

Online advertising resulted in more educated participants and non inferior screen fail rates when compared to offline methods in an Alzheimer’s disease clinical trial

Yu-Jay Huoh, Ralph Lee, Colin Sholes, Brenda Martinez, Tara Parnitvithikul, Edward Zamrini, Elly Lee

Introduction

Alzheimer’s Disease (AD) drug trials are slower to enroll and more expensive than trials in most other therapeutic areas. Historically, participants have been identified through offline methods including database searches, outreach events, and word of mouth referrals.

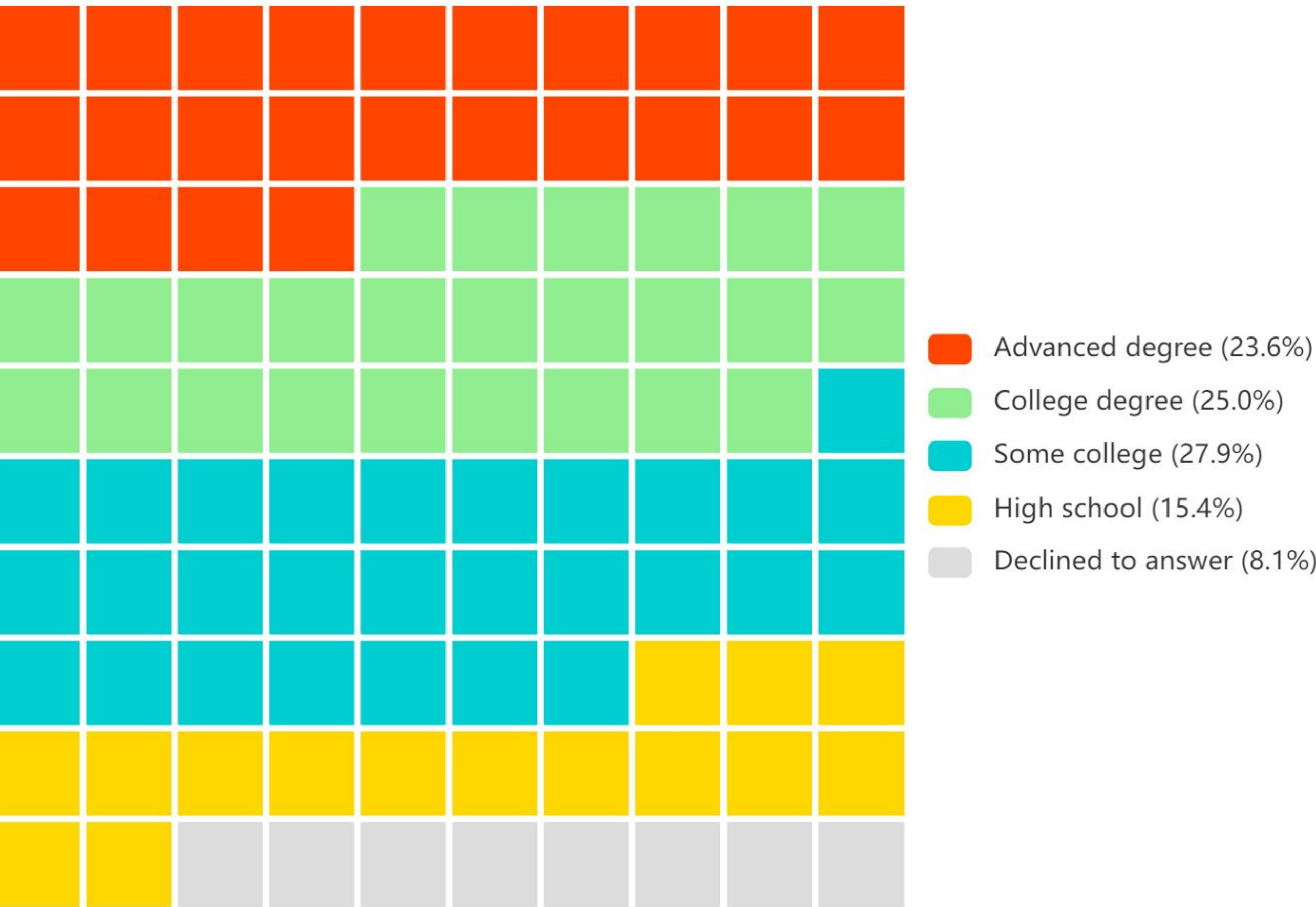
Sites have increasingly turned to online advertising to speed up recruitment and reach participants outside of traditional offline methods.

In this study, we investigate if online recruitment methods, compared to offline recruitment methods, have an effect on the education levels of recruited participants, as well as the screen failure rate of study participants in industry-sponsored AD drug trials.

