

Who is Deterred by Automated Screening Tools?

Mallory Avery¹, Edwin Ip², Andreas Leibbrandt³, Joseph Vecci⁴

Labor is one of the most important parts of all companies' production functions, and hiring mistakes are expensive. As such, employers have always sought to be able to gather more information about applicants prior to making a hiring decision, but were limited by the cost (in both money and time) of such data collection. Recently, digital innovations and advances in AI have produced a range of job applicant assessment tools that are marginally low cost to use, leading to a proliferation of additional screening stages such as asynchronous automated interviews during the application process. However, these additional screening stages put a cost on applicants – in terms of time, stress, and frustration – and may also be differently costly to different groups. Despite this, there is a lack of causal evidence on the impact of various screening methods on applicant behavior, and no established best practices exist.

In this project, we comprehensively study the impact of different hiring screening tools on real applicant behavior. To do this, we conduct a natural field experiment involving over 3,000 applicants for 3 different jobs: programmers (20% female), web designers (40% female) and content creator (75% female). Applicants are randomly assigned to one of six different screening methods. These methods include Zoom interviews, asynchronous audio or video interviews, with the latter two evaluated either by a human or AI. These screening methods are becoming increasingly popular, with recent survey evidence indicating that 61% of Fortune 500 companies use automated technology to screen applicants. We also include a control group with no screening.

We find that, compared to the no-screening control, asynchronous Audio- or Video-interview stages are associated with a decrease in continuation by 44%-53%; alternatively, a more traditional synchronous zoom interview sees continuation decrease by only 9% compared to control. Women are generally more deterred than men by these additional screening stages, though asynchronous Video-interview screening, the most deterring Automated Screening Tool studied, deters men at a similar rate to women.

We find substantial heterogeneity based on the gender concentration of the job, with more male-dominated jobs seeing greater deterrence for women, particularly with asynchronous Video-interviewing. Additionally, we do not find evidence that applicants opt out at a greater rate under AI-based evaluations. Finally, we show that reminders to complete the screening methods have little impact on completion rates. These results are preliminary, and future analysis will consider the impact of using these screening tools on the distribution of qualifications among screened applicants, as well as their effect on hiring decisions. The first aspect will analyze whether more qualified applicants are differentially deterred from continuing the job application process compared to less able applicants. The second aspect will attempt to determine if these tools change

¹ Monash University, Melbourne, Australia

² University of Exeter, United Kingdom

³ Monash University, Melbourne, Australia

⁴ University of Gothenburg, Sweden

the resulting evaluation of candidates in a manner that justifies their impact on application completion rates.