

Mobile Devices and Selection

Amie D. Lawrence and Ted B. Kinney
Select International, Inc.

A White Paper prepared by the Visibility Committee of the Society for Industrial and Organizational Psychology.
440 E Poe Rd, Suite 101 Bowling Green, OH 43402

Table of Contents

Authors	3
Abstract.....	4
Introduction	4
Background.....	4
Are Candidates Really Using Mobile Devices?	4
Figure: Assessment Completion on Mobile Devices	5
Who Is Using Mobile Devices?	5
Implications for Practice.....	6
How Do I Know If My Selection Processes Are Mobile-Friendly ?	6
How Can I Make Sure Our Selection Processes Are Mobile Friendly?	7
Next Steps	8
References	10

Authors



Dr. Amie Lawrence
Select International, Inc.

Dr. Amie Lawrence is the Manager of Product Development at Select International. Dr. Lawrence is an expert in the design, development and validation of psychological assessment tools. She has extensive experience leading the development, validation and implementation of many different kinds of psychological assessments including online competency-based simulations, in-baskets, production simulations, personality, biodata, situational judgment and motivational fit. In recent years, she has been actively involved in the design and development of mobile assessment tools for use in applied settings. Additionally, she has been an integral practitioner voice in the discussion of this topic and is currently involved in applied mobile device research related to measurement equivalence, applicant reactions, test environment, fairness and validity. She received her M.S. and Ph.D. in Industrial/Organizational Psychology from the University of Akron and her B.S. in Psychology from Virginia Tech. She is a member of the Society for Industrial/Organizational Psychology (SIOP) and the American Psychological Association (APA). Dr. Lawrence maintains an active role in conducting applied research. She has authored or co-authored many academic articles and is a frequent presenter at academic conferences.



Dr. Ted B. Kinney
Select International, Inc.

Dr. Ted B. Kinney is the Director of Research and Development at Select International. Dr. Kinney leads a team of I/O Psychologists working to develop, validate, and implement selection solutions across a wide variety of organizational contexts. He has experience working with organizations of all types, from small organizations to Fortune 50 companies, from entry-level to C-Suite, from high volume start-ups to low volume replacement hiring, and across all industries. As unproctored internet testing (UIT) has become the norm, Dr. Kinney has turned his attention to researching the impact of UIT and the prevalence of mobile technology in the selection process. Along with Dr. Amie Lawrence, he leads an active research program focusing on how mobile technology impacts measurement, validity, user experience, and other aspects of the pre-employment testing process. Dr. Kinney received his M.S. in I/O Psychology from Colorado State University and his PhD in I/O Psychology from the Pennsylvania State University. He is an active member in the Society for Industrial/Organizational Psychology (SIOP).

Abstract

This paper reviews some of the frequently asked questions about mobile device usage in the personnel selection process. It provides an overview of some research on the topic, and some practical recommendations for organizations concerned about the implications and consequences of the introduction of mobile devices into recruitment.

Introduction

Mobile devices are everywhere! As a society, we use mobile devices for everything that we do, from shopping lists, to monitoring our children's whereabouts, to setting our thermostats remotely; mobile devices have become our constant relied upon tool for navigating our world. This begs the question, why would seeking a job be any different? As mobile device usage and ownership continues to soar to all-time highs (over 64% of US adults own mobile devices; Pew Research Center, 2015), job seekers are likely going to leverage their mobile devices in the job search/recruiting process. In fact, the Pew Research Center found that people are regularly using their phones for employment activities. Over 43% of the people in the survey used their phone to look up information about a job, and 18% had used their phones to submit a job application.

If more and more candidates are using smartphones and mobile devices in the job search process, how will this impact the way organizations attract, screen, and select talent? Are your organization's recruiting processes mobile-compatible? In this paper, we review some of the frequently asked questions about mobile device usage in the personnel selection process. We also provide an overview of some research on the topic. Lastly, we will provide some practical recommendations for organizations concerned about the implications and consequences of the introduction of mobile devices into recruitment.

Background

To better understand how to handle mobile devices in recruitment, let us first examine the prevalence of mobile use and the demographics of the common users.

