Social Media Monitoring

APRIL–MAY 2020

THE WORLD BANK IBRD • IDA   Australian Government

❶ Key Messages

There is a high level of knowledge on COVID-19, with most respondents aware of common symptoms and following preventative health measures. However, citizens face challenges maintaining social distancing recommendations when they need to purchase food and in their jobs. These challenges are more prevalent among lower income groups
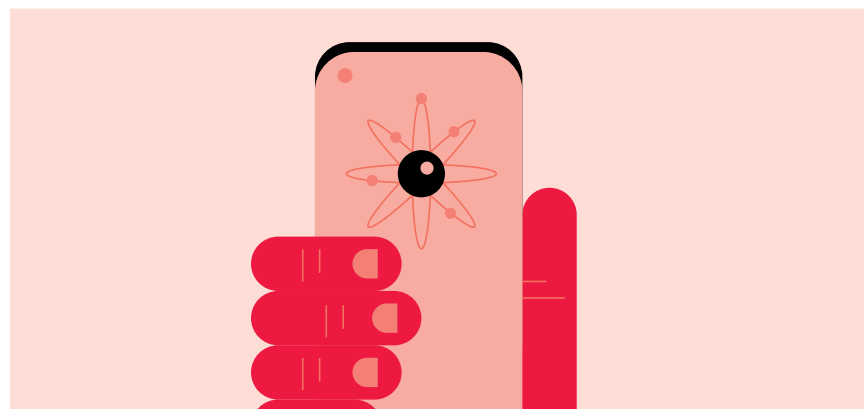
Discussion on COVID-19 in social media spiked around the time large-scale social restrictions were introduced and common topics of conversation revolved around health care, food access, and job loss. Complementary survey data finds that these are citizens' biggest concerns, over half indicated working fewer days, and about a quarter facing some level of food insecurity.
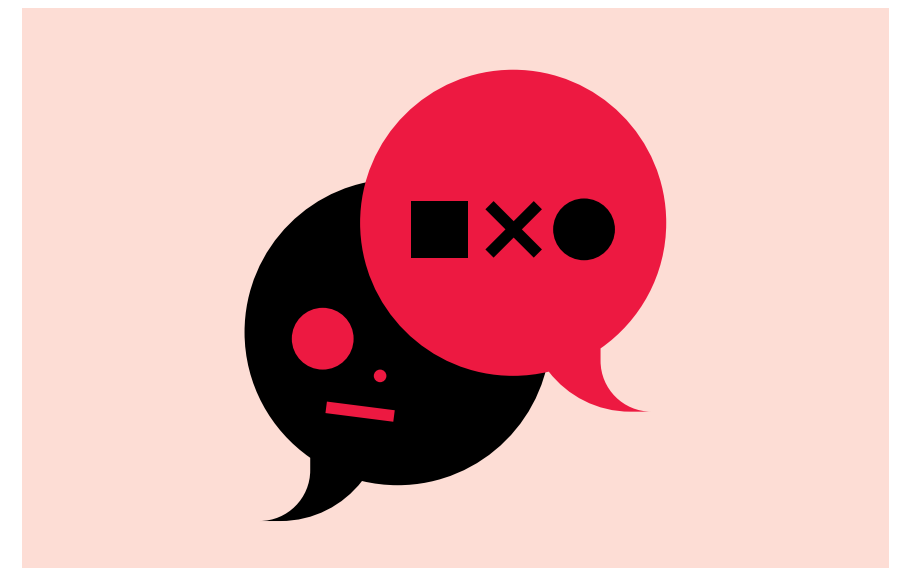
While the overall tone in the discussions on social media and in online news sources has been moderating, the government handling of the situation is widely discussed, and survey respondents indicate concerns regarding social unrest and a wish for further government action.
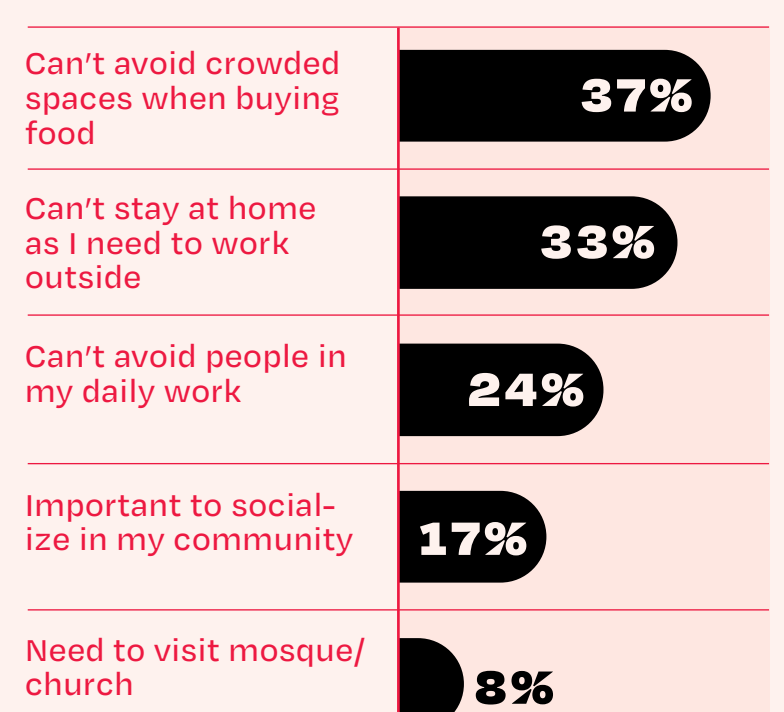
❷ Findings

