COVID-19 Coronavirus and Social Distancing Survey Results

------------ Preliminary Draft ------------

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OVERVIEW:

The COVID-19 Coronavirus and Social Distancing Survey was made available on-line between Thursday, March 19, and Sunday, March 22, 2020. In total, 26,505 respondents from Wisconsin completed the survey. The goal of the survey was to (a) determine the characteristics of individuals who currently do not yet fully comply with recommended social distancing, (b) understand what prevents them from doing so, (c) examine the types of persuasive messages that they are likely responsive to, and (d) identify the media channels through which they can be reached.

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Executive Summary

The "COVID-19 Coronavirus and Social Distancing Survey" was completed online by 26,505 residents of Wisconsin.

Nearly two thirds of the respondents reported that they engage in "very much" social distancing (response option 5 on a 5-point scale). Those who currently do not engage in the recommended social distancing are on average younger than those who do, but no socio-demographic category as being drastically more or less compliant than others.

Those who engage in more social distancing are also more likely to believe that it is effective and that similar others currently engage in social distancing. Comparatively, perceived likelihood of becoming infected with the COVID-19 coronavirus in the near future and knowledge transmission are unrelated to self-reported social distancing. The less repondents engage in social distancing, the more they say that they do not know which behaviors count and do not count as social distancing.

Most individuals who currently do not yet fully comply with recommendations on social distancing report that practicing social distancing is consistent with the fact that they generally care about other people. The vast majority of them personally know someone who is likely to suffer serious negative consequences if infected with the COVID-19 coronavirus. Messages that appeal to people's sense of responsibility and sanse of caring for others are likely to be effective.

The most frequently reported barriers to practicing more social distancing are structural in nature, i.e., respondents' work, family, and other obligations prevent them from doing more. Concerns about keeping busy or deteriorating mental health also prevent some individuals from practicing more social distancing.

The best way to reach the indivduals who should be engaging in more social distancing is through Facebook and, to a lesser extent, through Instagram and YouTube.

The survey participants were recruited through social media and are thus not representative of the residents of Wisconsin. An analysis of the demographic data confirmed that our sample contained a disprorotionate number of women and of young individuals. The results should thus be interpreted with caution.

This report has important implications for everyone whose goal it is to get others to practice more social distancing in order to prevent the rapid spread of COVID-19 coronavirus. Social marketers, practitioners, and social influencers will find in this report useful information that will help them design messages that effectively change people's social distancing behavior.

Background

On March 17, a group of interdisciplinary researchers, outreach specialists, and practitioners formed a losely defined group with the goal to examine what can be done to get a larger percentage of people in Wisconsin to comply with the social distancing recommendations. Both Gavin Luter, Managing Director of the UniverCity Alliance, and Gail Sumi, Member Engagement and Communications Director at the Wisconsin League of Municipalities, along with Haley Madden of the Morgidge Center for Public Service were instrumental in forming the group. Numerous graduate students and undegraduate students joined the group offering their help with various tasks.

With documented widespread "community transmission" (the virus being transmitted by individuals with no travel history) COVID-19 is already established in the US population. Social distancing – the deliberate increase of physical space between individuals – is one of primary factors that slows down the spread of the virus. Public health officials, therefore, have established "social distancing" as an urgent top priority. New model estimates show we should try to reach 90% compliance across the US population (MITRE, 2020).

The goal of the group was to develop persuasive and effective communication tools – primarily for social media, but also more generally for other communications about COVID-19 – to get a larger number of individuals to comply with social distancing recommendations. During a zoom meeting on March 18 the group members came to the conclusion that it was necessary to learn more about the individuals whose behavior we wanted to change. It was decided to conduct a survey among Wisconsin residents, initially with a convenience sample due to the time sensitivity of the issue, but to be followed up by a probability sample.

The survey was created within a few hours, integrating the input from many group members. Thanks to the support by Laura Conger, senior analyst at the Institutional Review Board, the survey was approved overnight. It went live on Thursday, March 19, at noon.

Recruitment occurred through a snowball procedure on social media. Members of the group posted the link to the survey on their personal and professional social media platforms and asked readers to complete the survey and further distribute the link. Communication experts in many departments tweeted about the survey. Gail Sumi reached many individuals through distribution channels rleated to Wisconsin municipalities. Ann Grauvogl, GHI Senior Communications Specialist, published two highly influential articles about the survey on the websites of the Global Health Institute and University Communications.

By 10 pm on Sunday March 22, 32,940 individuals had completed the survey and 26,505 of these were residents of Wisconsin.

Survey

The goal of the survey was to better understand people's beliefs, attitudes, feelings, and self-reported behaviors related to social distancing and COVID-19 coronavirus. More precisely, we wanted to collect information that would allow us (or others) to design successful campaign to get people to intensify their social distancing. The survey consisted of several parts each measuring one or more specific constructs related to behavior change campaigns. These constructs are mentioned [in brackets] in the next paragraphs.

Some have argued that "physical distancing" is a more appropriate term than "social distancing," since one can increase physical space between one and others, yet still to be socially connected. After all, social connection is more important than ever in times of crisis. As we write the term "healthly distancing" is also beginning to be used. For reasons of simplicity, and from input by the Wisconsin Department of Health Services, the more widely known term "social distancing" was used in the present survey.

Social Distancing Behavior. Part 1 was about social distancing behavior. Our primary outcome variable was a question about the extent to which respondents currently practised social distancing. Respondents also answered related questions, such as whether they thought social distancing reduces the infection risk ("self-efficacy") and whether ther friends and similar others practised it ["perceived social norms"]. This part also contained general questions about the COVID-19 coronavirus, how likely they thought it was that they would get infected with the COVID-19 coronavirus in the next month ["perceived risk"] and how negative the consequences would be for them if they were to get infected ["perceived consequences"]. We also assessed how well participants were informed about COVID-19 coronavirus ["subject knowledge"].

Media Habits. Part 2 assessed media habits. Respondents were asked to report how frequently they used a variety of social media platforms, such as Facebook, Instagram, Snapchat, and Twitter. The goal of this part was to identify the media channels through which individuals can be reached for our campaign ["distribution channels"].

Effective messaging. Part 3 examined the type of messages that likely convince individuals to practice more social distancing. For example respondents were asked if they would do more social distancing if they became convinced that they were at a high risk of becoming infected or if they learned that their behavior would contribute to the prevention of older members of the community from becoming infected ["motivators," sometimes also refered to as "benefits"].

Barriers to Social Distancing. Part 4 asked respondents about factors that made it difficult for them to engage in more social distancing. The items assessed people's worries about not being able to keep busy or stay connected if they were to do more social distancing. Respondents were also asked to report whether social distancing was incompatible with their other obligations, the way they used drugs and/or alcohol, and whether they would worried that it would increase the severity of the mental health issues that they were struggling with ["barriers" to behavior change].

Socio-Demographic Questions. Part 5 consisted of standard socio-demographic questions such as age, gender identity, racial/ethnic identity, type of community (rural, urban, ect.), and education. Participants also indicated the extent to which their political views were liberal versus conservative on social and economic issues.

Respondent Comments. Part 6 consisted of open-ended questions where respondents could report their thoughts about the factors that facilitate or prevent them from practicing more social distancing.

Unless otherwise indicated respondents responded to most items using 5-point Likert response scales with appropriately labeled endpoints (e.g., 1 = "Strongly disagree" and 5 = "Strongly agree").

The complete survey can be found in Appendix 2.

