



The Implications of Gender on Survey Research in Egypt

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Table of Contents

Abstract	2
Introduction	3
Methodology.....	4
Findings	6
Willingness to Interview with Opposite Gender	6
Interviewer Productivity by Gender	9
Effects of Gender on Household Listing.....	11
Conclusion.....	13

ABSTRACT

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Considering the social and political instability in Egypt following the Arab Spring, face-to-face research proves a formidable challenge. While dual-mode telephone sampling techniques have been extensively explored and developed in the Western context, data informing sampling plans in countries like Egypt are scarce. In 2013, D3 Systems, Inc. designed and implemented its own national face-to-face multi-stage probability survey to study both landline and mobile telephone ownership and telephony habits of Egyptian nationals. This paper utilizes the data to explore the role interviewer gender potentially has on participation rates and responses, in order to further inform and improve dual-mode telephone research methodologies in Egypt. Through a cross-comparison of the data based on interviewer and participant gender, the authors investigate how gender of both the respondent and interviewer affects the likelihood of respondent participation and the nature of the responses provided.

INTRODUCTION

In May 2015, the early halcyon months of the Arab Spring seem a distant memory. While civil war has enveloped Libya, Syria, and Yemen, authoritarian quiet has descended upon Bahrain and Egypt. Only tiny Tunisia stands as a testament to the possibility of peaceful transition from autocracy to democracy. The Arab Spring undoubtedly was an inflection point in the region's history, but the period of transformation it started is unlikely to resolve itself soon.

The changes of the past four years have underlined the importance of accurate public opinion data on the Arab world. The Arab Spring caught most observers of the region by surprise, as has its subsequent evolution from protest to bedlam. Public opinion research does not provide a roadmap for the future, of course; data from before 2011 did not and could not have forecast all that has happened since then. But high-quality public opinion data can illustrate the underlying tensions within a society and the social, political, and economic factors which may prove influential in national or regional transition. Observers, students, and researchers of the Middle East must, therefore, commit themselves not only to more effectively understanding the region. We must commit ourselves to more effectively understanding *how* to understand the region.

D3 Systems, Inc. has played its own part in this effort by funding, designing, and implementing its own national face-to-face multi-stage probability survey of Egypt in 2013, right in the middle of Egypt's tumultuous transition. D3's goal was to better understand the telephone-owning population in Egypt and collect data that better inform sampling methodology and improve field efficiency. The survey was designed to determine the landline and mobile penetration rates within Egypt, the demographic makeup of the telephone-owning population, and the cultural factors that may systematically bias any survey of the Egyptian people, either through face-to-face or computer-assisted telephone interviewing (CATI) methods.

Having explored telephone penetration rates and the demographics of the telephone-owning population in previous papers, this paper focuses on the cultural nuances related to survey research in Egypt.¹ The question of gender-matching in surveys of Muslim-majority countries is one D3 Systems has encountered frequently: does respondent and/or interviewer gender bias who participates in a survey and their responses? Using the data from the Egypt face-to-face national survey, this paper explores how interviewer gender may impact the gender breakdown of respondents, and their substantive responses, in surveys of Egypt.

¹ See, for example: Peng, D. & Solomon, S. (2014, May 16). Echoes of Egypt: Understanding the Telephone-Owning Population in the Arab World's Largest Nation. 69th Annual Conference. Poster presented for the American Association of Public Opinion Research. Anaheim, CA. Also see: Jodice, D., Peng, D., & Solomon, S. (2014, September 6). Understanding Egyptian Public Opinion: Setting the Demographic Framework for Telephone and Internet Research. 67th Annual Conference. Paper presented for the World Association of Public Opinion Research. Nice, France.

METHODOLOGY

The sampling methodology and questionnaire the face-to-face study were designed by D3 Systems Inc. in McLean, VA, USA. The target population for this study was adult (age 18+) Egyptian citizens. The area sampling frame used for the study was the 2006 Egyptian Census, using population figures as a measure of size. A final sample size of 2,501 was obtained. Due to security-related issues and the remoteness of populations, five governorates which together comprise less than 2% of Egypt's national population – North Sinai, South Sinai, Matrouh, El Wadi El Gadid, and Red Sea – were excluded from the target population.