2.1   On awareness and behavior change

There is a high level of knowledge on COVID-19. For example, over 75 percent of online survey respondents correctly identify the three main symptoms of COVID-19 as shortness of breath, fever, and cough.[1] This high level of awareness is followed by changes in behavior to follow recommended preventative health measures. For instance, 95 percent reported washing their hands with soap more often, 75 percent reported avoiding touching their eyes, nose, and mouth, 92 percent avoid social gatherings, and 91 percent cancelled their travel plans for Idul Fitri. These changes in behavior can also be observed through conversations on social media where #dirumahaja (stay at home) is one of the most shared hashtags.

Even though most people try to follow social distancing, only 41 percent report having no challenges in adhering to it. Needing to go out to work, working in interactive environments and being unable to avoid crowded places when purchasing food are the main obstacles reported (Figure 1). All these challenges are more severe for lower income groups.

About 7 percent of respondents report moving back to their villages because of unemployment. This result is more modest than other survey findings, where up to 38 percent of men and 34 percent of women report moving since the crisis began.[2] Migratory movements are more common within districts or cities than across districts or cities, however.

Figure 1 Challenges in following social distancing and public health measures

Can't avoid crowded spaces when buying food	37%
Can't stay at home as I need to work outside	33%
Can't avoid people in my daily work	24%
Important to socialize in my community	17%
Need to visit mosque/church	8%

1 Data was collected online via social media from 3,375 survey respondents between 20th April to 20th May 2020 - see methods section for more details.

