COVID-19 Knowledge, Attitudes and Practices (KAP) Survey
April (Round 1) and May (Round 2) 2020
Northwest Syria Analysis

CONTEXT

As of 7 July 2020, northwest Syria has still reported no confirmed cases of COVID-19.[1] With no outbreak on the horizon and an ongoing humanitarian crisis only exacerbated by restrictions put in place to slow the spread of the impending epidemic, COVID-19 preventive measures were relaxed in the region. The risk of a COVID-19 outbreak continues to be a possibility, however, as cases in the rest of Syria continue to rise (as of 7 July 2020, 372 confirmed cases and 14 deaths[2]) and many experts predict a second wave of global infections in the fall/winter of 2020/2021.[1]

The Humanitarian Needs Assessment Programme's (HNAP) 18 May 2020 COVID-19 Rapid Assessment showed that all total curfews and all partial curfews except for one had ended in areas controlled by non-state and Turkish-backed armed forces (NSAG & TBAF). A community lockdown was still in place in one sub-district and public spaces were still closed in fifteen sub-districts. Awareness campaigns were in place in 30 sub-districts (out of 42), while temperature checks were in place in 26 sub-districts and distribution of soap/disinfectant/masks were available in 7 sub-districts. When looking at services that were available in sub-districts prior to the emergence of COVID-19, most basic services were available in most sub-districts, although public health services were only partially available in 29% of sub-districts and completely unavailable in 2% of sub-districts.[3]

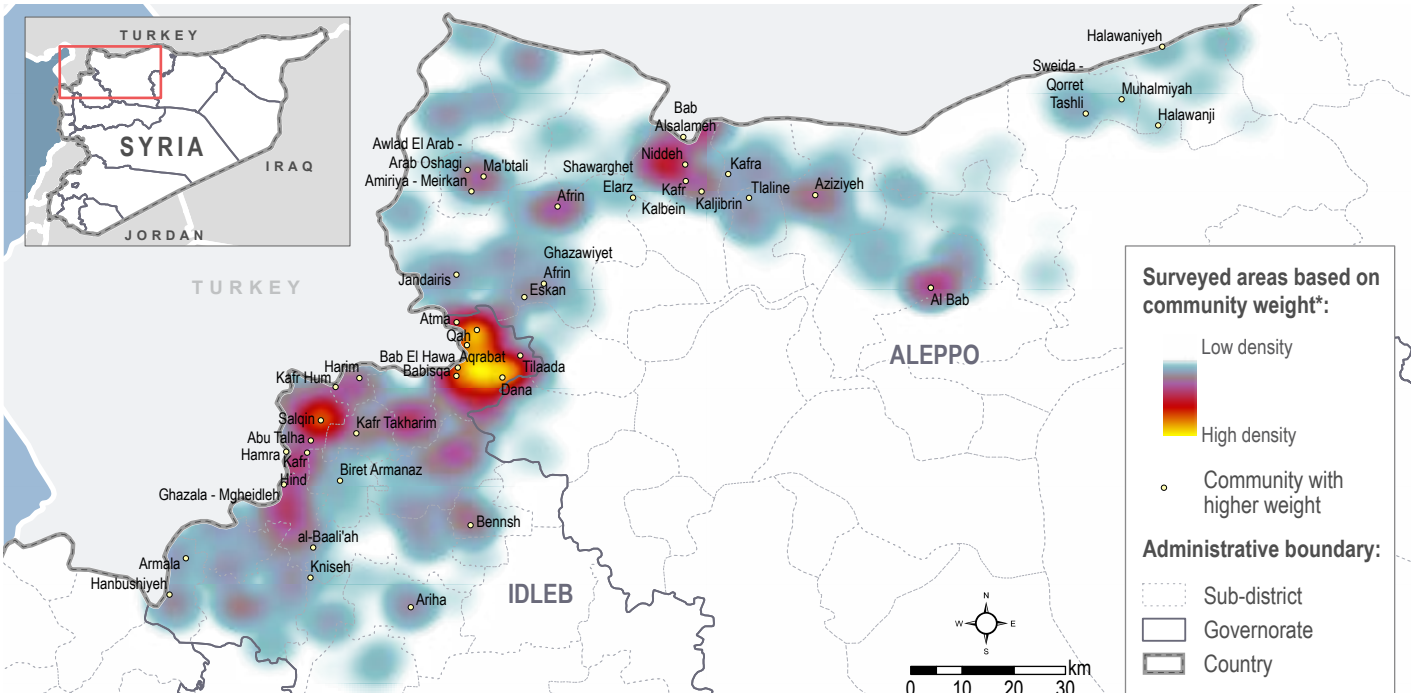
In April 2020, REACH began a series of monthly knowledge, attitudes, and practices (KAP) surveys with the goal of informing the communications response to the threat of COVID-19 in northwest Syria. REACH observed high levels of COVID-19 knowledge among survey respondents in the first round of data collection, which was conducted in late April as communication efforts and curfews were well under way. Greater wariness of COVID-19 was seen among attitudes and practices responses, especially among female respondents. In the second round of data collection, which was conducted in late May as restrictions lifted, knowledge remained high while attitudes and practices had shifted to less cautious in relation to COVID-19 among both female and male respondents.