The sample was stratified by governorate and urban/rural status. Within each stratum, *shiakhas*/villages served as primary sampling units (PSU) and were sampled with probability proportional to size.² Within selected PSUs, detailed maps obtained from the Central Agency for Public Mobilization and Statistics (CAPMAS) were used to segment the PSU into areas of approximately 500 households. A simple random sample of segments was conducted and the field team then enumerated households within each selected segment to create a list frame of eligible households from which a simple random sample was conducted. Within the household, a Kish grid was used to select the respondent to be surveyed.

As a result, the study was split into two phases – enumeration and fielding of interviews. Phase I, the enumeration of households in selected segments of the PSUs, was completed between February 13 and October 29, 2013. The implementation of this phase was delayed due to logistical problems and the political situation in Egypt during June and July of 2013. Security issues in the governorates of Upper Egypt delayed enumeration of some of these governorates until September and October. The enumeration team consisted of 49 Arabic-speaking interviewers and 7 supervisors under the management of Feedback Research.

Phase II, the fielding of respondent interviews at selected households from the enumeration lists, were completed between October 1 and December 20. The fieldwork team consisted of 50 Arabic-speaking interviewers and 7 supervisors. Interviewers collected data on all attempted interviews, 5,044 households in total. The final dispositions for all households where interviews were attempted were recorded and used to calculate the Response, Cooperation, Refusal and Contact Rates consistent with AAPOR standards. From the sample of 5,044 visited households, Response Rate 3 is 51.5%, Cooperation Rate 3 is 92.0%, Refusal Rate 2 is 4.4%, and Contact Rate 2 is 55.9%.

Weighting accounts for the probability of selection of a respondent, regional weighting class non-response adjustments, post-stratification adjustment by governorate by urban/rural status and gender, and trimming using the median plus six times the inter-quartile range.

² These are the same administrative units that the 2008 Egypt Demographic Health Survey used according to El-Zanaty and Way (2009). Of the 250 PSUs selected for enumeration and fieldwork in our study, three were replaced due to security-related issues.

The questionnaire includes questions about landline and mobile phone ownership, telephony habits of the respondent, landline and mobile phone ownership of other members of the households, mobile phone brand usage and preferences, television and Internet usage, household financial situation, ownership of common household goods, as well as demographic questions related to age, education level, socioeconomic status, religion, work status, among others. Due to ongoing governmental restrictions on polling in Egypt, the survey did not include any political questions. The median length of the completed interviews was 30 minutes, and the mean length was 27.41 minutes. Interviews ranged from 10 minutes to 60 minutes.

FINDINGS

Willingness to Interview with Opposite Gender

Analysis of the data reveals that Egyptians, in general, are more willing to speak with female interviewers over the phone. Specifically, 54% of all Egyptians surveyed say they would be more likely (*much* or *somewhat more* likely) to speak with a female interviewer over the phone, whereas only 32% of Egyptians say they would be more likely to speak with a male interviewer.³

Controlling for respondent gender provides interesting insights into the data, one of which is that men appear to be *more willing* to speak with female interviewers than women. When analyzing the responses of males only, the data reveal that a majority of men (58%) would be *more willing* to participate in a female-conducted interviewer, while only 8% report that they would be *less willing*. Comparatively, women are almost evenly split between being *more* or *equally as willing* to participate in a female-conducted interview (49% and 44%, respectively), while the remaining 7% say they would be *less willing*.

The majority of men are more willing to speak with a female interviewer, whereas women are almost evenly split between more and equally willing.