Comparison Survey Sample versus Wisconsin Residents

	Survey Sample	Wisconsin Residents
Age		
20-29	20.1%	17.7%
30-39	27.7%	16.8%
40-49	24.3%	16.6%
50-59	16.1%	19.6%
60-69	8.2%	15.5%
70 years +	2.2%	13.4%
Gender identity		
Women	83.9%	50.3%
Men	15.1%	49.7%
Other/None of these	0.6%	-----
Racial/ethnic identity		
Arab / Middle Eastern	0.1%	NA
Asian / Asian American	1.1%	3.0%

Black / African American	0.3%	6.7%
Hispanic / Latina/o/x	0.8%	6.9%
Native American / American Indian		
/ First Nation	0.2%	1.2%
Pacific Islander / Native Hawaiian	0.0%	0.1%
White / Caucasian	94.3%	81.1%
Other / None of these	3.3%	2.0%

Type of community respondent lives in

Large city (> 100,000 inhabitants)	26.9%	14.6%
Suburb near a large city	25.2%	20.3%
Small city or town	34.4%	39.4%
Rural area	13.4%	25.8%

Highest degree or level of education respondent has completed

Some High School	0.3%	7.2%
High School	13.8%	51.6%
Bachelor's degree	44.1%	19.4%
Master's Degree	23.7%	7.3%
Ph.D. or higher	4.8%	1.2%
Other.	13.0%	13.3%

The comparison clearly shows that our sample is not representative of the residents of the State of Wisconsin, which is not suprising since it is a "convenience sample" recruited through social media, rather than a "probability sample" recruited through a survey institute. On average, the average member of our sample is younger, more female, more highly educated, and is more likely to live in either Milwaukee or Madison (the only cities with more than 100,000 inhabitants). The results of this report should thus be interpreted with caution.

The results presented below are "unweighted," i.e., each observation counts equally. In later editions of this report we will also present weighted results, which make the conclusions more generalizable to all residents of the State of Wisconsin.

Readers should also be aware that, as mentioned earlier, we are currently collecting data from a national "probability sample," i.e., a sample that is representative of all US residents. This sample will contain a "probability sub-sample" of Wisconsin, i.e., a part of the total sample that is representative of Wisconsin residents.

In addition to getting better information about race and ethnicity and socio-economic status in the radomized survey, we will also implementing a similar snowball survey via social media in Spanish, Chinese, Hmong, and Vietnamese, so that communication efforts can be informed by and responsive to these groups.

Results

1) The primary outcome variable - Self-reported social distancing:

Our primary outcome variable was the question: "Do you currently practice social distancing (in other words: do you deliberately increase the physical space between you and people to avoid spreading illness)?" [1 = "No, not at all" and 5 = "Yes, very much"]. Here is a distribution of the responses:
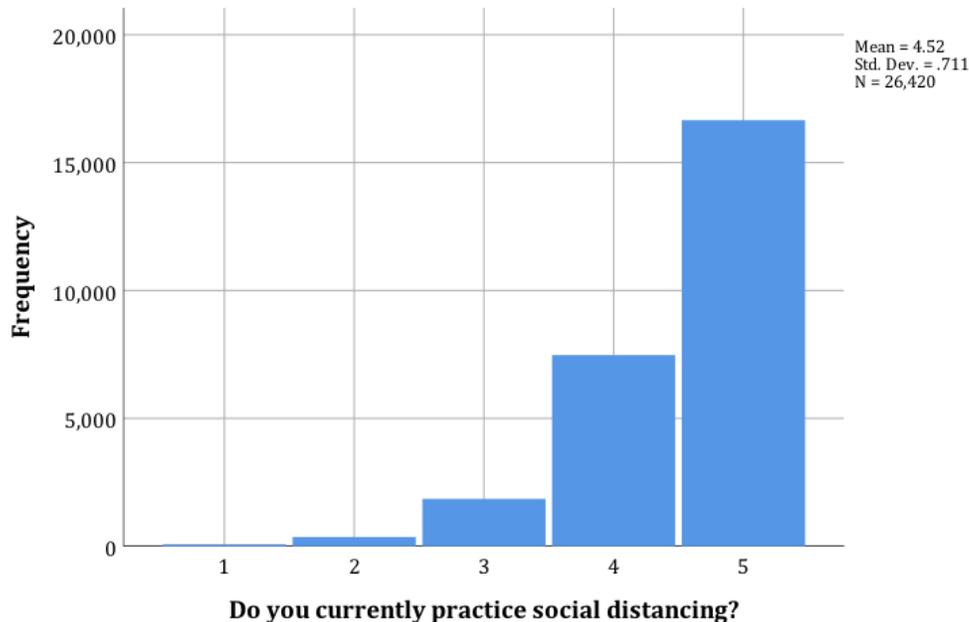
Only 0.3% of the respondents chose response option 1. However, nearly two thirds of our respondents chose response option 5, reporting that they engage in "very much" social distancing.

B) Self-reported social distancing by sociodemographic characteristics

In the tables below we report the mean response to the question on self-reported social distancing as function of age, gender, race/ethnicity, type of community, and education.

Age	Mean	N	Std. Deviation
18 to 19	3.92	218	1.062
20 to 29	4.23	3574	.870
30 to 39	4.51	6892	.706
40 to 49	4.55	6443	.676

50 to 59	4.59	4607	.650
60 to 69	4.72	3300	.549
70 and over	4.73	931	.553
Total	4.52	25965	.711

Gender	Mean	N	Std. Deviation
Men	4.46	3628	.769
Women	4.54	22539	.700
Other	4.47	164	.802
Total	4.52	26331	.711

Race/Ethnicity	Mean	N	Std. Deviation
Arab/Middle Eastern	4.39	18	.979
Asian/Asian American	4.56	302	.721
Black/African American	4.48	73	.784
Hispanic/Latina/o/x	4.56	248	.777
Native American/American Indian/First Nation	4.63	59	.667
Pacific Islander/Native Hawaiian	4.44	9	1.014
White/Caucasian	4.53	24842	.707
Other	4.34	70	.946
Total	4.53	25621	.709

Type of community	Mean	N	Std. Deviation
Rural	4.48	3429	.768
Small town	4.46	8340	.757
Suburb	4.55	6868	.674
Large city	4.58	7752	.657
Total	4.52	26389	.711

Education	Mean	N	Std. Deviation
Some High School	4.32	66	.914
High School	4.37	3091	.847
Bachelor degree	4.52	11344	.708
Master degree	4.61	7065	.612
PhD or higher	4.63	1552	.619
Total	4.52	26420	.711

Political Affiliation	Mean	N	Std. Deviation
Very liberal	4.62	8234	.642
Somewhat liberal	4.54	8883	.677
Neutral	4.43	5040	.786
Somehwat conservative	4.42	2812	.756
Very conservative	4.49	1158	.829
Total	4.53	26127	.709

We conducted inferential statistics to examine whether the observed differences were likely due to random variation or not. With samples of our size (N = 26,505), p-values are relatively uninformative. We decided instead to classify effects as "statistically meaningful" when their size exceeded r = .10.

Given this criterion, age (r = .19) and education (r = .11) were reliably related to self-reported social distancing behavior. These relationships are small, and neither variable explains a large amount of variance in the outcome variable (< 4%). There was no statistically meaningful association between self-reported social distancing behavior on the one hand and gender (r = .04), race/ethnicity (r = .01), political affiliation (r = -.10), and type of community (r = .07) on the other hand.

C) Correlates of social distancing

Here are the correlations between self-reported social distancing and the key variables in Part 1 of the Survey

1) How effective is social distancing for you?	r = .37
2) How effective is social distancing for others?	r = .29
3) How many friends practice social distancing?	r = .29
4) How many people like you practice social distancing?	r = .24
5) People you care want you to do social distancing	r = .27
6) How likely are you to get infected?	r = -.06
7) Negative health consequences for you if infected	r = .15
8) Other negative consequences for you if infected	r = -.02
9) Knowledge about COVID-19 coronavirus	r = .12
10) Don't know exactly what social distancing means	r = -.18

Individuals who practice social distancing are more likely to believe that social distancing is effective (1 and 2) and that there are strong social norms around social distancing (3, 4, and 5). Although the perceived risk of getting infected is not related to self-reported social distancing (6), the perceived negative consequences if infected are (7). Respondents' knowledge about the number of infected people

showing symptoms and about the infection risk from those who do and who do not have symptoms was unrelated to self-reported social distancing (9). Interestingly, those who do not practice social distancng very vigorously report that they don't really know which behaviors are alright and which ones are not (10).

D) The motivators - Messages likely to lead to behavior change

Respondents were asked if they would engage in more social distancing if they were to learn new information or otherwise become aware of certain facts. Given that individuals who already do a maximum of social distancing, cannot possibly do more social distancing, we excluded respondents who chose response option 5 on the question about how much social distancing they were currently practicing.