2 JPAL survey data reported at 10th May from data collected since 29th March 2020, covering 2,500 respondents
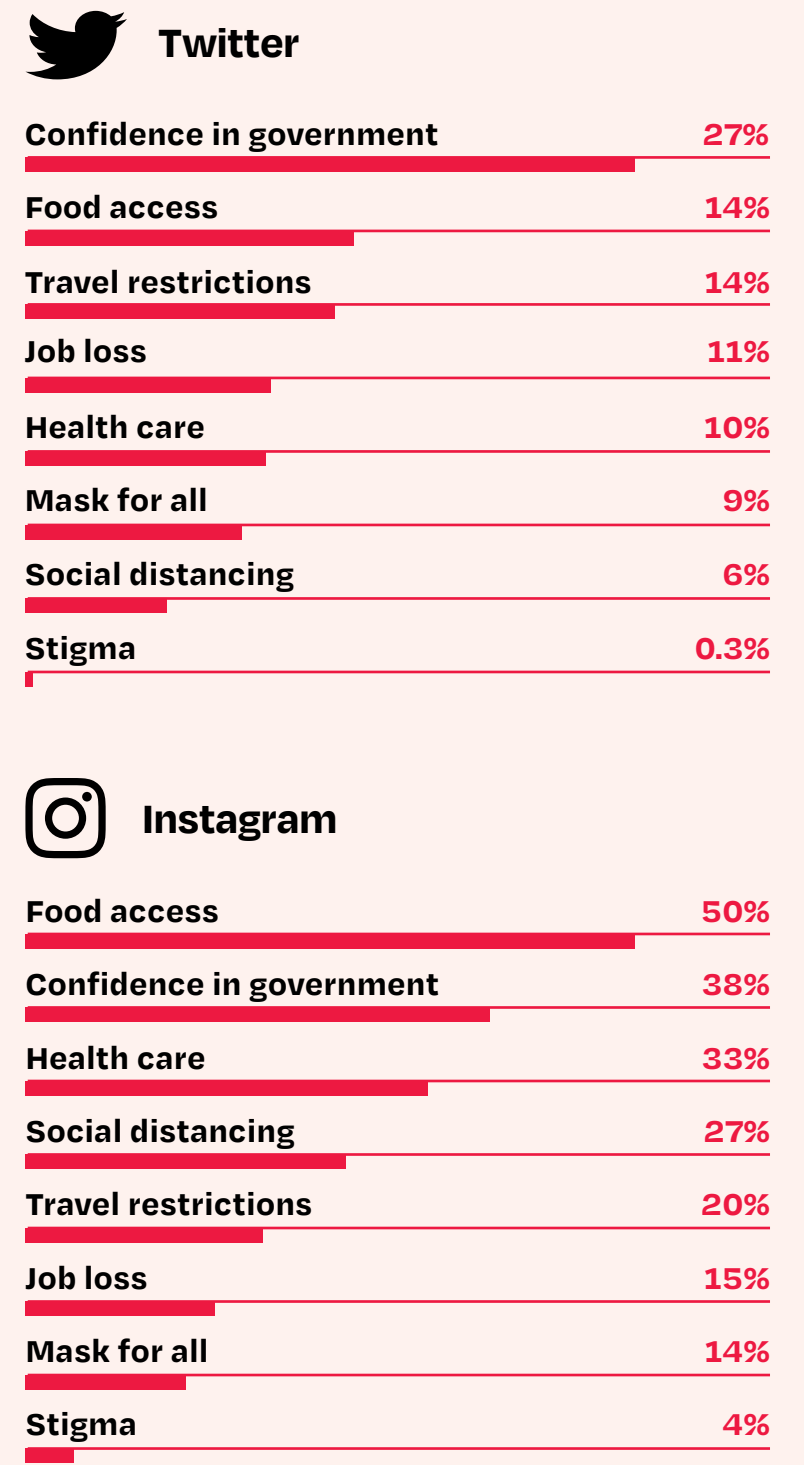
2.2   On concerns and vulnerabilities

Attention to COVID-19, as measured through online conversations, has peaked around important policy announcements. For example, the introduction of large-scale social restrictions (LSSR) or the ban on the Idul Fitri mudik, led to large spikes in the volume of tweets.[3] Geographically, cities and districts with higher COVID-19 caseloads, also have higher volumes of tweets. In both Instagram and Twitter, the government handling of the situation and food access are the top two most salient topics discussed (Figure 2). However, across time and across platforms there are variations in the attention to different topics (Figure 3). For example, attention to job loss is more prevalent on Twitter and has grown recently, while attention to healthcare, food access and social distancing is greater on Instagram. This may reflect the gender differences in user bases with more females using Instagram and more males using Twitter.