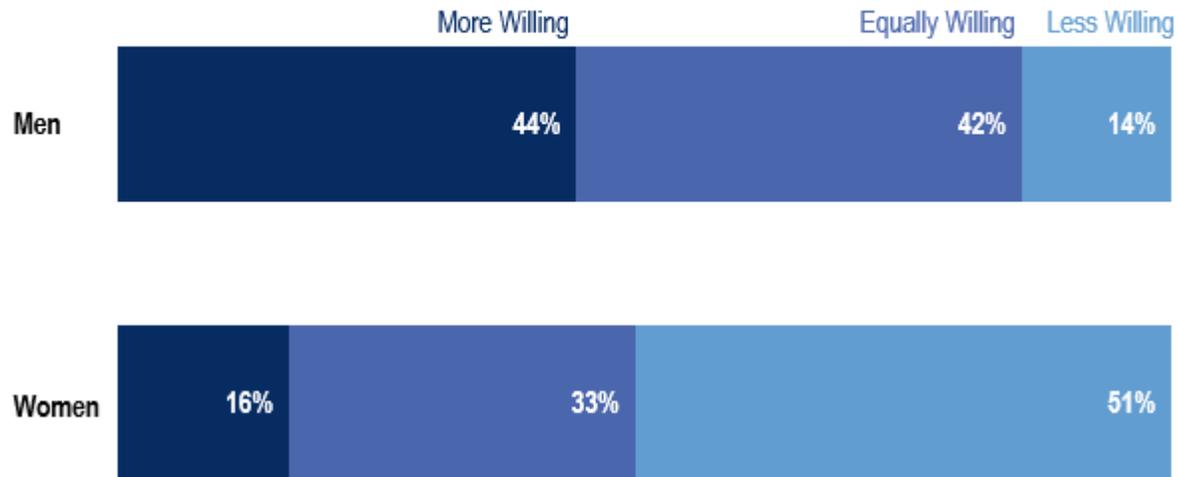


Similarly to female respondents, male respondents are almost evenly divided between being *more willing* and *equally as willing* to participate in a male-conducted interview, (44% and 42%, respectively). The remaining 14% of male respondents report that they are *less willing* to speak with a male interviewer, whereas the majority of female respondents (51%) say that they are *less willing* to participate in male-conducted interviews. Not surprisingly, less than one in

³ A difference of proportions test was performed on all the data shown in the paper. Due to the large sample size, all results were found to be statistically significant at the p<.05 level.

five women (16%) report that they would be *more willing* to speak with male interviewers, and the remaining 33% say they *equally as likely*.

The majority of women are *less willing* to speak with a male interviewer, whereas men are almost evenly split between *more* and *equally willing*.