	N	Mean	Std. Deviation
Would do more social distancing if high infection risk	9744	4.18	1.133
Would do more social distancing if health consequences	9724	4.27	1.047
Would do more social distancing if it helps older members	9716	4.37	1.001
Would do more social distancing if it helps my family	9710	4.48	.940
Would do more social distancing if it helps public health	9708	4.38	.967
Social distancing is consistent with caring about others	9718	4.65	.705
I personally know someone who would suffer serious consequences if infected	9723	92%	---

The results suggest that messages about the high risk of becoming infected or the likely negative health consequences when infected will be relatively ineffective. Instead, messages that appeal to people's responsibility, their desire to care for others, and the importance of making sacrifices for their family and older members of the community have the potential to change people's social distancing behavior.

Interestingly, the pattern of results was virtually identical when we limited the analyses to respondents who chose response options 2 and 3 on the question about how much social distancing they were currently practicing. There was consistently the highest agreement with the item "Practicing social distancing is consistent with the fact that I generally care about other people."

E) The barriers - What prevents people from practicing more social distancing?

Like in the previous analyses we excluded respondents who chose response options 5 on the question about how much social distancing they were currently practicing.

	N	Mean	Std. Deviation
Would not know how to keep busy	9738	2.12	1.244
Would not know how to stay connected	9739	1.80	1.068
Given situation difficult to do more social distancing	9741	3.03	1.450
Given drugs and alcohol difficult to do more social distancing	9736	1.24	.671
Social distancing would worsen mental health issues	9726	2.15	1.270
Most people overreact	9743	1.95	1.079

The most important barrier that respondents report is it is difficult for them to practice more social distancing given their work, family, and other obligations. Some individuals cannot do more social distancing even if they wanted to (e.g., health care providers). Such structural barriers cannot be addressed in a behavior change campaign, except maybe provide people with advice how to set up an office at home and work effectively from home.

Besides that, respondents report psychological barriers. They fear that their mental health issues might get worse or that they would not know how to keep busy if they were to practice more social distancing. A successful behavior campaign has to effectively address these barriers, for example by giving advice on activities they can do in their home or ways to prvent mental health issues from worsening.

F) The distribution channels – How to reach people?

Like in the previous analyses we excluded respondents who chose response options 5 on the question about how much social distancing they were currently practicing. We thus focused uniquely on individuals who currently do not yet fully comply with recommendations on social distancing.

	N	Mean	Std. Deviation
Facebook	9748	4.01	1.491
Instagram	9583	1.39	1.664
Reddit	9517	.38	1.106

Snapchat	9549	.91	1.401
Twitter	9494	.63	1.265
YouTube	9548	1.39	1.517
TikTok	9499	.26	.942
Podcasts	9818	.94	1.522

The best way to reach the indivduals whose behaviors we want to change is through Facebook and, to a lesser extent, through Instagram and YouTube.

G) Coding of the responses to the open-ended questions

To collect additional information that would allow us (or others) to design successful campaign to get people to intensify their social distancing, we asked participants to respond to three open-ended questions about social distancing:

Q43) What could someone say to you that would make it more likely that you practice more social distancing?

Q44) Why is it difficult to practice social distancing?

Q45) What benefits would you personally derive if you were to do more social distancing?

To inductively generate themes prevalent in the responses, we read the answers of a randomly chosen subset of participants (*n* = 2000) and developed and refined a coding scheme. Then, we prepared a preliminary coding manual, which was then tested on a new set of responses to ensure that we had achieved saturation. Then the coding manual was finalized and applied to participants' responses. There is one master coder who coded all participants' responses. Other members in the coding team served as reliability coders, with each member coded a subset of the total data. The coding of the master coder is used in the final analysis.

We analyzed only the responses of participants who indicated that they currently did not engage in the recommended social distancing (those who selected response options 1, 2, or 3 for the question on self-reported social distancing in the survey). Not all participants responded to open-ended questions about social distancing because participants had the option to skip questions. We further eliminated any invalid responses (those who provided no response, or No Answer/Not applicable.)

Table 1. *The Coding Procedure with sample sizes*

Steps of coding	Description	Total sample size	Number of responses		
			Q43	Q44	Q45
Step 1					
Target	Participants who indicated that they currently did not engage in the recommended social distancing	3251			
Step 2					
Valid	Participants who provided a valid response for the question		2284	2624	2302

For question 43, respondents were asked what someone could say to them that would make it more likely that they practice more social distancing. The themes mentioned most frequently in the responses were: (a) accurate information about COVID-19, such as information on risk, severity and transmission, (b) specific information about social distancing, such as its definition, effectiveness, and (c) practical factors that make social distancing feasible and effective. The themes are described in detail below and exemplar quotes are shown in Table 2. Differences in the themes by age are described at the end of each theme, and displayed in Table 3.

Table 2. *Results of the thematic analyses of respondents' answers to the open-ended question on what would make it more likely that they practice more social distancing —Themes, Descriptions, and Example Quotes*

Themes	Descriptions	Example Quotes
Information about COVID-19		
Risk	The risk of being infected, or being exposed to someone who has COVID-19	*"That my area has more cases and we're at higher risk of community spread, or that I am at higher risk of complications if I got it."*
Severity	Statistics on the number of confirmed, hospitalized and seriously ill cases; death rates	*"I think there needs to be as much emphasis on the rates of those that become seriously ill & need hospitalization as those that actually die."*
Transmission	Information on how COVID-19 spreads, the	*"COVID can be spread by asymptomatic individuals and*

	likelihood of asymptotic transmission	*can survive on inorganic surfaces."*
Information about social distancing		
Clarity & Specificity	What social distancing means, specific examples of specific behaviors and actions	*"Specifically, what activities you can and can't do (i.e., can you have a friend over? Can I pick up a pizza?)"*
Effectiveness	Information on why social distancing matters, and evidence that improves its impact	*"Explain the exponential increase of cases when social distancing is in place vs when is not, maybe through graphics."*
Practical factors		
Feasibility	Reference to issues (i.e., work, financial security, obligations) that make social distancing feasible.	*"You will be paid the full amount on all the contracts you had that have been annulled due to the virus." (I need money, and my work is the one place where I don't really practice social distancing effectively currently.)"*
Strategies	References to issues related to strategies to explain it, or reminders to do it	*"Give me more ideas for what to do indoors. I feel like there isn't anything to do if I stay home all day, and it's harder for me to be productive, so I would really appreciate tips for working/studying from home."*
Social factors	References to the social consequences, issues or concerns related to practicing social distancing	*"It's more in actions. I know it's a good thing to do and I ought do it, it's just very hard to practice when social distancing requires a combined effort of those around you and those you live with. If one person in my house doesn't believe in it and continues meeting with others, I feel as though my contributions do nothing."*

Table 3. *Distributions of themes by age of respondents' answers to the open-ended question on what would make it more likely that they practice more social distancing (n = 2284) *

Themes	18-29 (*n* = 799)	30-49 (*n* = 998)	Above 50 (*n* = 487)
About COVID-19			
Risk	32.3%	25.8%	30.4%
Severity	16.0%	10.3%	8.6%
Transmission	7.0%	4.5%	5.5%
About social distancing			
Clarity & Specificity	2.5%	1.6%	2.7%
Effectiveness	14.8%	10.0%	4.3%
Practical factors			
Feasibility	24.2%	35.0%	27.0%
Strategies	4..3%	1.9%	5.1%
Social factors	5.3%	3.4%	3.3%

Note: N is the number of respondents who indicated that they currently did not engage in the recommended social distancing and provided a response for this question. Each response could have multiple codes so the percentages do not add up 100%.

For question 44, respondents were also asked why it was difficult to practice social distancing. The most common challenges mentioned were (a) psychological needs, (b) obligations, (c) practical challenges, and (d) beliefs and attitudes. Psychological needs include any concerns with social connection, mental health, outdoor activity, and boredom. Obligations include any references to obligations or responsibilities related to work, school, family dependents (e.g., children or pets). Practical challenges are any practical concerns that individuals have when practicing social distancing. These challenges can be in various aspects, such as living situations, personal habits, daily routine, and social norms. Three common beliefs and attitudes that made social distancing difficult include unconcerned, freedom-centered, and resigned. The themes are described in detail below and exemplar quotes are shown in Table 4. Differences in the themes by age are described at the end of each theme, and displayed in Table 5.