Descriptive statistics are available here for each specific KAP indicator, disaggregated by governorate, sex, and rural/urban population. The present factsheet provides more in-depth analysis of changes in knowledge, attitudes, and practices over time and among cohorts of respondents in northwest Syria.

METHODOLOGY

REACH conducted a KAP survey in two governorates of northwest Syria from 16-23 April 2020. A total of 943 individual interviews were collected using non-probability sampling (Aleppo: 390 interviews; Idleb: 553 interviews). An in-depth explanation of the methodology of this survey can be found here. The second round of data collection was conducted from 17-22 May 2020 with the same individuals surveyed in the first round of data collection. Of the original 943 respondents, the sample reduced to 819 respondents in the second round due to loss to follow up and data quality issues related to uncertainty that the same respondents were interviewed for each round (Aleppo: 335 interviews; Idleb: 484 interviews). As in the first round of data collection, the sample was calibrated against an existing household survey to increase its representativeness. More information about the particulars of this calibration can be found in Appendix B at the end of this factsheet.

HEAT MAP OF WEIGHTED SURVEY AREAS



* This heat map displays the relative density of surveys, using a color scheme ranging from cool (low density) to hot (high density). For this heat map, a weight generated from a generalized regression estimator was applied, and densities represent the weighted survey population. Applying a weight means that survey responses were adjusted to match the proportions of a pre-existing, representative dataset so that the survey more accurately represents the population of interest.

The survey administered in round 2 was the same survey as that administered in round 1, with a few minor changes (one question on existing myths of COVID-19 was added, and categories were added to one question asking about sources of information). Similar to the survey in round 1, an experimental section of vignettes was also included. Vignettes are very short, hypothetical scenarios which were presented to respondents to gauge their responses to various COVID-19 situations. Each respondent was randomly assigned to answer one scenario for two different types of vignettes. While the format of this vignettes section remained the same between rounds of data collection, the content of vignettes was changed for round 2 and is described further in the vignettes section below.

For comparability, only respondents with complete surveys available for both rounds 1 and 2 were included in the analysis (total: 819). Analysis was conducted using proportion tests of significance between weighted samples for each round. Regressions were also run looking at significant predictors for outcomes. These statistical tests were considered exploratory and contextual; while the results informed the factsheet, they are not presented numerically. Because the vignettes section of the survey was a randomized experiment, these results are presented as a series of regressions and average marginal effects. A more detailed explanation of the analysis methodology can be found in Appendix B at the end of this factsheet.

Results are framed through a Risk Communication and Community Engagement (RCCE) action plan which was developed by the United Nations International Children's Emergency Fund (UNICEF) for the northwest Syria COVID-19 response. The action plan includes source, message, channels, and target audience to guide messaging campaigns in northwest Syria. This action plan was examined to see where KAP survey data could inform messaging efforts, and as such messages are presented with corresponding analysis results.