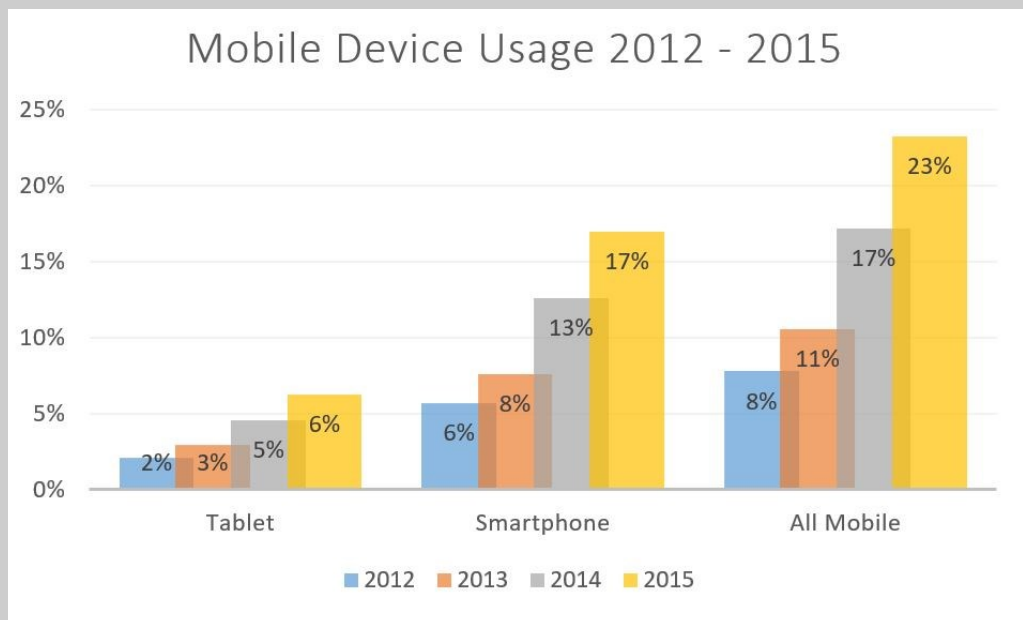
Are Candidates Really Using Mobile Devices?

It is likely that a quarter of your candidates or more are already using a mobile device to access some part of your application! Additionally, if the current trend continues, the numbers are only going to continue to climb. As part of our investigation into mobile

device usage, we have found that candidate mobile device usage is increasing across the clients who use our assessments. Figure 1 shows the trend in assessment completions by candidates from 2012 to 2015 across mobile device types.

Candidate mobile device usage has nearly tripled during that time frame. These numbers include organizations from numerous industries and represent 1.5 million candidates across job levels who completed variety assessment types as part of the application process.

Figure 1. Assessment Completion on Mobile Devices.



Who Is Using Mobile Devices?

Another clear trend from the research is that as mobile device usage increases, so does the potential for diversity of the candidate pool. Women, racial minorities (particularly African Americans and Hispanics), and younger candidates are most likely to use mobile devices to complete online assessments (McClure-Johnson & Boyce, 2015). According to the Pew Research Group (2015), smartphone users relying on their device as their only source of internet access are more likely to be from certain demographics, particularly African-American or Latino. This means that a hiring process that is mobile friendly could increase minority group representation in your candidate pool. Increasing diversity in the candidate pool is good; however, we must make sure that allowing mobile devices does not increase adverse impact. For example, if candidates who take tests on phones score lower than candidates who take tests on personal computers (PCs) and there are more members of a particular group taking the test on mobile, then allowing mobile devices could contribute to an

increased adverse impact against the groups using mobile the most. If this were the case, allowing mobile devices would increase diversity but potentially increase adverse impact against the disadvantaged group. Obviously, this is not in line with an organization's diversity goals and highlights why it is critically important to make sure your assessments are designed for mobile deployment.

Implications for Practice

If research shows that mobile devices are becoming more popular and minority candidates are more likely to use them, what should organizations be doing to better support mobile device usage in the selection processes?