Table 4. *Results of the thematic analyses of respondents' answers to the open-ended question on why is it difficult to practice social distancing —Themes, Descriptions, and Example Quotes.*

Themes	Descriptions	Example Quotes
Psychological needs		
Social connections	Reference to the needs to have social interaction, or	*"Our society is already very isolating, and human*

	be socially connected	*connection is critical to our health."*
Mental health	Reference to issues related to mental health	*"Being isolated and distant from friends and family and not being able to leave my house for fear of becoming infected is damaging to my mental health."*
Outdoor activity	Reference to the needs to be outside and active	*"I'm a very active person who must be stimulated. I get bored and restless when I am not allowed to go anywhere."*
Boredom	Reference to getting bored when staying at home	*"Because everyone is bored at home and has nothing to do."*
Obligations		
Work/School	Reference to obligations related to work or school	*"Work obligations and the need for having an income to cover bills."*
Family/Dependents	Reference to family obligations, i.e., taking care of elders	*"I have 3 little kids, I need to get them outside and have neighbors that do the same, understandably. It's hard to keep little kids 6 ft from each other."*
Practical challenges		
Living situations	References to family or living situations that make social distancing difficult	*"I live in a house with many people, some of which have to leave the house still and there is nothing that can stop them from leaving and coming back (potentially bringing the virus back)."*
Personal habits	Reference to issues related to changing habits, or remembering to do it	*"It's a change in lifestyle. No one truly like change."*
Daily routines	Reference to essential daily routine or tasks that must be done	*"It is difficult to practice social distancing because many necessities are needed outside of the home such as groceries, gas, and supplies."*
Social norms	Reference to issues	*"It is not necessarily that it is*

	related to others, i.e., others are not doing it	*difficult, but there are still so many people not practicing it that I feel I won't make a difference."*
Beliefs and attitudes		
Unconcerned	Statements about being invincible, having low-risk of infection and complications	*"I am a healthy young adult. It is sometimes hard to consider the impacts this virus could have on my life. I feel like I still have the idea that I am "invincible" in some ways."*
Freedom-centered	Reference to the freedom and rights that people have	*"It's not [difficult]. I don't like being told what to do. Also, it's my choice to be outside my house and put myself at risk. It's also everyone else's choice too who I come in contact with in public. Consequences result from choices. I accept them."*
Resigned	Believing that infection is inevitable, social distancing is not helpful.	*"I think most (if not all) of us are going to catch it anyway so we may as well get infected and deal with it the best we can so we can go back to our normal lives."*

Table 5. *Distributions of themes by age of respondents' answers to the open-ended question on why it was difficult to practice more social distancing* (*n* = 2624) *

Themes	18-29 (*n* = 916)	30-49 (*n* = 1180)	Above 50 (*n* = 528)
Psychological needs			
Social connections	28.5%	16.6%	17.6%
Mental health	11.8%	5.4%	2.7%
Outdoor activity	6.0%	3.3%	1.9%
Boredom	22.6%	2.5%	1.1%
Obligations			
Work/School	40.7%	50.0%	35.2%
Family/Dependents	3.1%	8.9%	4.4%
Practical challenges			
Living situations	5.9%	1.6%	1.5%
Personal habits	9.6%	6.6%	7.6%

Daily routines	9.7%	12.1%	19.1%
Social norms	0.1%	7.7%	6.3%
Beliefs and Attitudes			
Unconcerned	2.2%	2.2%	1.5%
Freedom-centered	3.8%	2.4%	2.6%
Resigned	2.2%	2.9%	1.7%

Note: N is the number of respondents who indicated that they currently did not engage in the recommended social distancing and provided a response for this question. Each response could have multiple codes so the total percentage does not add up 100%.

For question 45, respondents were asked what benefits they would personally derive if they were to do more social distancing. The positive benefits are grouped into three categories: (a) protection and prevention, (b) development-related, and (c) living-related benefits. Some respondents also reported that they only can think of negative impacts related to practicing social distancing. Protection and prevention include statements about reducing the risk of getting infected or spreading it, and protecting mental health.

Development-related benefits include statements about spending time on personal reflection, improving self, and relationships. Living-related benefits include having more time to complete tasks, and improve different aspects of life. Respondents also mentioned other benefits that are related to the pandemic such as getting paid and financial reimbursement. The themes are described in detail below and exemplar quotes are shown in Table 6. Differences in the themes by age are described at the end of each theme, and displayed in Table 7.

Table 6. *Results of the thematic analyses of respondents' answers to the open-ended question on what benefits would you personally derive if you were to do more social distancing —Themes, Descriptions, and Example Quotes*

Themes	Descriptions	Example Quotes
Protection/prevention		
Risk of infection	Comments related to reducing the risk of getting infected, infecting others, or spreading the virus	*"I would likely not get infected; therefore, my family members would likely not get infected."*
Mental health	Comments related to protecting mental health,	*"Feeling calmer and less anxious about the whole*

	self-care in terms of psychological well-beings	*situation because I feel I'm doing something about it."*
Development-related		
Self	Reference to goals or tasks that are related to personal development, such as reflection	*"I would personally focus more time on myself and self-development. Social distancing gives me time to reflect on me, learn new skills and invest time to something else other than others and going out."*
Relationship	Reference to spending time for family or other relationship	*"More family time because my daughters have no after school or weekend activities so we have uninterrupted time together."*
Living-related		
Productivity	Comments related to having time to complete different tasks such as cleaning	*"Get more work done around the house. Home repairs and landscaping that I have been putting off."*
Lifestyle	Comments related to better lifestyle or daily routine	*"Better sleep habits (since quarantined I've gotten more nights with 8 hours of sleep) than I have in years due to less "work" and more time during the day to do living activities (hygiene, cooking, cleaning, homework for grad school, etc.)"*
Other		
Pandemic-related	Reference to benefits related to the pandemic (e.g., getting paid to work from home)	*"Financial unemployment paying full 100% that does not count against you in the future."*
Negative impacts	Reference to the negative impact of social distancing	*"None, I wouldn't make money, I couldn't get food, I'd have no entertainment, my mental health with plummet."*

Table 7. *Distributions of themes by age of respondents' answers to the open-ended question on what benefits would you personally derive if you were to do more social distancing* (*n* = 2302) *

Themes	18-29 (*n* = 804)	30-49 (*n* = 101-)	Above 50 (*n* = 488)
Protection/prevention			
Risk of infection	57.3%	53.1%	54.7%
Mental health	13.7%	12.3%	14.0%
Developmental-related			
Self	10.8%	4.7%	6.0%
Relationship	3.8%	8.1%	4.3%
Living-related			
Productivity	9.0%	9.7%	7.0%
Lifestyle	6.1%	5.3%	3.8%
Other			
Pandemic-related	0.9%	0.7%	1.4%
Negative impacts	2.5%	1.2%	0.2%

Note: N is the number of respondents who indicated that they currently did not engage in the recommended social distancing and provided a response for this question. Each response could have multiple codes so the total percentage does not add up 100%.

When answering the question about what someone could say to them that would make it more likely that they practice more social distancing (question 43), respondents also provided suggestions for effective messaging (see Table 8).

Table 8. *Suggestions for messaging ideas and content that respondents spontaneously provided in their answers to the open-ended question on what would make it more likely that they practice more social distancing*

Themes	Suggestions for messaging
About COVID-19	
Risk	n/a
Severity	*Sharing real stories, present facts but also appeal to emotion*
	Describe the ultimate outcomes, and what could happen to someone in the hospital if there are not enough supplies
Transmission	*Show link of spread like a genealogy chart*
About social distancing	
Clarity & Specificity	*Showing how impactful social distancing is and good and bad social distancing examples.*
	A "dummy proof" version of explaining how this would help

	us over all.
Effectiveness	*Tell the consequences of doing vs not doing*
Practical factors	
Feasibility	*Help us explain it to children and family members*
Strategies	*Create a slogan or something easy to pass on*
Social factors	*Tell us ways to stay connected and make it the norm.*

H) Topic modeling of the responses to the open-ended questions

We analyzed the same responses as in the previous section, but this time using three types of computational techniques, the word count method, the structural topic model, and the dictionary method. These computational techniques read each survey answer and automatically extract the main topics the emotions connotations of respondents' answers to the open-ended questions.