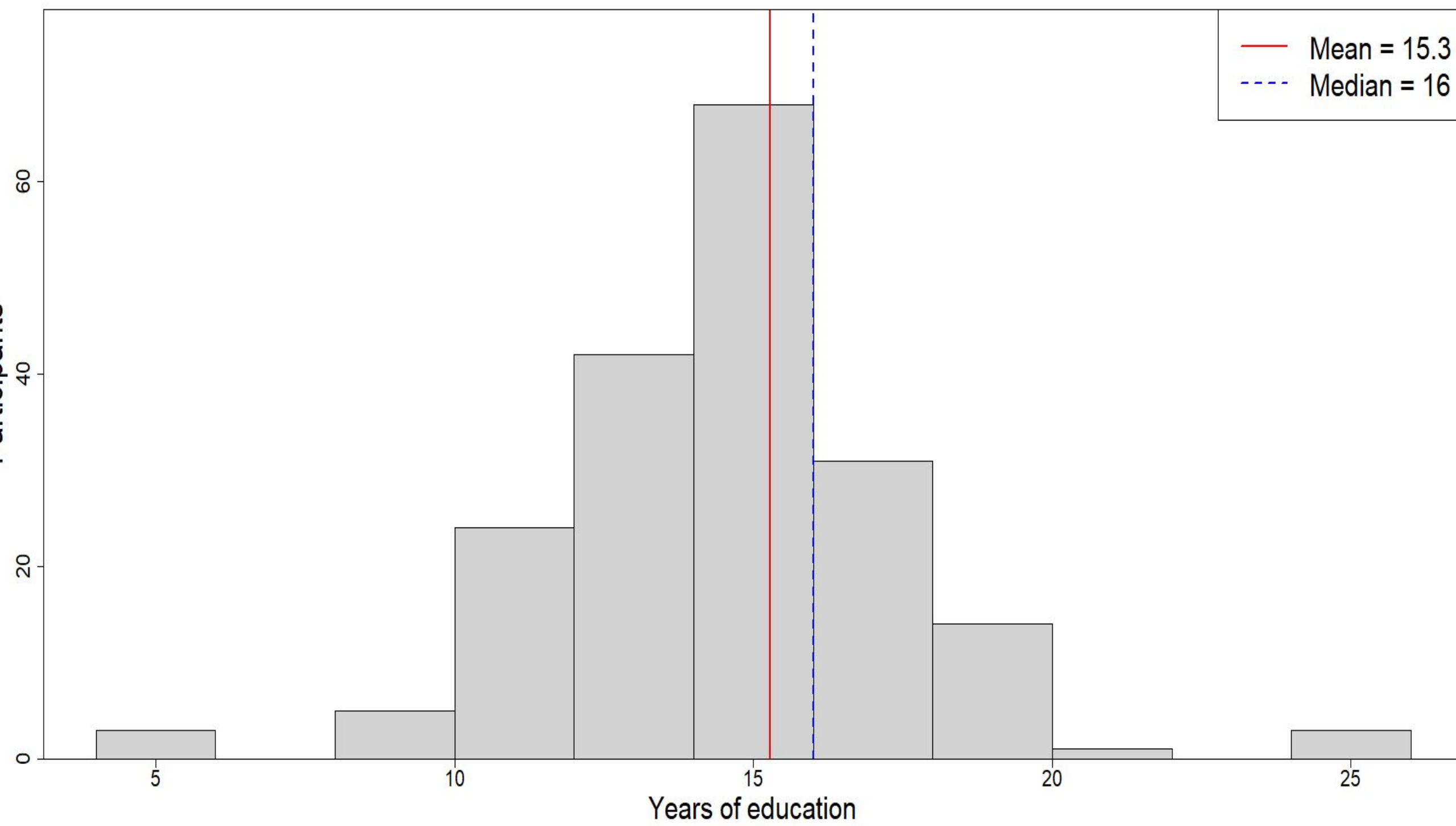
Methods

Between February and May of 2023, 208 participants screened at a commercial site in California for a clinical trial of an investigational anti-amyloid monoclonal antibody in participants with early symptomatic Alzheimer’s disease. Of the 208 participants, 75.5% (157) of the participants were recruited through online advertising and the remaining 24.5% (51) through offline means - such as a database search, in-person outreach event within the community, or referral.

The screening process required neuropsychological assessments, biomarker tests (including AMyloid PET and 3T MRI scans), and medical examinations to ensure that appropriate participants were enrolled. Of the 208 screened participants, 48 passed the screening process and randomized into the study.



During the screening process, a number of demographic characteristics about the participant were optionally (participants could decline to answer) collected and recorded - including gender, ethnicity, and the years of formal education attained by the participant. Of the 208 participants, 17 declined to answer the question about their education. For the 191 participants that answered, the mean years of education was 15.28 years, with a standard deviation of 2.99 years. The median years of education was 16, so the data is very slightly skewed downwards by a handful of participants with little education.