LIMITATIONS

Due to the methodology used, findings are not statistically representative and should only be considered as indicative of the situation in assessed areas. The rapidly evolving context in the assessed areas, especially with regards to the COVID-19 situation, also means that findings are only indicative of the situation at the time the data was collected (16 to 23 April 2020 for round 1; 17 to 22 May for round 2).

RESULTS BY RCCE ACTION PLAN MESSAGE

Message: Wash your hands frequently.

• Recommendation:[4] Target rural people with messaging about the importance of washing hands. Explore reasons why rural people's hand washing practice is decreasing, and ensure they have access to means for hand washing.

• The proportion of respondents who mentioned hand washing as a measure to limit the spread of COVID-19 significantly increased by 8% between rounds 1 and 2. This was driven by an increased proportion of older persons (40 years and above) who mentioned this measure.

• The proportion of respondents who reported practicing hand washing decreased by 6% in northwest Syria between rounds 1 and 2. This was driven by decreasing reported hand washing practice among rural men and women.

Message: Maintain social distancing.

• Recommendation: Messaging should focus on preventive measures even as people move about and should target men (e.g. wear a mask when you leave, maintain distance with other people even when out), as social distancing practices are unlikely to change unless there is a spike in COVID-19 cases. Significant changes in social distancing practices were observed more frequently among women than men, likely because women were observing social distancing practices more strictly than men from the beginning of the epidemic. Even so, women are still more likely to practice social distancing than men.

• Some social distancing practices decreased significantly, although changes were not as great as changes observed in northeast Syria. Between rounds:

- The proportion of respondents who said they had greeted someone physically in the last week increased from 86% to 91%;
- The proportion of respondents who said they had left the house in the past week increased by from 89% to 93%; and
- The proportion of respondents who said they were washing their hands more than normal decreased from 66% to 57%.

• Rural women changed their social distancing practices the most, as the proportions of respondents in this cohort reporting practicing social distancing significantly increased between rounds 1 and 2. Rural and urban men had the lowest proportions of respondent with substantially changing social distancing practices.

• Between rounds 1 and 2, a significant proportion of women going to work increased, while a significant proportion of men going to work decreased. Women were still less likely than men to have gone to work in the past week.

Message: If you have fever, cough, and difficulty breathing, share information with your health provider and seek medical assistance.

• Recommendation: Messaging around the importance of calling a healthcare professional as a first line of defense against suspected viral infection could target populations in Idleb. Knowledge of COVID-19 symptoms is high, and knowledge of even lesser-known symptoms is increasing. Most respondents said they would seek some form of medical care, whether in person or remote, if they or someone in their family contracted COVID-19.

• Knowledge of COVID-19 symptoms started out high and stayed high between rounds. Almost 90% of respondents identified both cough and fever as symptoms in both rounds 1 and 2. The proportion of respondents knowing about less common symptoms like aches, pains and rashes also substantially increased between rounds.

• There was a substantial increase between rounds in the proportion of respondents who said they would call a doctor and/or go to the hospital if someone in their family contracted COVID-19.

• There was a substantial increase in the proportion of rural men who said they would go to the hospital and an increase in the proportion of urban men who said they would go to the clinic if they or someone in their family contracted COVID-19.

• There was a substantial increase in the proportion of rural women who said they would call a doctor, but a decrease in the proportion of rural women who said they would go to a clinic.

• Respondents in Idleb were less likely than respondents in Aleppo to

say they would call a doctor if they or someone in their family contracted COVID-19, but were more likely to say they would go to the hospital.

• Previous experimental models from round 1 of data collection (see here) suggest that while feeling ill significantly reduces the chances of visiting friends or family in the next week, the likelihood of visiting someone even if a person feels ill is still over 50%.

Message: Continue breast feeding normally.

• Recommendation: Cohorts that could benefit from targeted messaging about breastmilk include urban women. Few respondents (round 1: 5%; round 2: 7%) think that COVID-19 can be transmitted through breastmilk.

• The proportion of respondents who thought that COVID-19 can be transmitted through breastmilk increased between rounds by 2%. This was mostly due to an increase of 10% among urban women who named breastmilk as means of virus transmission.

Message: People can catch COVID-19 by touching contaminated surfaces or objects.