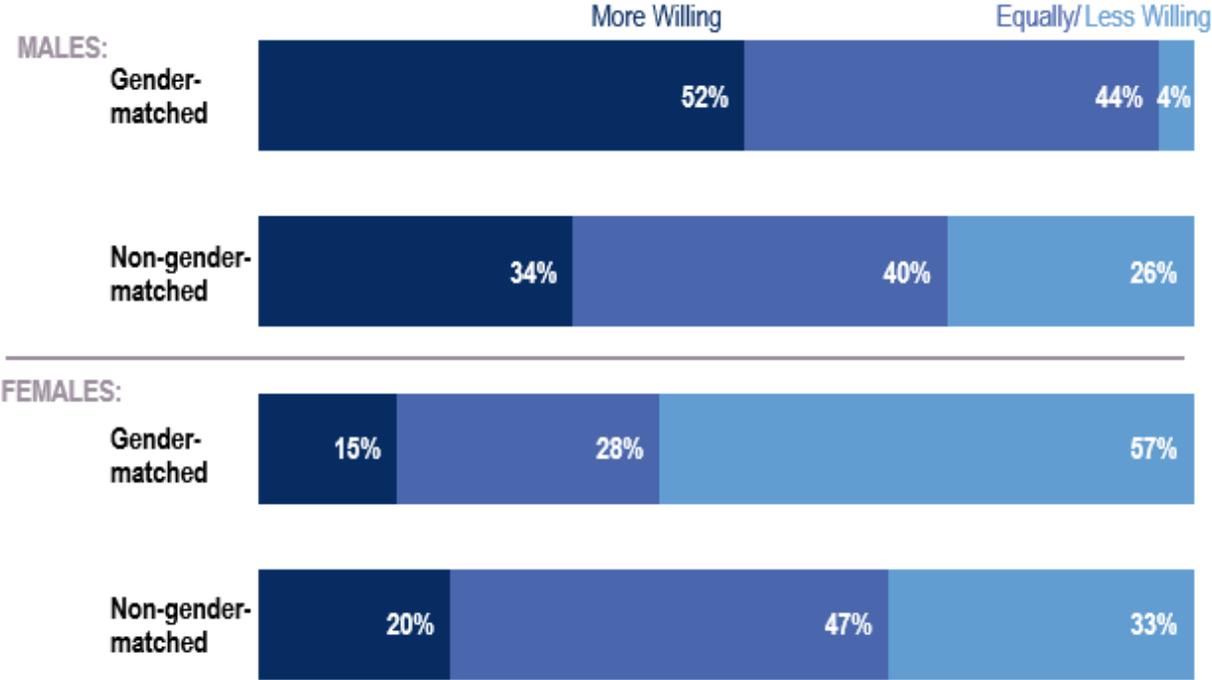
Continuing to view the data through the lens of respondent gender, it is evident that male respondents are more willing to participate in interviews, regardless of interviewer gender, when compared to females. While 44% of males say that they are *more willing* to participate in male-conducted interviews, only 16% of females say the same. The margin is closer when respondents are asked if they are more or less willing to participate in a female-conducted interview, though: 58% of males report that they are *more willing*, while 49% of women say the same. This further supports the initial finding that Egyptians, regardless of gender, are more likely to be willing to participate in an interview conducted by a female.

The aforementioned findings encourage refinement of the research question beyond the effect of respondent gender: does interviewer gender, specifically gender-matching between respondent and interviewer, impact response bias? Ultimately, the data reveal that gender-matching does have a significant impact on respondent's stated willingness to participate in interviews.

Male respondents who are gender-matched with male interviewers, for instance, are significantly more likely to report willingness to participate in a male-conducted interview (52% *more willing*), when compared to those who are currently being interviewed by a female (34% *more willing*). Only 4% of gender-matched male respondents report that they are *less willing* to speak with another male interviewer; however, when matched with a female interviewer, this percentage jumps to 26%. Although it is not possible to draw any definitive conclusions from the data, it is feasible that these findings are due to social desirability bias.

When asked about their willingness to participate in male-conducted interviews, a larger percentage of women (57%) say they are *less willing* when currently gender-matched with a female interviewer, as compared to those speaking with a male interviewer (33%). Surprisingly, more women report that they are *equally as willing* to participate in an interview conducted by a male when currently speaking with a male interviewer (47%), as compared to female respondents currently gender-matched with another female (28%).