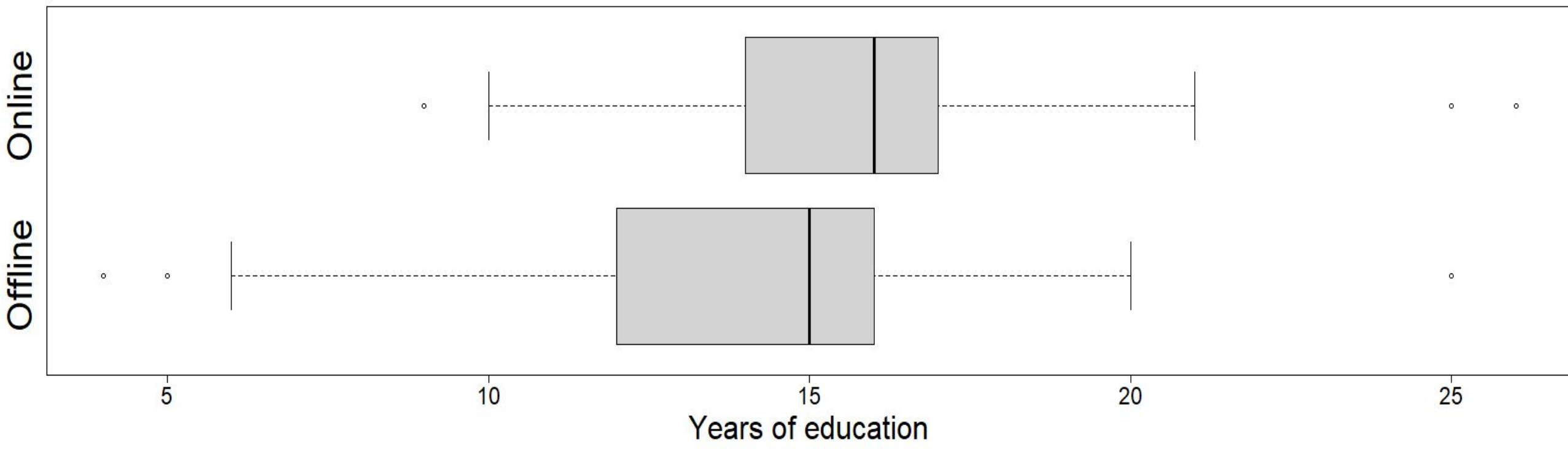


Results

The average years of education for someone recruited through online advertising was 15.57 years. For a person recruited through offline channels, the average years of education was 14.35 years. Assuming unequal variances across the two populations, this difference of 1.22 years was statistically significant ($p = 0.015$).

The screening failure rate of persons recruited through online advertising was 76.4% (120 of 157). The screening failure rate of persons recruited through offline methods was 78.4% (40 of 51). Using a 2-sample t-test for proportions, this difference of 2.0% was not statistically significant ($t = -0.29$, $p = 0.77$).

Recruitment modality	Years of education	Screen fail rate	n
Online	15.57 years	76.4%	151
Offline	14.35 years	78.4%	57
Difference	+1.22 years	-2.0%	
Standard Error	0.50 years	6.79%	
t-value	-2.452	-0.2943	
P-value	0.0151	0.7685	



2025 Update

Between April and October of 2024, the same commercial site screened another 66 participants for a clinical trial of a similar investigational anti-amyloid monoclonal antibody treatment for early symptomatic Alzheimer’s disease. Of the 66 participants, 56 were recruited online and 10 through traditional channels. The difference in screen fail rate between the two recruitment modalities was -8.57%, however this decrease in screen fail rate was not significant ($t=-0.55$, $p=0.58$) because of the limited number of traditionally recruited participants. Participants recruited through online advertising were, again, more educated on average (+0.47 years). However, this finding also was not statistically significant ($t=-0.33$, $p=0.74$).

Conclusions

From these analyses of screening failure rates, it is unlikely that the recruitment method has any impact on a participant’s ability to pass screening and successfully enroll into a study for an AD treatment. This finding is unsurprising given that the criteria for screen failures are typically insufficient biomarker evidence or too much / too little cognitive impairment - factors that should be uncorrelated with how this person was identified for the study.

However, the significant effect between years of education and recruitment method is harder to explain. The wider audiences that online advertising can access that traditional methods cannot could potentially result in different demographics for those recruited. Unfortunately, there is no obvious explanation for the observed directionality - why does online advertising result in a more educated participant or conversely why do offline recruitment channels yield a less educated participant? A more thorough investigation into the specific offline recruitment methods and the nuances between them would be necessary to identify the driving factors behind this effect.

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