• Recommendation: Knowledge that COVID-19 can be transmitted from contact with an infected object does not substantially differ among populations, and knowledge about this is increasing. The transmission route of infected surfaces was still identified by less than 60% of respondents, so messaging on this should continue to all populations.

• The proportion of respondents who knew that COVID-19 can be transmitted from contact with an infected surface increased substantially between rounds (round 1: 52%; round 2: 58%). This was largely due increased knowledge among older, urban populations.

Mythbusters.

• Recommendation: Targeted messaging about the most common myths, drinking boiled herbs and exposing oneself to the sun, could benefit rural populations. The proportion of respondents who reported hearing any myths about COVID-19 was no greater than 53% for any myth.

• Myths related to COVID-19 were not surveyed in the first round of data collection so no data is available about change over time.

• The most popular myth people had heard for preventing contracting COVID-19 was drinking boiled herbs such as anise (reported by 53% of respondents), followed by exposing oneself to sun or high temperatures (reported by 38% of respondents).[5] Rural respondents were more likely to have heard both of these myths. Rural respondents were also more likely to have heard that avoiding bug bites prevents the spread of COVID-19.

For communications teams: messaging channels.

• Recommendation: Social media is widely used as a source of information, but is less trusted than health workers. As resources permit, increasing contact of populations with health workers may help to increase trust around COVID-19 messaging.

• Social media is the most frequently mentioned source of information (86%), followed by family/friends (66%) and health workers at health facilities (43%).[5] The proportion of respondents mentioning family/friends and health workers at health facilities as sources of information increased between rounds: from 63% to 66% and from 28% to 43% respectively. Unlike northeast Syria, television is not an important or trusted source of information in northwest Syria.[5]

• The proportion of respondents reporting trust in health workers increased substantially from 51% to 62% between rounds.

• The proportion of respondents reporting social media as a source of information increased among older men and women but the proportion of respondents reporting it as a trusted source decreased among younger men.

• The proportion of respondents reporting relying on health workers as a source of information and trusting this source increased among all cohorts.

Message: Stigma can be heightened by insufficient knowledge about how COVID-19 is transmitted and treated, and how to prevent infection.

• Recommendation: Current messaging strategies for the elderly should be maintained to increase knowledge even more in this vulnerable group. Knowledge of transmission routes and at-risk groups to COVID-19 was greater than 75% by round 2, and increasing substantially among older populations.

• Many respondents reported that COVID-19 can be transmitted through the air (round 1: 82%; round 2: 84%), and this did not change substantially between rounds. Among older respondents, the proportion reporting that COVID-19 can be transmitted through the air did substantially increase (by 17% between rounds).[5]

• The elderly were most commonly reported by respondents as a vulnerable population to COVID-19 in both rounds, with almost two-thirds of respondents identifying this group in each round (round 1: 73%; round 2: 76%). Among elderly people themselves, the proportion who identified 'elderly' as an at-risk group substantially increased by 13%.[5]

Additional attitudes information (not in action plan): Respondents are less worried about COVID-19.

• Recommendation: While all populations may benefit from additional messaging that enables populations to be more informed about the risks of contracting COVID-19, older women may benefit from additional targeting. Most people did not perceive a change in the likelihood of contracting COVID-19 between data collection rounds, but they were less worried than they were when surveyed in round 1. The exception is rural men, who seemed to see the likelihood of contracting COVID-19 increasing, and older women, who saw the likelihood of contracting COVID-19 decreasing.

• Respondents were substantially less worried about COVID-19 in round 2 as opposed to round 1. The proportion who said they were personally somewhat or very worried decreased by 7% and 5% respectively, while the proportion who said they were only a little worried increased by 14%.

• There was little change in perceptions of the likelihood of contracting COVID-19 (within the month following data collection) between the two rounds, with the exception of rural men and women over the age of 50. Among rural men, there was a decrease in the proportion who thought it very unlikely that they or someone on their family would contract COVID-19. Among women over the age of 50, there was an increase in the proportion who thought it unlikely they or someone in their family would contract COVID-19.

Additional knowledge information (not in action plan): Many people do not understand that COVID-19 can be transmitted even if a person is asymptomatic.