On the government handling of COVID-19, Indonesia's national police and soldiers are widely discussed subtopics as they are primary actors in ensuring that LSSR are implemented. Discussion around local government and central government actions also emerges as a subtopic given their differing policies to help recovery from pandemic. In late March, wet markets were a major topic under food access as they changed the opening hours. On travel restriction, 'mudik' has been a trending topic as many people are still discussing whether to go home despite the government's travel advisories.

The concerns raised through social media are also reflected in the online survey (Figure 4). After getting sick and caring for the sick, the next highest concerns are job loss and food access. Having enough to eat is a more pronounced concern among the poorest, where 21% report it as their biggest worry. These results align with other crowdsourced survey efforts which find that getting infected is a primary concern, followed by the negative short-term economic effects.[4]

Figure 2 Distribution of topics discussed on Twitter and Instagram

Twitter

Confidence in government	27%
Food access	14%
Travel restrictions	14%
Job loss	11%
Health care	10%
Mask for all	9%
Social distancing	6%
Stigma	0.3%

Instagram

Food access	50%
Confidence in government	38%
Health care	33%
Social distancing	27%
Travel restrictions	20%
Job loss	15%
Mask for all	14%
Stigma	4%

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[3] This is true even after normalizing by total number of tweets per location to account for population density effects.
[4] Premise Global Impact Survey. Indonesia results, N=2,749, as of 14th May 2020. Data collection started 2nd April 2020.