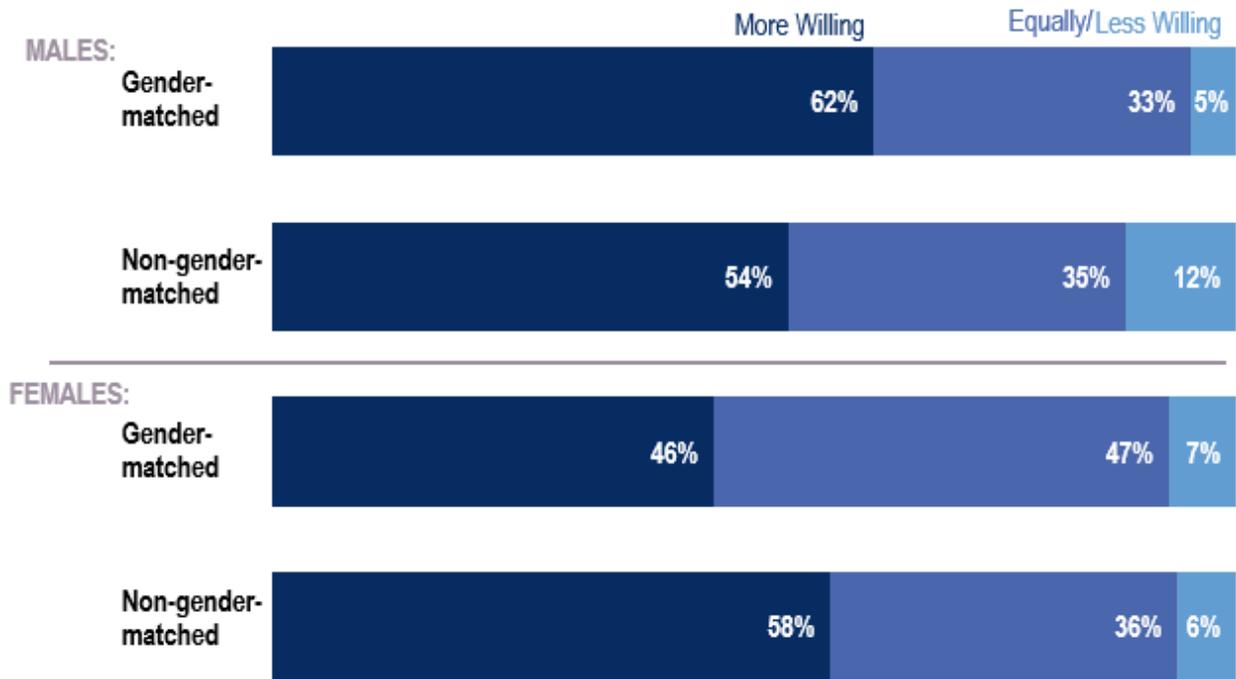
The majority of gender-matched males are more willing to speak with male interviewers, whereas the majority of gender matched females are less willing to speak with male interviewers.



Female respondents who are gender-matched are almost equally as likely to report that they are *more* or *equally as willing* to speak with another female interviewer (46% and 47%, respectively). Female respondents are more likely to express willingness to be interviewed by another female, though, when currently being interviewed by a male (58%), while another 36% of female respondents say they are *equally as willing* when not gender-matched. Although social desirability bias could explain the difference in female respondents' stated willingness to interview with males, it is not possible to draw any definitive conclusions from the data.

When asked about their willingness to participate in female-conducted interviews, a larger majority of men (62%) say they are *more willing* when currently gender-matched with a male interviewer, as compared to 33% who report that they are *equally as willing*. A majority of male respondents (54%) also report that they are *more willing* to participate in a female-conducted interview when currently interacting with a female interviewer, while 35% say they are *equally as willing*.

With the exception of gender-matched females, the majority of all other respondents are more willing to speak with female interviewers.