• Recommendation: Young, rural men could be targeted with

messaging about asymptomatic carriers of COVID-19.

• Over half of respondents in both rounds (round 1: 52%; round 2: 57%) thought that all carriers of COVID-19 show symptoms, with a substantial increase in the proportion of respondents who reported believing this between rounds 1 and 2. The the increase in the proportion of respondents who believe that all carriers of COVID-19 show symptoms was largely due to substantial increases in this belief among young, rural men.

FACTORS INFLUENCING SOCIAL DISTANCING - VIGNETTE EXPERIMENT

Scenarios measure perceptions of respondents in response to different hypothetical situations. As such, they should be interpreted as perceptions only, and not as certain outcomes. The following messages are based on the results of the vignette scenarios, which are hypothetical situations introduced in the methodology section above and further described in Appendix B below.

Key messages for risk and behavior change communication:

• A strict curfew (people are only to leave their house for essential reasons) deterred people from leaving their house significantly more than a flexible curfew (curfew is maintained but people are allowed to leave house) or no curfew. A flexible curfew deterred people from leaving their house more than no curfew.

• The type of messaging channel did not have a substantial effect on deterring people from leaving their house in the next week, but of the messaging channels a visit from an NGO had the strongest effect.

• Young men were the most likely to leave their house, regardless of the proposed scenario. Overall, age was a more important determinant of movement than gender.

Scenario 1

Scenario 1 looked at the likelihood that individuals would leave their house in the next week based on varying age (23 / 25 / 27 years old vs. 54 / 58 / 64 years old) gender (male / female), and channel by which messages urging people not to leave their house for non-essential reasons were disseminated (message from public official on television / visited in house by NGO worker / WhatsApp message from NGO). A sample scenario went as follows: "Imagine that a woman, 25 years old, hears a message from a public official on the television urging people not to leave their houses for non-essential reasons. Within the space of a week, how likely is she to leave her house to visit family or friends?"

Results

The model suggests that younger people are 23 percentage points more likely to visit family/friends in the next week than older people, regardless of the channel through which a message was disseminated.

No substantial differences were observed between the likelihood of males or females visiting family/friends in the next week.

Compared to a scenario in which a person had received a message discouraging movement from their house from an official on television, average marginal effects indicated that people were 5 percentage points less likely to leave their house if they received an in-person visit from an NGO (p value: 0.18; 95% CI: -0.13, 0.02). The effect of a WhatsApp message was not substantially different from the effect of a message from an official on television.

A visit from an NGO worker is more likely than a message from an official on television or a WhatsApp message from an NGO to be effective at influencing behavior of people considering whether or not to leave their house, although this effect is not strong.

Scenario 2

Scenario 2 looked at the likelihood that individuals would leave their house in the next week based on varying age (25 years old / 55 years old), gender (male / female), and curfew status implemented by local authorities in the individuals' area (strict curfew, people only to leaves houses for essential reasons / maintained curfew, people encouraged not to leave house for non-essential reasons / no curfew). A sample scenario went as follows: "Imagine that the local authorities announce introduction of curfew but continue to allow people to leave their houses. Within the space of a week, how likely is a 55 yr. old woman to leave her house to visit family or friends?"

Results

The model suggests that younger people are 8 percentage points more likely than older people to leave the house in the next week, regardless of the curfew status.

The model suggests no substantial difference in the likelihood that males or females will leave their house in the next week, regardless of curfew status.

A strict curfew deterred people from leaving their house by 36 percentage points more than no curfew. A flexible curfew deterred people from leaving their house by 16 percentage points more than no curfew.

Under a strict curfew, the probability of a person leaving their house in the next week is still 43 percent. A flexible curfew increases the probability to 63 percent. A flexible curfew may still encourage social distancing in a way that slows the spread of a potential COVID-19 outbreak while mitigating some of the devastating economic effects of a strict curfew.[5]

More information on modeling methodology is available in Appendix B; summary probability and average marginal effect tables for both vignettes can be found in Appendix A.

Endnotes

The complete northwest Syria KAP dataset is available here.