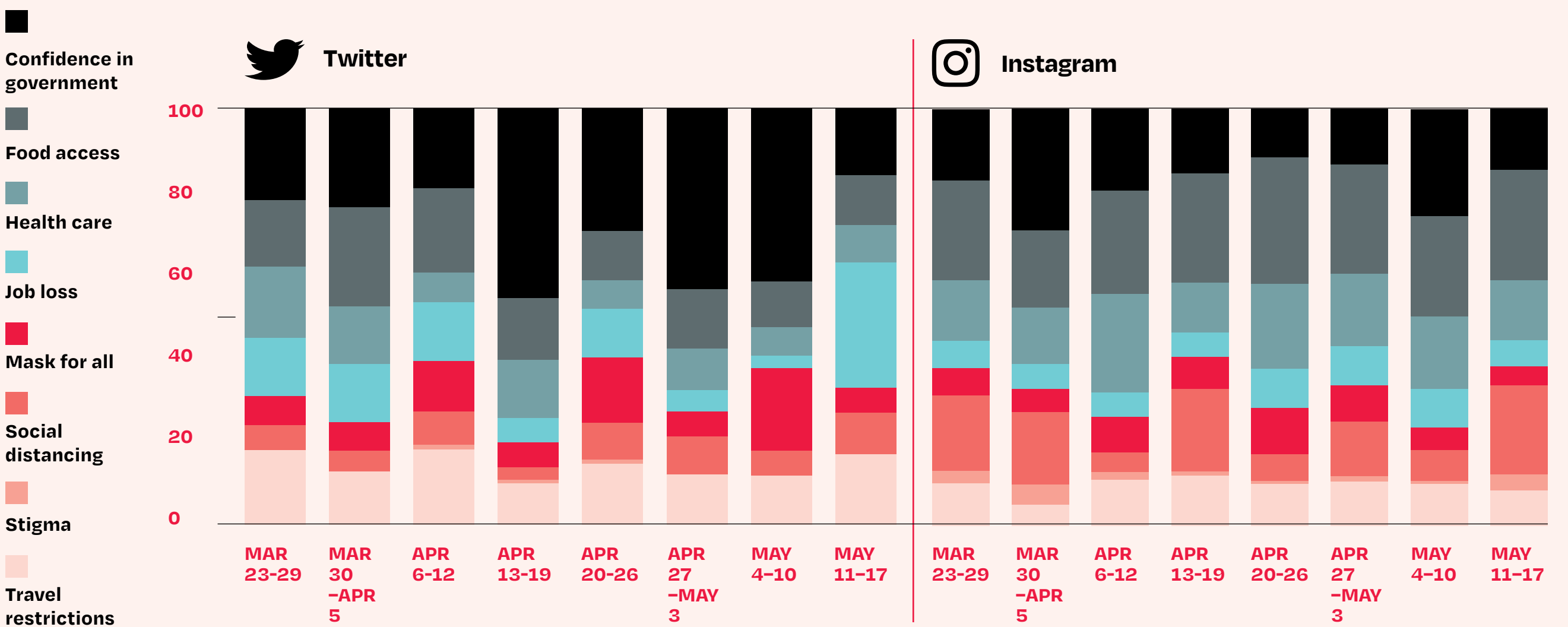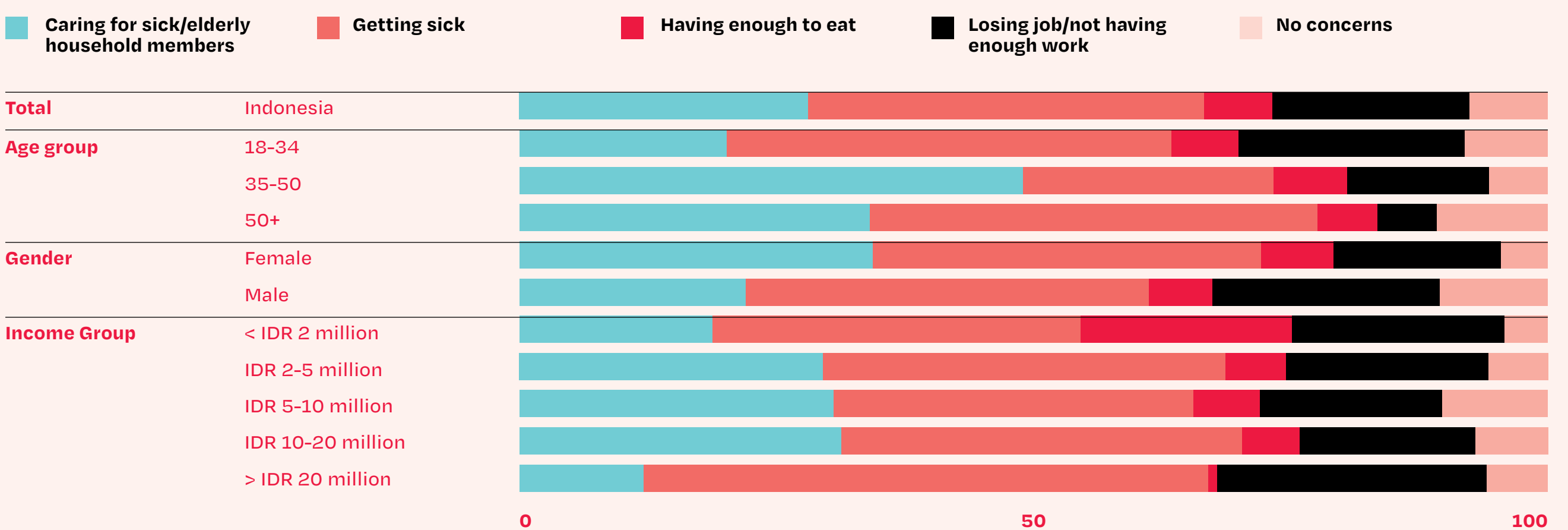**Figure 3** Weekly topic trends on Twitter and Instagram

Legend: Confidence in government, Food access, Health care, Job loss, Mask for all, Social distancing, Stigma, Travel restrictions

Twitter / Instagram — weeks: MAR 23-29, MAR 30–APR 5, APR 6-12, APR 13-19, APR 20-26, APR 27–MAY 3, MAY 4-10, MAY 11-17