When asked about what someone could say ot them to get them to do more social distancing, the respondents mentioned topics related to health information about the benefits of social distancing, directions for working at home, and the threats to their local communities.

Individuals from different demographic categories differed in their answers about the type of messages that would get them to practice more social distancing. Men prefer receiving additional health information such as explaining benefits of social distancing on controlling for the pandemic, while women prefer hearing others address work-related concerns such as directions for working at home. Members of non-white racial and ethnic groups, which constituted 6% of the total sample, said they would engage in more social distancing if the communication addressed their concerns about local threats such as the number of positively tested cases and the death rate.

When asked about what the barriers are for doing social distancing, our survey respondents frequently mentioned that their current work/job makes it hard for them to do social distancing and that they need to complete daily life task such as grocercy shopping. They also pointed out that they were social animals and liked their friends. Moreover, some mentioned the mental/health issues that could result from social distancing.

When asked about what the potential benefits that they could derive from social distancing, our survey respondents reported that social distancing helps reduce the chance of getting infected and allows them to spend more time with families.

We also looked into the emotional aspect underlying our survey respondents' answers to our questions on the barriers and benefits of social distancing. Overall

we found that individuals who are currently doing little social distancing used fewer joy related words compared with other survey respondents. They also used fewer trust related words and more words related to disgust and sadness. Demographic categories differed with regard to the use of emotion terms. Men used more disgust related words and fewer positive words compared to women. Finally, members of non-white racial groups were more likely to use positive emotion words.

Conclusion

A behavior change campaign is more likely to be effective if five elements are clearly identified before the campaign material is designed (Lee and Kotler, 2016).

(1) Who is the "target audience," i.e., whose behaviors does the campaign want to change? Although many more members of the population are eventually exposed to the campaign materials, an effective campaign usually focuses on a segment of the population whose behavior change will have the biggest impact. In the present case, the target audience is young adults who are currently not yet fully complying with recommended social distances.

(2) What is the "target behavior," i.e., what exactly does the campaign want individuals to do? Ideal target behaviors are those that people can easily adopt. Although the target behavior is pretty clearly identified in the present case – pratice more social distancing – many respondents expressed wanting concrete information about which behaviors are alright and which ones are not during social distancing.

(3) What are the "barriers," i.e., why do members of the target audience currently not practice social distancing? Our results suggest that structural barriers about not being able to work at home and worries about boredom and mental health prevent individuals from practicing more social distancing. These barriers can be removed by giving people advice on how to work from home and maintain their psychological well-being while keeping their physically distance from other.

(4) What are the "motivators," i.e., the perceived benefits of the target behavior that can be highlighted during the campaign? The goal is to identify the messages that members of the target audience is going to be receptive to. According to our survey results, individuals will likely change their behavior if they are reminded that social distancing is consistent with their tendency to care about others and if the persuasive message appeals to their sens of responsibility and altruism.

(5) What are the "distribution channels," i.e., what are effective ways to reach the members of the target audience? The best campaign is ineffective if individuals whose behavior the campaign attempts to change are not exposed to the persuasive material. Our survey revealed that Facebook, Instagram, and YouTube are great media platforms to reach the members of the target audience.

In sum, the current report contains all the relevant information that social marketers, public health officials, and social influencers need to design messages that effectively change people's social distancing behavior.

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Appendices

List of Appendices:

Appendix 1 – COVID-19 Coronavirus and Social Distancing Survey

[Unless otherwise indicated, participants provide responses on 5-point Lickert scales with labels associated with each of the two endpoint]

This survey contains questions about your thoughts, feeling, and opinions related to the coronavirus (COVID-19). There are no right or wrong answers.

There are many mentions of social distancing in the media and elsewhere. How much have you heard about social distancing? [Nothing at all – Quite a bit]

I feel that I don't really know what it means to "practice social distancing." In other words, I don't really know which behaviors are OK and which ones are not. [Strongly Disagree – Strongly agree]

Social distancing is deliberately increasing the physical space between people to avoid spreading illness. Data suggest that staying at least six feet away from other people lessens the chances of getting infected with COVID-19.

Do you currently practice social distancing (in other words: do you deliberately increase the physical space between you and people to avoid spreading illness)? [No, not at all – Yes, very much]

How effective do you think social distancing is for you (in other words: to what extent does your social distancing behavior decrease your risk of getting infected)? [Not at all effective – Very effective]

How effective do you think social distancing is for the prevention of the spread of the coronavirus (in other words: to what extent does your social distancing behavior contribute to other people not getting sick)? [Not at all effective – Very effective]

How many of your friends and acquaintances currently practice social distancing? [None or nearly none – All or nearly all]

How many "people like you" (= people with similar socio-demographic characteristics) do you think currently practice social distancing? [None or nearly none – All or nearly all]

How much do people you care about think you should practice social distancing? [Not at all – Extremely]

How likely do you think you are to catch the coronavirus (COVID-19) in the next month? [Not at all likely – Very likely]

How serious do you think the negative health consequences will be for you if you were to get infected with the coronavirus? [Not at all serious – Extremely serious]

How serious do you think the other negative consequences will be for you if you were to get infected with the coronavirus (ex: social, financial, or work-related consequences)? [Not at all serious – Extremely serious]

Based on what you have heard or read until now, what percentage of individuals who are infected with the coronavirus show symptoms (such as coughing or fever)? [0% - 25% - 50% - 75% - 100]

Based on what you have heard or read until now, how contagious is someone who has been infected with the coronavirus and who shows symptoms (such a coughing and fever)? [Not at all contagious – Very contagious]

Based on what you have heard or read until now, how contagious is someone who has been infected with the coronavirus but who shows no symptoms? [Not at all contagious – Very contagious]

Please tell us about your media habits. In the past week, on average, about how much time have you spent each day on any of the following digital media?

None	Less than 10 minutes a day	10-30 minutes a day	31-60 minutes a day	1-2 hours a day	2-3 hours a day	More than 3 hours a day
0	1	2	3	4	5	6

1. Facebook
2. Instagram
3. Reddit
4. Snapchat
5. Twitter
6. YouTube
7. Podcasts
8. TikTok

Please indicate to what extent you agree or disagree with the following statements.
[all Strongly disagree – Strongly agree]

I would do more social distancing if I became convinced that I am at a high risk of becoming infected.

I would do more social distancing if I learned that there are serious health consequences for people like me when they get infected with the coronavirus.

I would do more social distancing if I learned that my behavior contributes to the prevention of older members of the community from becoming infected.

I would do more social distancing if I learned that my behavior contributes to the prevention of my family of becoming infected.

I would do more social distancing if I learned that my behavior would make an important contribution to addressing the current public health crisis.

Practicing social distancing is consistent with the fact that I generally care about other people.

I wouldn't know how to keep busy if I were to do more social distancing.

I wouldn't know how to stay connected if I were to do more social distancing.

I feel that I don't really know how to keep myself and my loved ones safe.

Given my situation (ex: work, family, other obligations) it is difficult for me to do more social distancing.

Practicing more social distancing would increase the severity of the mental health issues that I am struggling with.

I personally know someone who is likely to suffer serious negative consequences when infected with the coronavirus. [No – Yes]

I think most people overreact to the threat caused by the coronavirus.

I think that I am less likely to get infected with the coronavirus than other people.

I have to admit that I don't care very much about getting other people sick.

How active are you on social media? [Not at all active – Very active]

How long would you be able to tolerate social distancing? [Three days or less – About a week – About two weeks – About three weeks – About a month – Six weeks or longer]

In this part you will be asked to answer questions about yourself.