How Do I Know If My Selection Processes Are Mobile-Friendly?

To establish how mobile-friendly your selection processes are, you must determine if a candidate who completes the process on a PC has the same general experience and probability of success as someone who utilizes a mobile device. Recent academic research has investigated this question across a number of different selection tools. Quick summary of these findings include:

- Candidates using mobile devices take longer to complete assessments than candidates using PCs (e.g., Arthur, Doverspike, Munoz, Taylor & Carr, 2014).
- When candidates are surveyed, 92% indicate they prefer using a laptop or PC over a mobile device for employment testing (Fursman & Tuzinski, 2015).
- Applicant reactions to assessment on mobile devices depend on whether or not the assessment was designed for mobile deployment. Deploying an assessment without ensuring functionality and proper flow in a mobile environment can lead to



To establish how mobile-friendly your selection processes are, you must determine if a candidate who completes the process on a PC has the same general experience and probability of success as someone who utilizes a mobile device.

user challenges and negative applicant reactions (Gutierrez & Meyer, 2013). However, research suggests when an assessment is specifically designed for mobile device deployment, applicant reactions are similar across PCs and mobile devices regardless of the device used by the job candidate (e.g., Kinney, Lawrence & Chang, 2014).

- Candidates who use mobile devices to complete assessments are more likely to encounter distractions and interruptions during the assessment process (Chang, Lawrence, Kinney & O'Connell, 2016). Further, Kinney and colleagues (2014) found that distractions can have a more substantial negative impact on scores of applicants using mobile devices, compared to applicants on PCs.
- Some assessments measure candidate characteristics consistently across devices, whereas other common types of measurement do not. Text-based assessments that do not measure cognitive ability, processing speed, or reaction time are least impacted by device type (e.g., Arthur et al., 2014; Illingworth, Morrelli, Scott & Boyd, 2015). When assessments include the measurement of cognitive traits and/or have exercises where candidate speed and reaction times are taken into account, candidates using mobile devices earn lower scores (O'Connell et al., 2016). Assessments that disadvantage mobile users could drastically increase adverse impact against protected classes because, as mentioned in the previous section, mobile device usage is more common among diverse applicants.

How Can I Make Sure Our Selection Processes Are Mobile Friendly?

Knowing that not all selection tools are equal across all devices, ensuring that your tools are 'device agnostic' is critically important. Here are some ideas about how to do so:

- Identify all of the online/unproctored steps of your selection process and make sure that functions designed for use on a PC are also available on a mobile device.
- If using an assessment, make sure it launches on all mobile platforms (e.g., Flash programs will not run on Apple Safari).
- Ask your assessment provider for documentation of measurement equivalence

Some assessments measure candidate characteristics consistently across devices, whereas other common types of measurement do not.



across devices. Most assessment providers track mobile device usage and research differences across user contexts.

- Deploy a short survey after the assessment to inquire about applicant reactions and the user experience. Candidates do not mind completing these short measures, and they can provide useful information about trends in the perceptions of candidates using different devices.

If you conclude that your hiring process is not consistent across devices, you have three

If you conclude that your hiring process is not consistent across devices, you have three options: replace the tool, reprogram the tool, or block devices.

options: replace the tool, reprogram the tool, or block devices. If you replace the tool, ensure that the new assessment was designed for mobile deployment. Often reprogramming the assessment to use responsive design, a way of programming the assessment so that it resizes and displays in an easily readable fashion to support a device's screen size, is a good option and can improve measurement consistency and applicant reactions across devices. Another strategy to consider if replacing or reprogramming are not attractive options is to block devices so that candidates cannot access the assessment on devices that do not meet specific

technical requirements (e.g., screen size, device type, browser type). This approach is not without its disadvantages, though. While it ensures that the same testing experience is delivered to all candidates, it may reduce diversity in the candidate pool by limiting the access certain minority groups have to the assessment. Note that warning candidates not to use mobile devices is not enough; rather, your technology must actually prevent the assessment from opening if you are concerned that the assessment does not provide a consistent experience across devices. In a recent study, a very strong warning was presented ahead of the assessment recommending that candidates complete the assessment on a PC and not on a mobile device. Despite the warning, 17% of the candidates used a mobile device anyway (Lawrence & Kinney, 2015).