1. OCHA/WHO. Syrian Arab Republic: COVID-19 Response Update No. 06. 19 June 2020.
2. COVID-19 Dashboard by the Center for Systems Science and Engineering at Johns Hopkins University.
3. Humanitarian Needs Assessment Programme. COVID-19 Rapid Assessment: Non-State & Turkish-Backed Armed Forces Controlled Areas. 8 June 2020.
4. Recommendations were framed by REACH based on the results from the data collected. However, more in-depth assessment would be needed to understand the impact and efficiency of messaging as well as the type of intervention needed.
5. Respondents could select multiple answers so total may be greater than 100%.
6. Impact of COVID-19 on Markets in Northern Syria. Snapshot: 6-9 April 2020.

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Appendix A - Results Tables

Vignette 1

Table 1: Model Predicted Probabilities - Vignette 1

Gender	Age	Information source	Probability
Male	Younger	WhatsApp message from NGO	0.7980229
Female	Younger	WhatsApp message from NGO	0.7881498
Male	Younger	Official on television	0.7836489
Female	Younger	Official on television	0.7732728
Male	Younger	Visit from an NGO worker	0.7391570
Female	Younger	Visit from an NGO worker	0.7273894
Male	Older	WhatsApp message from NGO	0.5830931
Female	Older	WhatsApp message from NGO	0.5683960
Male	Older	Official on television	0.5618219
Female	Older	Official on television	0.5469575
Male	Older	Visit from an NGO worker	0.5007731
Female	Older	Visit from an NGO worker	0.4857335

Table 2: Average Marginal Effects - Vignette 1

Factor	AME	SE	z	p	Lower	Upper
Age - older vs. younger	-0.01271	0.031565	-0.4	0.687	-0.07458	0.049152
Info source - NGO visit	-0.05296	0.039571	-1.34	0.181	-0.13052	0.024598
Info source - NGO WhatsApp	-0.017903	0.038277	-0.47	0.64	-0.05712	0.092925
Gender - female vs. male	-0.22719	0.031726	-7.16	0	-0.28937	-0.165

Table 3: Average Predicted Probabilities - Vignette 1

Factor	Probability
Gender	
Male	0.6646357
Female	0.6519209
Age	
Younger	0.7681136
Older	0.5409269
Information source	
Official on television	0.6694989
Visit from an NGO worker	0.6165388
WhatsApp message from NGO	0.6874018

Vignette 2

Table 1: Model Predicted Probabilities - Vignette 2

Gender	Age	Information source	Probability
Female	Younger	No curfew	0.838876
Male	Younger	No curfew	0.798945
Female	Older	No curfew	0.781415
Male	Older	No curfew	0.731797
Female	Younger	Flexible curfew	0.703584
Male	Younger	Flexible curfew	0.644339
Female	Older	Flexible curfew	0.619745
Male	Older	Flexible curfew	0.554358
Female	Younger	Strict curfew	0.507842
Male	Younger	Strict curfew	0.440581
Female	Older	Strict curfew	0.414696
Male	Older	Strict curfew	0.350974

Table 2: Average Marginal Effects - Vignette 2

Factor	AME	SE	z	p	Lower	Upper
Age - older vs. younger	-0.07968	0.031745	-2.51	0.012	-0.14190	-0.01746
Flexible curfew	-0.15728	0.037814	-4.16	0.0	-0.23139	-0.08316
Strict curfew	-0.35913	0.037459	-9.59	0.0	-0.43255	-0.28571
Gender - female vs. male	0.057295	0.031704	1.81	0.071	-0.00484	0.119434

Table 3: Average Predicted Probabilities - Vignette 2

Factor	Probability
Gender	
Male	0.586554
Female	0.643849
Age	
Younger	0.658139
Older	0.578457
Type of curfew	
No curfew	0.787423
Flexible curfew	0.630145
Strict curfew	0.428291

Appendix B - Methodology

Calibration Methodology

Respondents for the survey were recruited through a nonprobability sample. The survey was then calibrated using a generalized regression estimator. Calibration increases the weight of some respondents and decreases the weight of other respondents in reference to a pre-existing, representative dataset so that the survey more accurately represents the population of interest.