If you prefer not to answer a particular question, simply leave the answer blank and move on to the next question.

    a. What is your age? ___ years old
    b. With regard to race/ethnicity, what do you identify as? (check all that apply)
        i. Arab / Middle Eastern
        ii. Asian / Asian American
        iii. Black / African American
        iv. Hispanic / Latina/o/x
        v. Native American / American Indian / First Nation
        vi. Pacific Islander / Native Hawaiian
        vii. White / Caucasian
        viii. Other / None of these
    c. With regard to gender, what do you identify as?
        i. Man
        ii. Woman
        iii. Other / None of these
    d. How would you describe your political views on social issues? ["1 = Very liberal" to "5 = Very conservative"]
    e. How would you describe your political views on economic issues? ["1 = Very liberal" to "5 = Very conservative"]
    f. What type of community do you live in?
        i. Large city (> 100,000 inhabitants)
        ii. Suburb near a large city
        iii. Small city or town
        iv. Rural area
    g. What state do you live in?
        i. Wisconsin
        ii. Minnesota
        iii. Illinois
        iv. Iowa
        v. Other. Please specify _____
    h. What is the highest degree or level of education you have completed?
        i. Some High School
        ii. High School
        iii. Bachelor's degree
        iv. Master's Degree
        v. Ph.D. or higher
        vi. Other. Please specify _____

Please answer the following open-ended questions. Please do not include information that would identify yourself or others.

What could someone say to you that would make it more likely that you practice more social distancing? _____ [Open ended]

Why is it difficult to practice social distancing? _____ [Open ended]

What benefits would you personally derive if you were to do more social distancing? _____ [Open ended]

What sources do you trust for information about COVID-19? _____ [Open ended]

Public health officials are asking all Americans to practice social distancing. Thank you for your participation in the survey. [Note: the exact thank you text is different but I currently do not have access to the survey]

Appendix 2 – Additional Analyses

A) Correlation analyses with non compliers:

We conducted bivariate correlation analyses. In these analyses we only considered individuals who currently do not fully comply with recommended social distancing, i.e., respondents who chose response options 1-4 on the question about how much social distancing they were currently practicing (N = 9,749).

I would do more social distancing if I became convinced that I am at a high risk of becoming infected.	r = .14
I would do more social distancing if I learned that there are serious health consequences for people like me when they get infected with the coronavirus.	r = .13
I would do more social distancing if I learned that my behavior contributes to the prevention of older members of the community from becoming infected.	r = .16
I would do more social distancing if I learned that my behavior contributes to the prevention of my family of becoming infected.	r = .15
I would do more social distancing if I learned that my behavior would make an important contribution to addressing the current public health crisis.	r = .17
Practicing social distancing is consistent with the fact that I generally care about other people.	r = .28
I wouldn't know how to keep busy if I were to do more social distancing.	r = -.10
I wouldn't know how to stay connected if I were to do more social distancing.	r = -.07
I feel that I don't really know how to keep myself and my loved ones safe.	r = -.03
Given my situation (ex: work, family, other obligations) it is difficult for me to do more social distancing.	r = -.20
Practicing more social distancing would increase the severity of the mental health issues that I am struggling with.	r = -.05
I personally know someone who is likely to suffer serious negative consequences when infected with the coronavirus. [No – Yes]	r = .07

I think most people overreact to the threat caused by the coronavirus.   r = -.22

I think that I am less likely to get infected with the coronavirus than
other people.   r = -.03

I have to admit that I don't care very much about getting other people sick.   r = -.16

How active are you on social media? [Not at all active – Very active]   r = -.00

How long would you be able to tolerate social distancing? [Three days
or less – About a week – About two weeks – About three weeks – About
a month – Six weeks or longer]   r = .21

B) Correlation analyses with all participants :

We conducted the same correlation analyses, this time with all participants in the
sample (N = 26,505). The variables asking people what it would take to get them to
do (or what would happen if they were to engage in) more social distancing are not
included in the list below.

Practicing social distancing is consistent with the fact that I generally
care about other people.   r = .32

I feel that I don't really know how to keep myself and my loved ones safe.   r = -.12

I personally know someone who is likely to suffer serious negative
consequences when infected with the coronavirus. [No – Yes]   r = .07

I think most people overreact to the threat caused by the coronavirus.   r = -.28

I think that I am less likely to get infected with the coronavirus than
other people.   r = -.05

I have to admit that I don't care very much about getting other people
sick.   r = -.16

How active are you on social media? [Not at all active – Very active]   r = .03

How long would you be able to tolerate social distancing? [Three days
or less – About a week – About two weeks – About three weeks – About
a month – Six weeks or longer]   r = .30

Appendix 3 – Computational Analyses on the Open-Ended Survey Questions

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Department of Life Sciences Communication
March 23rd, 2020

We conducted our computational analyses to understand:

1). **What** our targeted group responded to each open-ended question? [analyzing all of their answers]
- Method 1: (enhanced) word count method
- Method 2: Structural topic model

2). Their **sentiments** expressed from their responses [important for message campaign too!]
- Method: dictionary method

3). How different **demographic groups differs** in their answers to 1) and 2) [important for more nuanced targeted message campaign]

Executive Summary
Content:

- **The main themes in our target groups answers to "***what could someone say to you that would make it more likely that you practice more social distancing***"** are:
  - Our target group prefers to hear someone say to them words like "work", "social", "people".
  - Our target group also prefers to hear someone say to them topics on directions for working at home, health information about the benefits of social distancing, and threats to their local communities.
  - Men are more likely to mention health information to this question such as explaining benefits of social distancing on controlling for the pandemic, while women are more likely to mention concerns for work such as directions from working at home.
  - Non-White are more likely to mention local threats in their answers to this question such as the number of positive cases and death rate.

- **The main themes in our target groups answers to "**why is it difficult to practice social distancing?" are:
  - Work/job; they like social/friends; they have health/mental issues; they need to do grocery.
  - Work is the most difficult aspect about practicing social distancing for Whites, Blacks, Hispanics, Arabs, Pacific Islanders. For Asians, Native Americans, and other ethnicities, the social/people aspect is the most difficult part.

- **The main themes in our target groups answers to** "what benefits are for doing social distancing" are:
  - Less likely to get sick/infected; time and family; work.

- The top info source for most ethnic groups is CDC. For Arabs and Native Americans, its doctors. For Pacific Islanders, local sources top the list (although sample size for these groups is small).

Emotion:

- When answering "what could someone say to you to make you do social distancing": our target group used **more negative** words and **fewer joy** related words compared with all participants.
- When answering "what benefits are for doing social distancing": our target group showed **more negative** sentiment compared with all participants. Specifically, they used **fewer trust** related words. They use more **disgust and sadness** words.
- When answering "what would make you do social distancing": men in our target group used **more disgust** related words and **fewer positive** words compared with women.
- When answering "why it is difficult to practice social distancing": the white racial group are **less** likely to use **positive** words.

****

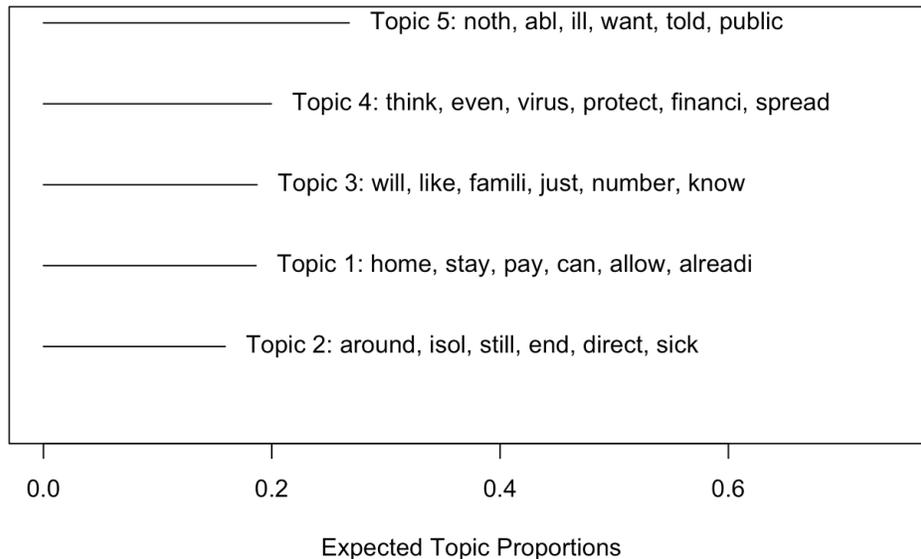## Selected Detailed Analyses

Section I: Content Analysis on Target Group

Results from Structural Topic Modeling
Q43: What could someone say to you that would make it more likely that you practice more social distancing?