Figure 4 Top Concerns of Survey Respondents

Legend: Caring for sick/elderly household members, Getting sick, Having enough to eat, Losing job/not having enough work, No concerns

Total	Indonesia
Age group	18-34
	35-50
	50+
Gender	Female
	Male
Income Group	< IDR 2 million
	IDR 2-5 million
	IDR 5-10 million
	IDR 10-20 million
	> IDR 20 million

2.3   Sentiment analysis

The overall sentiment tone on social media and online news is mildly negative, and in online news it has further moderated since the end of April. However, the online survey shows stronger negative citizen perspectives, as more than half of the respondents felt that the government handling of the situation has been insufficient. This was with respect to both central and provincial governments. In relation to this up to 73 percent of respondents are worried about social disorder and unrest. There is also a wide perception (by 65 percent) that it will take more than 2 months for things to return to normal.

Comparison surveys confirm the dissatisfaction with government actions, although different surveys report different levels of magnitude.[5]

5 Consortium of international researchers via covid19-survey.org find 84% Indonesians felt government response was insufficient (N=1,618; data collected between March 20-May 1, 2020), while Premise Global Impact Survey find 22% felt government response was insufficient (N=2,749; April 2- May 14, 2020).

## 2.4   Sample representativeness and survey comparisons

Compared to the population of adult Indonesians with internet access, the online survey sample is skewed to a younger age group (18-34), lower income group (less than IDR 2 million and IDR 2-5 million group), and higher representativeness in the Java-Bali region. Skewness to the younger age group reflects the demographics of social media users as both Twitter and Instagram users are heavily distributed in 19-29 age group.

Figure 5 Sentiments regarding government handling of the situation in %, mid-April to mid-May 2020

Q: Do you think the reaction by the central government to the current coronavirus outbreak is appropriate, too extreme or not sufficient?

Too extreme
Appropriate
30%
68%
Not sufficient
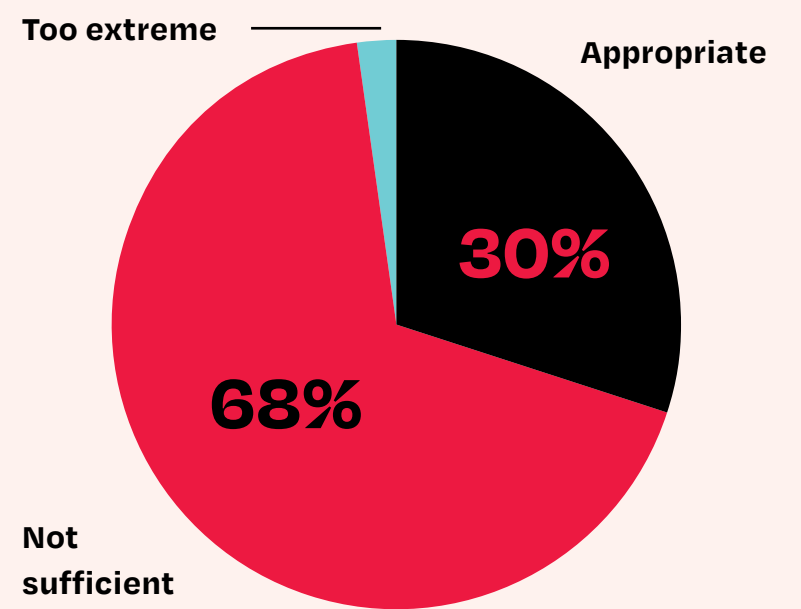
Q: Do you think the reaction by your provincial government to the current coronavirus outbreak is appropriate, too extreme or not sufficient?
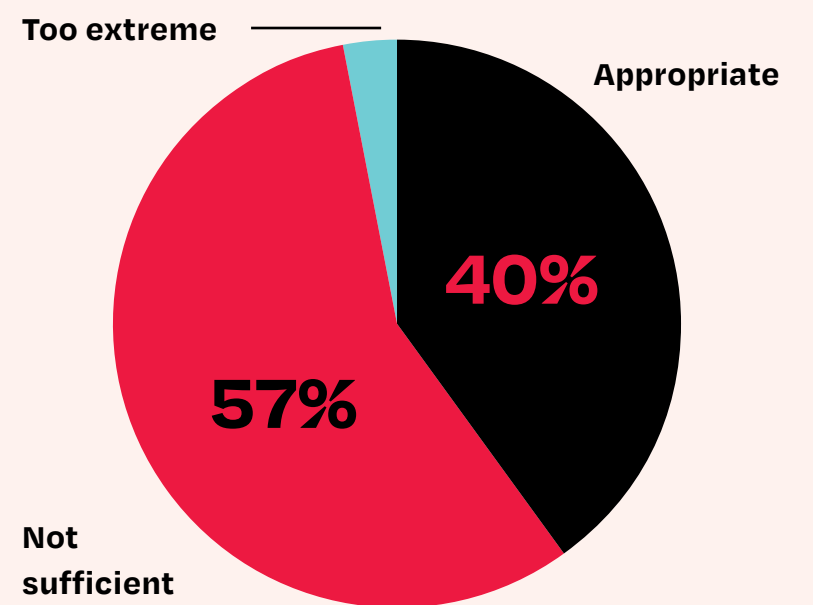