The survey was calibrated on four variables: gender, age, governorate, and community size. Several other variables, namely shelter status and number of household members working, were considered but the survey proportions for these variables were judged acceptable.

Three categories for age were utilized: 18 – 34, 35 – 59, and 60 and older. Communities were categorized as large (> 20,000 inhabitants), medium (20,000 – 2,000 inhabitants), and small (<2,000 inhabitants). Estimates for gender and age were taken from an unpublished representative survey for NWS. Population estimates were taken from HNAP's February Mobility and Needs Monitoring, which is availble upon request from HNAP.

After calibration, the survey proportions for the calibration variables (gender, age, governorate, and community size) exactly matched the estimated population proportions. Proportions were also compared to several benchmark variables: proportions for marital status and displacement status (internally displaced person (IDP) vs. host community) were within three percentage point of population estimates and proportions for chronic illness were within five percentage points.

The code for the calibration is available upon request. For background information on using generalized regression estimators to calibrate survey data see Thomas Lumley, Complex Surveys: A Guide to Analysis Using R, p. 135 – 65. For an overview of approaches to weighing nonprobability samples see Carina Cornesse et.al., "A Review of Conceptual Approaches and Empirical Evidence on Probability and Nonprobability Sample Survey Research," Journal of Survey Statistics and Methodology, February 2020, p. 4–36. For a less technical introduction see Andrew Mercer, Arnold Lau, and Courtney Kennedy, "For Weighing Online Opt-in Samples, What Matters Most?" Pew Research Center, January 2018.

Analysis Methodology

Factorial survey experiments (vignette experiments) are a well-established method of inferring causal relationships between factors (expressed as variations in vignettes) and respondents perceptions or judgments. In a context where respondents' answers are likely to be influenced by social desirability bias (i.e. respondents might be tempted to over-report their likelihood of practicing social distancing), factorial experiments minimize bias by inquiring about the action of a hypothetical individual instead of the action of the respondent. Ulf Liebe et. al provide an overview of the use of factorial experiments in development contexts in "Using Factorial Survey Experiments to Measure Attitudes, Social Norms, and Fairness Concerns in Developing Countries," Sociological Methods & Research, October 2017. For an example from the Syrian context, see The World Bank's "The Mobility of Displaced Syrians: An Economic and Social Analysis" pages 221 – 225.

The results of the factorial survey experiments were estimated with logistic regression models. The independent variables for vignette 1 were gender of the character in the vignette (female vs. male), source of information telling people not to leave their houses (official on television vs. Whatsapp message from NGO vs. in-person visit from NGO worker), and age of the character in the vignette (older, i.e. 50+ years old in the vignette vs. younger, i.e. younger than 30 years old in the vignette). The independent variables for vignette 2 were gender of the character in the vignette (female vs. male), type of curfew in the vignette (no curfew vs. flexible curfew vs. strict curfew), and age of the character in the vignette (older, i.e. 55 years old in the vignette vs. younger, i.e. 25 yrs old in the vignette). The dependent variable in both vignettes was the respondent's response as to how likely the character was to leave the house to visit family/friends within the space of a week. Responses were binned into very likely/likely vs. neutral/unlikely/very unlikely. Logistic regressions represent the log odds that the respondent selected very likely/likely as their response compared to the log odds that the respondent selected neutral, unlikely, or very unlikely as their response, controlling for each independent variable.

The average marginal effects (AME) were then estimated for all independent variables. For a binary, independent variable such as gender, the AME approximates the difference between the average predicted probability for all combinations of independent variables that include female (e.g. predicted probability for 25 yr. old female in a scenario where there is no curfew, predicted probability for 55 yr. old female in a scenario where there is a flexible curfew, etc.) and the average predicted probability for all combinations of independent variables that include male.

Logistic regressions fitted for data collected by two separate data collection teams working on NES and one data collection team in NWS to ensure that results were comparable. Receiver operating characteristic (ROC) curves were examined for all logistic regressions and area under the curve (AUC) was calculated. Goodness-of-fit testing was also conducted, and logistic regressions with interactions for all independent variables were examined, but the inclusion of interactions had no significant effect on AME.