Figure 1: The Five Most Prevalent Themes from our target groups answers to Q43

Q43 Topic models

Topic 5: noth, abl, ill, want, told, public

Topic 4: think, even, virus, protect, financi, spread

Topic 3: will, like, famili, just, number, know

Topic 1: home, stay, pay, can, allow, alreadi

Topic 2: around, isol, still, end, direct, sick

Expected Topic Proportions

(the x-axis represents the percentage of peoples answers that belong to each topic)

Interpretation: Figure 1 presents the five most prevalent topics (i.e., themes) from our target groups answers to Q43. The computational model gives us the key words as well as example answers people wrote under each topic, which allows us to interpret what each topic is about. Here are the main themes we found from our target groups answers to this question:


Topic 5: Feasibility or concerns about working at home. For example, a) Work is my only problem. I cannot get by without work; b) Your office is closed and you do not need to go in to work.

Topic 4: Health information about the effects of social distancing on controlling for the spread of virus. For example, a) Know more about virus that social distancing is effective at slowing spread compared to touching sufaces; b) Telling me exactly how social distancing influences COVID-19 - e.g. if we truly practice social distancing in all areas of our lives, this pandemic will be over in \"X\" weeks, months, etc.

Topic 3: Threats to their local community. For example, a) as the number of infected people increases in my neighborhood and surrounding areas I will basically stop going outside my house; b) If more people had the virus in my town. If it was or is airborne.

Topic 1: (Things to do) staying at home. For example, a) Give me more ideas for what to do indoors. I feel like there isnt anything to do if I stay home all day, and its harder for me to be productive, so I would really appreciate tips for working/studying from home; b) Im already working and staying at home, not much I can do.

Figure 2: Effects of Gender on our Target Groups answers to Q43

Q43: Effect of gender
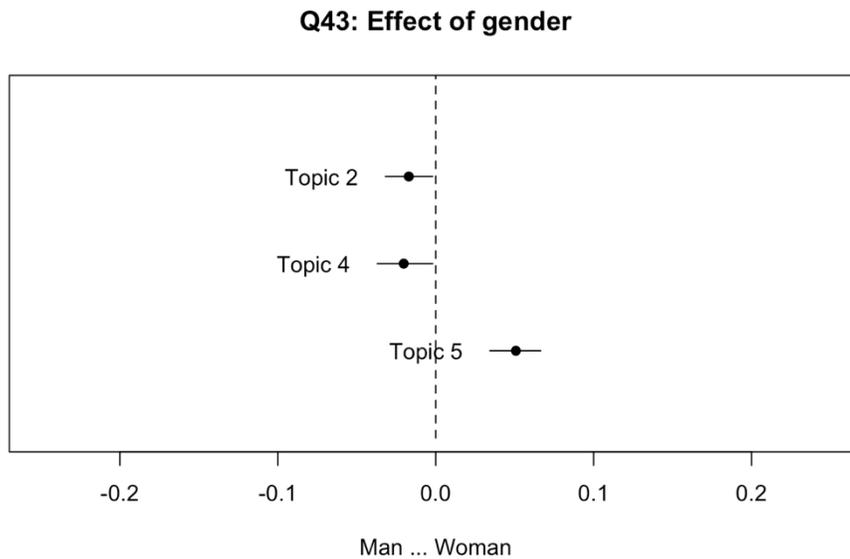
(x-axis indicates the effect size of the influence gender on the topic prevalence. If a 95% CI bar is on the right of the zero line, it means the topics that women are more likely to mention in their answers. If a 95% CI bar is on the left side of the zero line, it means the topic that women are less likely (i.e., men are more likely) to mention in their answers.

Interpretation: **figure 2 shows that women are much more likely to mention topic 5, preferring to hear directions from working at home**. Differently, **men in our target group are more likely to mention topic 4 and topic 2. Topic 4 is about health information explaining benefits of social distancing on controlling for the pandemic.**

Figure 3: Effects of Race on our Target Groups answers to Q43

Q43: Effect of race
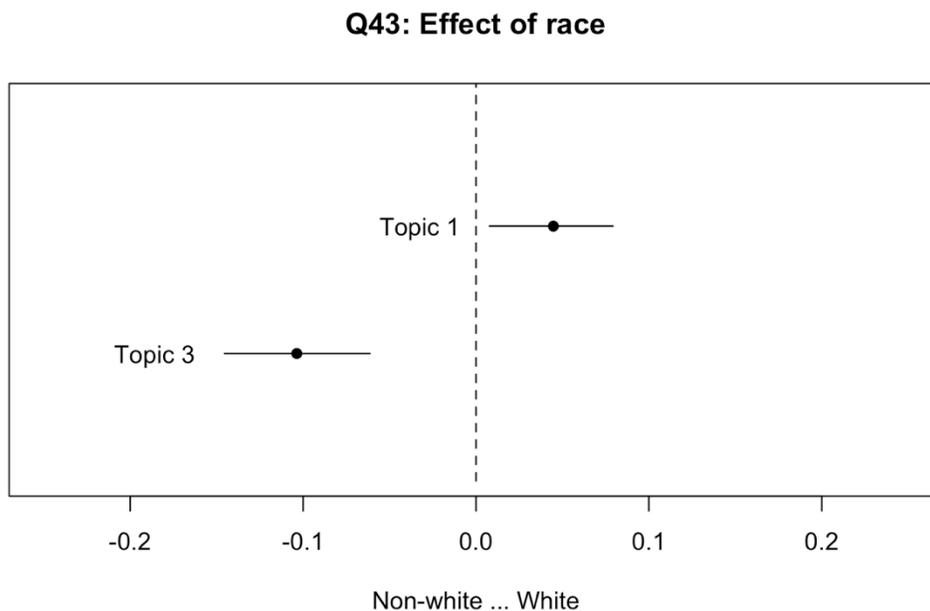
Interpretation: figure 3 shows that the white race group are much more likely to mention topic 1 when they answered Q43. Topic 1 is about tips staying at home. Some of the respondents in this group has already started social distancing. Differently, Non-white group in our target group are more likely to mention topic 3 when they answered Q43. Topic 3 is about threats to their local community, such as the number of positive cases and death rate.

Results from Enhanced Word Count
(Note: before we conducted word counting, words were stemmed to merge synonyms)

Q43: What could someone say to you that would make it more likely that you practice more social distancing?
Table: Top mentioned words by our target group for Q43
(number after ":" indicates the total number of times this word is mentioned)

```
work: 224, distanc: 217, social: 211, would: 161,practic: 125, peopl: 1
10, home: 102, viru: 83, someon: 81, could: 80, go: 76, noth: 67,get: 6
7,stay: 64,alreadi: 62,infect: 61,know: 60,covid: 58
```

Interpretation: our target group prefers to hear someone say to them words like "work", "social", "people".

Q44: Why is it difficult to practice social distancing?
Table: Top mentioned words by our target group for Q44

```
work: 526, peopl: 207, social: 200, go: 183, need: 168, home: 131, still: 12
8, distanc: 118, get: 116, job: 109, friend: 93, like: 89, hard: 81, also: 8
0, famili: 78, health: 77, difficult: 77, time: 74, close: 73, groceri: 72,
live: 71, feel: 69, mental: 64
```

Interpretation: here are the barriers for our target group to do social distancing – work/job reasons, they like social/friends, they have health/mental issues, they need to do grocery.