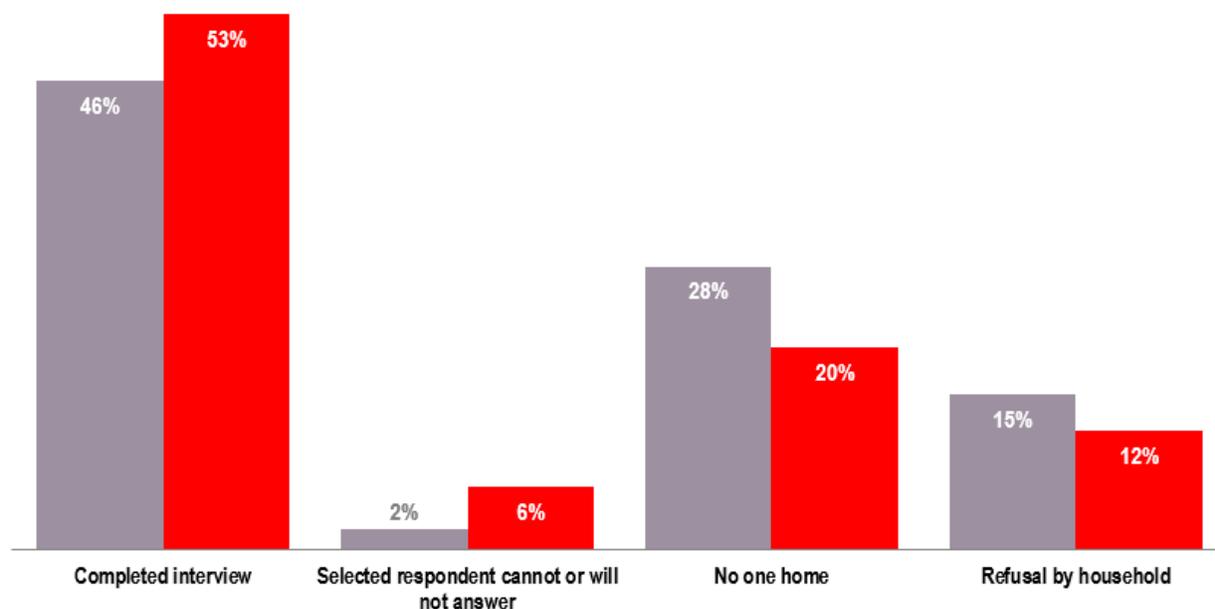


Interviewer Productivity by Gender

As explained in the methodology section, interviewers were instructed to record the outcome of each interview attempt on every household. The codes used to record dispositions were based off AAPOR’s standardized disposition codes. In the Egypt face-to-face survey, a total of 5,035 households were contacted; 2,251 households were contacted by male interviewers and 2,784 household were contacted by female interviewers. Thus, the sample size of both groups is sufficient to compare the household disposition data of female interviewers with that of male interviewers.

Female interviewers were more likely to complete interviews with someone at the household than **male interviewers**.

Male interviewers were more likely than **female interviewers** to find no one home or have someone refuse at the door.



These results support the aforementioned findings of bias towards female interviewers. Female interviewers were more successful at completing interviews than male interviewers; fifty-three percent of female contacts led to a completed interview, in comparison with 46%, a statistically significant difference.⁴ Furthermore, male interviewers were more likely to have no one answer at the door or have someone in the household turn them away. Twenty-eight percent of male interviewer attempts resulted in no one answering the door, compared with only 20% of attempts among female interviewers. Fifteen percent of male interviewer attempts resulted in a refusal by the household, as compared with 12% of female interviewers. However, female interviewers were more likely to have the selected respondent refuse to complete an interview (6%) than male interviewers were (2%).

Thus, female interviewers appeared to have two advantages in interviewing respondents. The first advantage is that they were more likely to determine the eligibility of respondents, as Egyptians were more likely to open the door and answer screening questions to a female interviewer than a male interviewer. The second advantage is that, of households who were successfully identified as eligible for the survey, female interviewers were more likely to complete an interview than male interviewers.