Next Steps

Mobile device usage is unlikely to decline. To prepare your selection processes for this increasingly connected world, we have the following recommendations:

- Assessment vendors and developers must plan for mobile devices when implementing and developing new tools. If you allow your process to leverage mobile technology, you must continually ensure it works consistently across all user contexts.

- Examine your hiring processes with as many devices as you can. Borrow different devices from coworkers, friends, and family to look at how your processes display on different platforms. If you see clear differences, consider replacing, reprogramming, or blocking access from devices that do not meet minimum requirements.
- Ask your candidates about their user experience in a survey or as part of an interview later in the process. Keep tabs on the types of devices being used and how reactions vary to ensure that all candidates are given an equal chance of completing (and performing well on) your assessment(s).
- Stay up-to-date on technology advancements and adapt accordingly.

Mobile technology is here to stay, is continually changing, and impacts our lives in many ways. If you design your process with technological advancements in mind, you can create a more efficient, accessible, and engaging application experience for your candidate pool!



References

- Arthur, W., Doverspike, D., Muñoz, G. J., Taylor, J. E., & Carr, A. E. (2014). The Use of Mobile Devices in High-stakes Remotely Delivered Assessments and Testing. *International Journal of Selection & Assessment*, 22(2), 113-123. doi:10.1111/ijsa.12062
- Chang, L.C., Lawrence, A.D., Kinney, T.B. & O'Connell, M.S. (2016). *What Was That? Investigating Distractions on Test Performance and Reactions*. Paper presented at the 31st annual conference of the Society for Industrial and Organizational Psychology, Anaheim, CA.
- Fursman, P. M., & Tuzinski, K. A. (2015, April). *Reactions to Mobile Testing From the Perspective of Job Applicants*. Paper presented at the 30th annual conference of the Society for Industrial and Organizational Psychology, Philadelphia, PA.
- Gutierrez, S.L. & Meyer, J.M. (2013). Assessments on the Go: Applicant Reactions to Mobile Testing. In N.A. Morelli (Chair), *Mobile Devices in Talent Assessment: Where Are We Now?* Symposium at the 28th Annual Conference of the Society for Industrial and Organizational Psychology, Houston, TX.
- Illingworth, A., Morelli, N., Scott, J., & Boyd, S. (2015). Internet-Based, Unproctored Assessments on Mobile and Non-Mobile Devices: Usage, Measurement Equivalence, and Outcomes. *Journal of Business & Psychology*, 30(2), 325-343. doi:10.1007/s10869-014-9363-8.
- Impelman, K. (2013). *Mobile assessment: who's doing it and how it impacts selection*. Symposium at the 28th Annual Conference of the Society for Industrial and Organizational Psychology, Houston, TX.
- King, D. D., Ryan, A. M., & Kantrowitz, T. (2014). Mobile and PC delivered assessments: comparison of scores and reactions. In Kantrowitz & Reddock (chairs) *Shaping the Future of Mobile Assessment: Research and Practice Update*. Symposium at the 29th Annual Conference of the Society for Industrial and Organizational Psychology, Honolulu, HI.
- Kinney, T.B., Lawrence, A. D., & Chang, L. (2014). Understanding the mobile candidate experience: reactions across device and industry. In Kantrowitz & Reddock (chairs) *Shaping the Future of Mobile Assessment: Research and Practice Update*. Symposium at the 29th Annual Conference of the Society for Industrial and Organizational Psychology, Honolulu, HI.
- McClure-Johnson, T.K. & Boyce, A.S. (2015). Selection Testing: An Updated Look at Trends in Mobile Device Usage. In Neil Morelli (chair) *Mobile Devices in Talent Assessment: The Next Chapter*. Symposium at the 30th Annual Conference of the Society for Industrial and Organizational Psychology, Philadelphia, PA.

Pew Research Center, April, 2015, "The Smartphone Difference" Available at:
<http://www.pewinternet.org/2015/04/01/us-smartphone-use-in-2015/>