Table: Top mentioned words by our target group for Q44, by race/ethnicity

White / Caucasian (N = 1213)	work: 512, peopl: 197, social: 188, go: 175, need: 158, home: 129, still: 124, distanc: 114, get: 107, job: 106
Black / African American (N = 13)	work: 6, go: 5, person: 3, worker: 2, state: 2, get: 2, also: 2, make: 2, feel: 2, isol: 2,
Hispanic / Latina (N = 40)	work: 15, social: 8, need: 8, peopl: 7, go: 6, like: 6, get: 5, around: 4, famili: 4, difficult: 4
Asian / Asian American (N = 26)	social: 8, peopl: 5, difficult: 3, daili: 3, still: 3, hard: 2, go: 2, store: 2, commun: 2, see: 2
Native American / American Indian / First Nation (N = 4)	peopl: 2, need: 2, get: 2, hard: 1, workout: 1, close: 1, want: 1, contact: 1, love: 1, go: 1
Pacific Islander / Native Hawaiian (N = 2)	financ: 1, friend: 1, work: 1, human: 1, connect: 1
Arab / Middle Eastern (N = 5)	work: 2, live: 2, apart: 1, roommat: 1,

	mental: 1, health: 1, import: 1, surround: 1, friend: 1, everi: 1
Other / None of these (N = 7)	social: 3, go: 3, hard: 2, need: 2, person: 1, practic: 1, store: 1, mani: 1, peopl: 1, like: 1

Interpretation: for Whites, Blacks, Hispanics, Arabs, Pacific Islanders, the most difficult thing to practice social distancing is work. For Asians, Native Americans, and other ethnicities, the social/people aspect is the most difficult part.

Q45: What benefits would you personally derive if you were to do more social distancing?

Table: Top mentioned words by our target group for Q45

```
get: 233, less: 195, would: 176, sick: 149, time: 139, famili: 123,like: 9
6, infect: 92, risk: 84, work: 83, viru: 67, other: 67, none: 66, keep: 66,
chanc: 64,spread: 64, healthi: 61, peopl: 56, health: 54, home: 53, stay: 5
0, feel: 48
```

Interpretation: people pointed out the benefits of less likely to get sick/infect; they also pointed out time and family as benefits.

Q46: What sources do you trust for information about the COVID-19 coronavirus?

Table: Top mentioned words by our target group for Q46

```
cdc (565), news (266), health (127), local (86), trust (64), medic (64),
govern (56), cnn (53), doctor (49), npr (49)
```

Interpretation: CDC, news and local are the main sources they trust.

Table: Top mentioned words by our target group for Q46, by race/ethnicity

White / Caucasian (N = 1213)	cdc: 543, news: 260, health: 120, sourc: 115, local: 83, trust: 64, medic: 64, govern: 52, cnn: 51, depart: 50
Black / African American (N = 13)	cdc: 5, chicago: 3, health: 2, medic: 2, sourc: 2, doctor: 2, none: 2, fauci: 2, state: 1, counti: 1
Hispanic / Latina (N = 40)	cdc: 17, news: 12, sourc: 8, health: 5, govern: 4, outlet: 4, reput: 3, npr: 3, medic: 3, scienc:
Asian / Asian American (N = 26)	cdc: 11, sourc: 5, know: 2, npr: 2, bbc: 2, state: 2, health: 2, depart: 2, academ: 2, news: 2
Native American / American Indian / First Nation (N = 4)	doctor: 2, articl: 2, scientif: 1, sourc: 1, especi: 1, govern: 1, agenc: 1, peer: 1, review: 1, written: 1
Pacific Islander / Native Hawaiian (N = 2)	local: 1, news: 1, station: 1, updat: 1, governor: 1, ever: 1, none: 1
Arab / Middle Eastern (N = 5)	doctor: 1, scientist: 1, fox: 1, trump: 1, local: 1, news: 1, sourc: 1, mayor: 1, governor: 1, certain: 1
Other / None of these (N = 7)	cdc: 3, know: 2, hard: 2, much: 1, listen: 1, believ: 1, employ: 1, dh: 1, realli: 1, scari: 1

Interpretation: the top info source for most ethnic groups is CDC. For Arabs and Native Americans, its doctors. For Pacific Islanders, local sources top the list (although sample size for these groups is small).

Section II: Sentiment Analysis

Q43: What could someone say to you that would make it more likely that you practice more social distancing?

Q43: What could someone say to you that would make it more likely that you practice more social distancing?

Target Group (N=1271) vs All Participants (N=27,666) vs Good Citizens [all answers]

Sentiment	Anger	Anticipation	Disgust	Fear	Joy	Sadness	Surprise	Trust	Negative	Positive
Target	0.04	0.1	0.05	0.11	0.04	0.09	0.03	0.12	0.18	0.24
General	0.03	0.12	0.04	0.09	0.07	0.08	0.03	0.13	0.15	0.25
Good	0.03	0.11	0.04	0.1	0.06	0.08	0.03	0.13	0.16	0.25

Interpretation: our target group used **more negative** words and **less joy** related words compared with all participants, as well as those who answered "5 – yes, very much" in Q2 (marked as "good citizens").

Woman (N = 1063) Man (N = 189) Other (N = 15)

Sentiment	Anger	Anticipation	Disgust	Fear	Joy	Sadness	Surprise	Trust	Negative	Positive
Woman	0.04	0.11	0.04	0.11	0.04	0.09	0.03	0.12	0.18	0.25
Man	0.05	0.11	0.07	0.12	0.05	0.09	0.03	0.11	0.17	0.22

Interpretation: among our target audiences, men used **more disgust** related words and **fewer positive** words compared with women.

Q44: Why is it difficult to practice social distancing?

Target Group vs All Participants vs Good Citizens [all answers]

Sentiment	Anger	Anticipation	Disgust	Fear	Joy	Sadness	Surprise	Trust	Negative	Positive
Target	0.05	0.11	0.03	0.1	0.07	0.1	0.04	0.12	0.14	0.25
General	0.04	0.12	0.03	0.1	0.08	0.08	0.03	0.12	0.14	0.24
Good	0.05	0.11	0.03	0.12	0.08	0.1	0.03	0.11	0.15	0.22

Interpretation: there are **no significant sentiment differences** between target group and all participants, when they answer the question "why its hard to do social distancing". But our target group are **less positive** when they described the obstacles compared to good citizens.

White (N =1175) Non-white (N=99)

Sentiment	Anger	Anticipation	Disgust	Fear	Joy	Sadness	Surprise	Trust	Negative	Positive
White	0.05	0.11	0.03	0.1	0.07	0.1	0.04	0.12	0.14	0.25
Non-white	0.04	0.11	0.02	0.1	0.09	0.09	0.03	0.1	0.15	0.28

Interpretation: white groups are **less** likely to use **positive** words in describing the "hard to social distancing" compared with non-white groups among our audiences. They are also **slightly less** likely to use **joy** related words, but they used **slightly more trust** related words.

Q45: What benefits would you personally derive if you were to do more social distancing?

Target Group vs All Participants vs Good Citizens [all answers]

Sentiment	Anger	Anticipation	Disgust	Fear	Joy	Sadness	Surprise	Trust	Negative	Positive
Target	0.03	0.13	0.07	0.09	0.07	0.1	0.04	0.08	0.2	0.18
General	0.03	0.14	0.05	0.08	0.09	0.08	0.04	0.11	0.15	0.23
Good	0.03	0.14	0.05	0.09	0.08	0.08	0.04	0.1	0.15	0.23

Interpretation: our target group showed **more negative** sentiment when they answered what the benefit is for social distancing, compared with all participants and good citizens. Specifically, they used **less trust** related words. They are also **more** likely to show **disgust and sadness**.

White (N =1175) Non-white (N=99)

Sentiment	Anger	Anticipation	Disgust	Fear	Joy	Sadness	Surprise	Trust	Negative	Positive
White	0.03	0.13	0.07	0.09	0.07	0.11	0.04	0.08	0.2	0.18
Non-white	0.02	0.16	0.04	0.08	0.09	0.08	0.04	0.09	0.18	0.22

Interpretation: Among our target audiences, white groups used **fewer positive** words in describing the benefit of social distancing compared with non-white groups. Also, they showed **more sadness, disgust and less anticipation.**