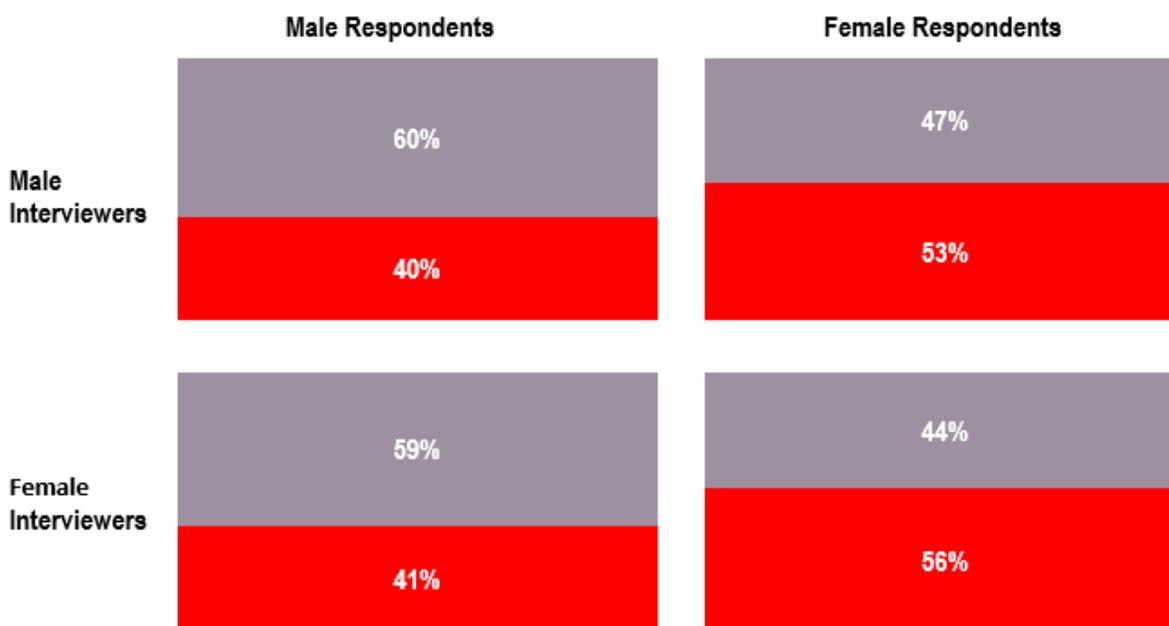
⁴ Difference of proportions tests were used to determine statistical significance at the level of $p < 0.05$.

Effects of Gender on Household Listing

In each interview, respondents were asked to list the age and gender of all residents of their household aged 18 and above. This exercise was important, since face-to-face surveys often use a household listing mechanism, such as a Kish grid, to select a respondent from among the household residents; in fact, Kish grids were used to select the respondent for this survey. If interviewer gender biases the list of household residents, it biases the selection of respondents.

The results from a dataset that includes all listed residents (n=7,413) indicate that interviewer gender does not appear to bias results by household gender. Controlling for respondent gender, the differences in resident gender breakdown between male interviewers and female interviewers are not statistically significant. However, when controlling for interviewer gender, the differences in resident gender breakdown between male and female *respondents* is statistically significant. These results would suggest that respondent gender, not interviewer gender, may bias the list of household residents towards the respondent's gender.

Male respondents reported a larger share of male residents to both male and female interviewers, and female respondents reported a larger share of female residents.

