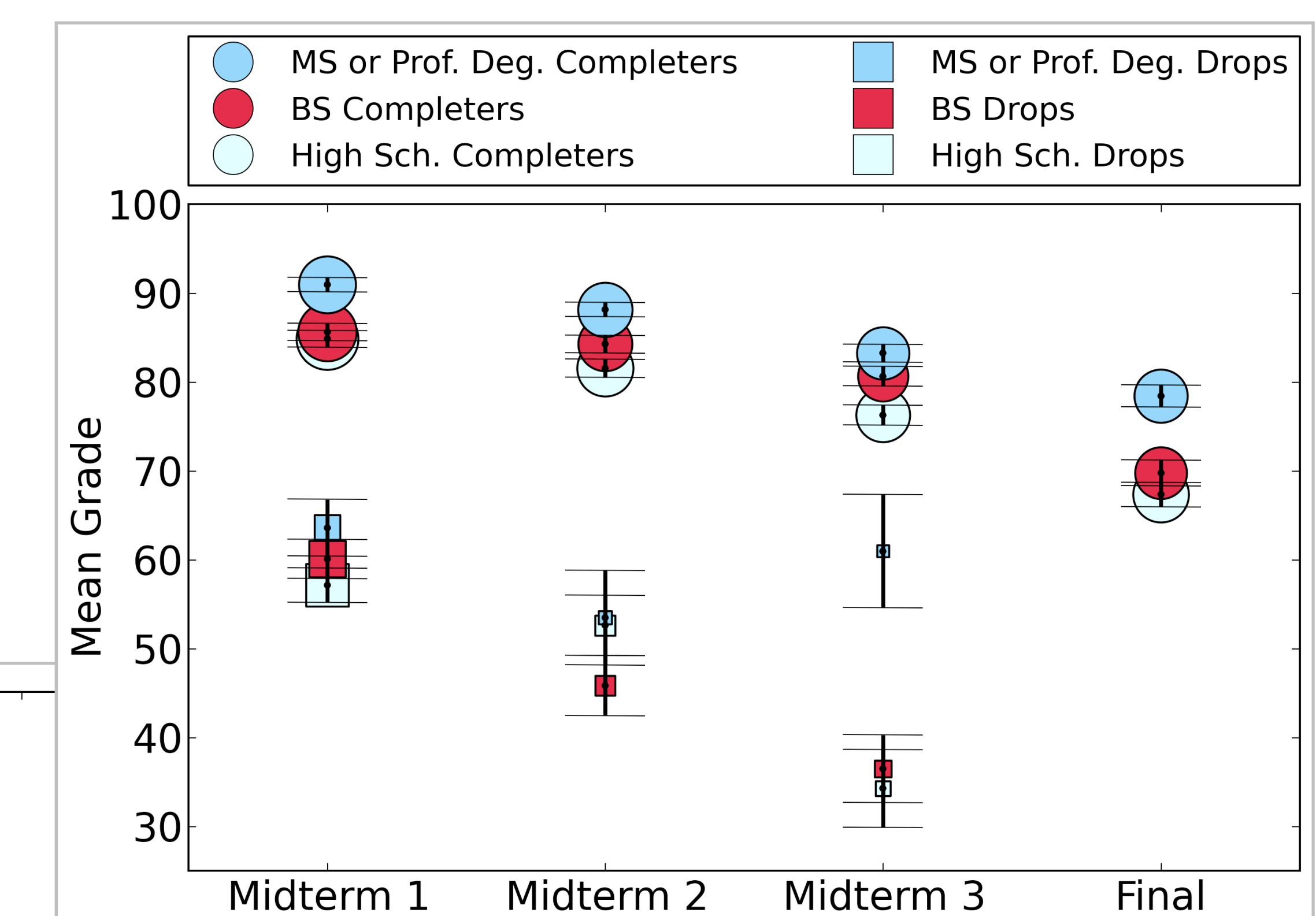
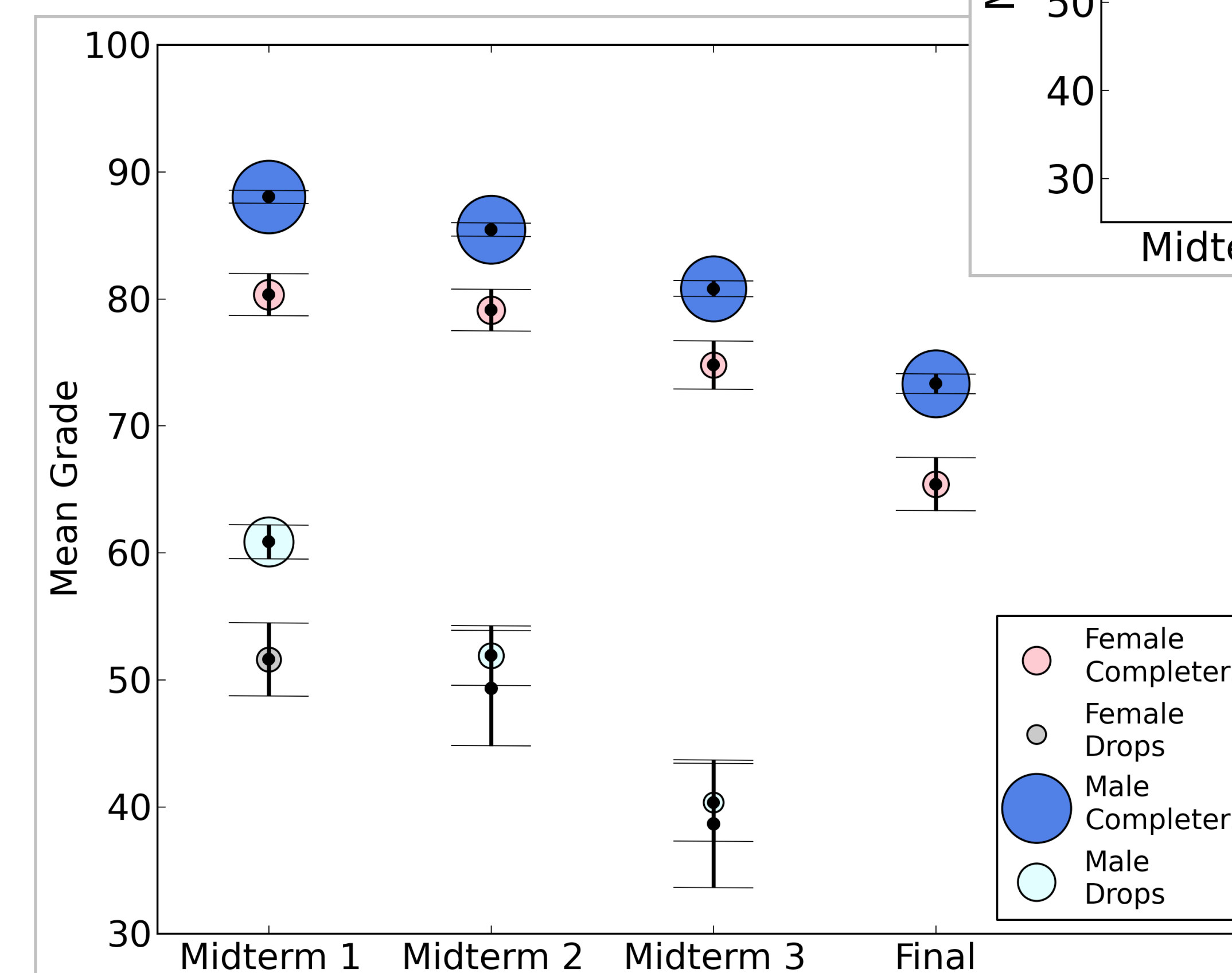
TABLE 1. Selected demographics against country of origin: enrollment count, mean age, percentage of enrollment older than 25, and percentage females.

	Enroll. Count	Mean Age	% Age > 25	% Female
All	43758	27.5	31.6	16.0
United States	5670	32.7	40.7	17.2
India	5567	22.6	12.1	13.9
Nigeria	1265	28.2	19.7	17.7
Brazil	1047	27.1	32.0	13.8
United Kingdom	1006	31.0	39.2	15.3

Performance

Mean grade on exams for **Right** varying level of education of participants, and **Down** males and females.

Shape size in both cases is relative to the number of participants in each category. Error bars are standard errors of the mean.



Each populations is divided into retained (circles) and drops (squares); drops are students that do not take the next exam (hence, no drops for final exam), and retained is based only on activity in the next exam (not the entire course).