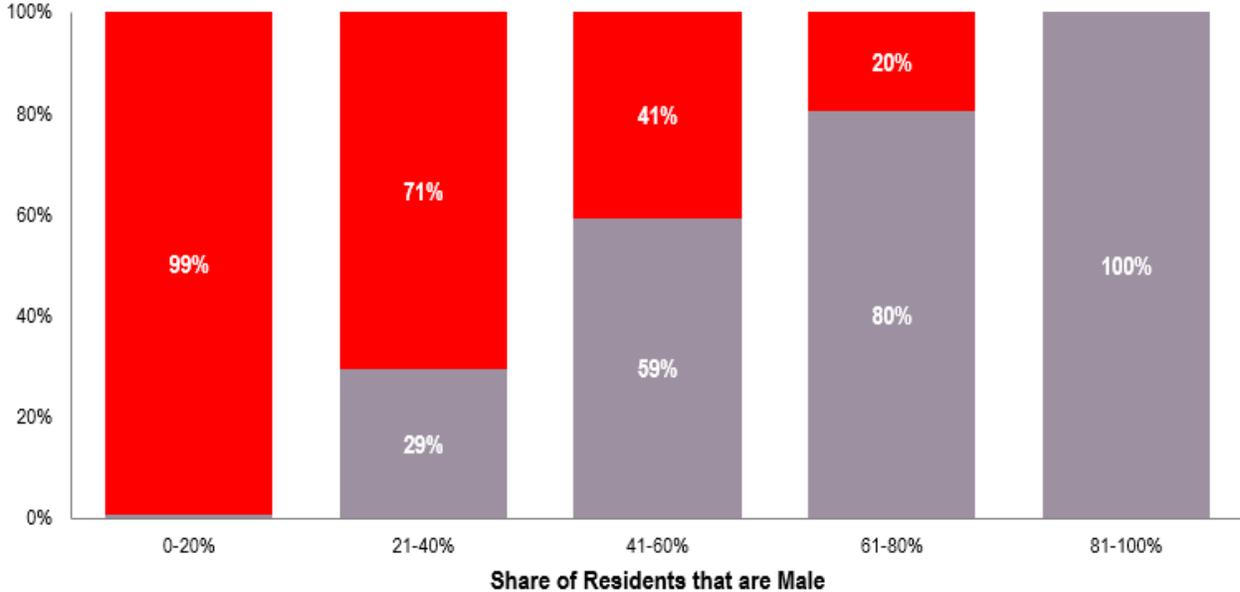


But there is an alternative explanation for why male respondents report more male residents and female respondents report more female residents. Rather than the respondent's gender having an effect on the gender breakdown of the listed household, the causality may run in the opposite direction. If an interviewer encounters a household with more male residents, he or she is more likely to select a male respondent. Conversely, if an interviewer encounters a household with more female residents, he or she is more likely to select a female respondent.

It is not possible to tell from these data whether respondent gender was driving the resident gender ratio, or if the resident gender ratio was driving the respondent gender. But these results do seem to show that interviewer gender does not have a significant impact on resident gender ratio, as reported by the respondent.

Households with a larger share of male residents were more likely to have a male respondent selected.

Households with a larger share of female residents were more likely to have a female respondent selected.



CONCLUSION

The implications of this analysis can improve how researchers conduct public opinion surveys in Egypt. Better understanding the population of the largest and one of the most influential countries in the Middle East is an important first step to improving public opinion research in this region overall, although more studies are needed to determine best practices in other Arab countries specifically. Conducting this survey in the middle of Egypt's political transition illustrates that it is not only possible, but also critical to capture public opinion data in times of social unrest, lending insights to the underlying tensions affecting a crisis. In light of the numerous uprisings defining the Arab Spring and the important role Egypt played in this historic event, the timeliness and importance of this research cannot be understated.

One major insight gleaned from this analysis is that female interviewers tend to be more productive than male interviewers overall. From respondents' answers, it is evident that both men and women are more willing to participate in interviews conducted by females, as opposed to those conducted by males, regardless of the current interviewer's gender. This is further supported within the household disposition data, where it is evidenced that female interviewers are more successful both in determining the eligibility of respondents and in completing interviews when compared to male interviewers.

With regards to gender-matching, no definitive best practice emerges from the data; however, the analysis does provide sufficient insights that should be taken into consideration while designing a project's methodology. As previously illustrated, the willingness of gender-matched respondents to participate in an interview conducted by someone of the opposite gender often varies greatly when compared to the willingness of non-gender-matched respondents to do the same. It is arguable that this variation in responses is crucial to capturing a more complete, average portrait of public opinion across each gender and all gender-matching scenarios; however, the variation in responses inherent in this approach introduces additional error into the data. The benefit to formally incorporating gender-matching into a project's methodology is that it can reduce the aforementioned variation in responses and yield a more precise, targeted representation of public opinion. Depending on the purpose of the research project, one approach may be more appropriate than the other, and it is important to consider the implications of both when designing the methodology.

As researchers, we serve as the conduit between public opinion and the decision makers responsible for implementing programs and policies that affect society at large; therefore, we must constantly strive to improve our methodological approach to data collection and provide the highest quality data possible so policy makers can make well-informed decisions. Empowered with a better understanding of *how* to most effectively reach and engage target populations in Egypt, we as researchers can fulfill our obligation to produce highly accurate public opinion data from one of the most influential countries in the Middle East.