Too extreme
Appropriate
40%
57%
Not sufficient

Figure 6 How well does the SM survey capture Indonesia's online population on age distribution?

■ SM Survey
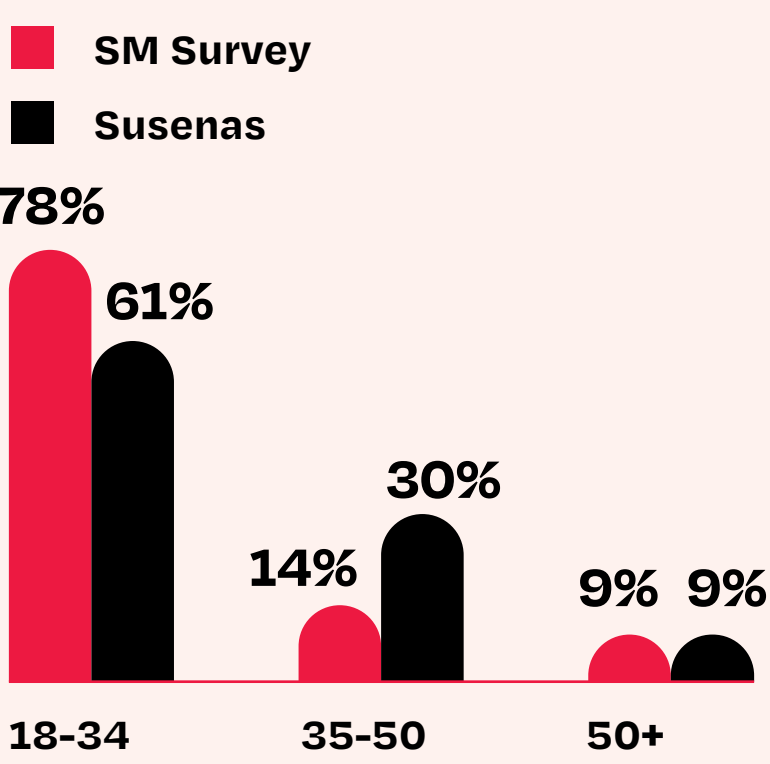■ Susenas

78% 61% 14% 30% 9% 9%
18-34   35-50   50+

Figure 7 How well does the SM Survey capture Indonesia's online population by income group?

Less than IDR 2 million	IDR 2-5 million	IDR 5-10 million	IDR 10-20 million	More than IDR 20 million
SM SURVEY				
22%	45%	15%	9%	9%
SUSENAS				
7%	32%	39%	12%	9%
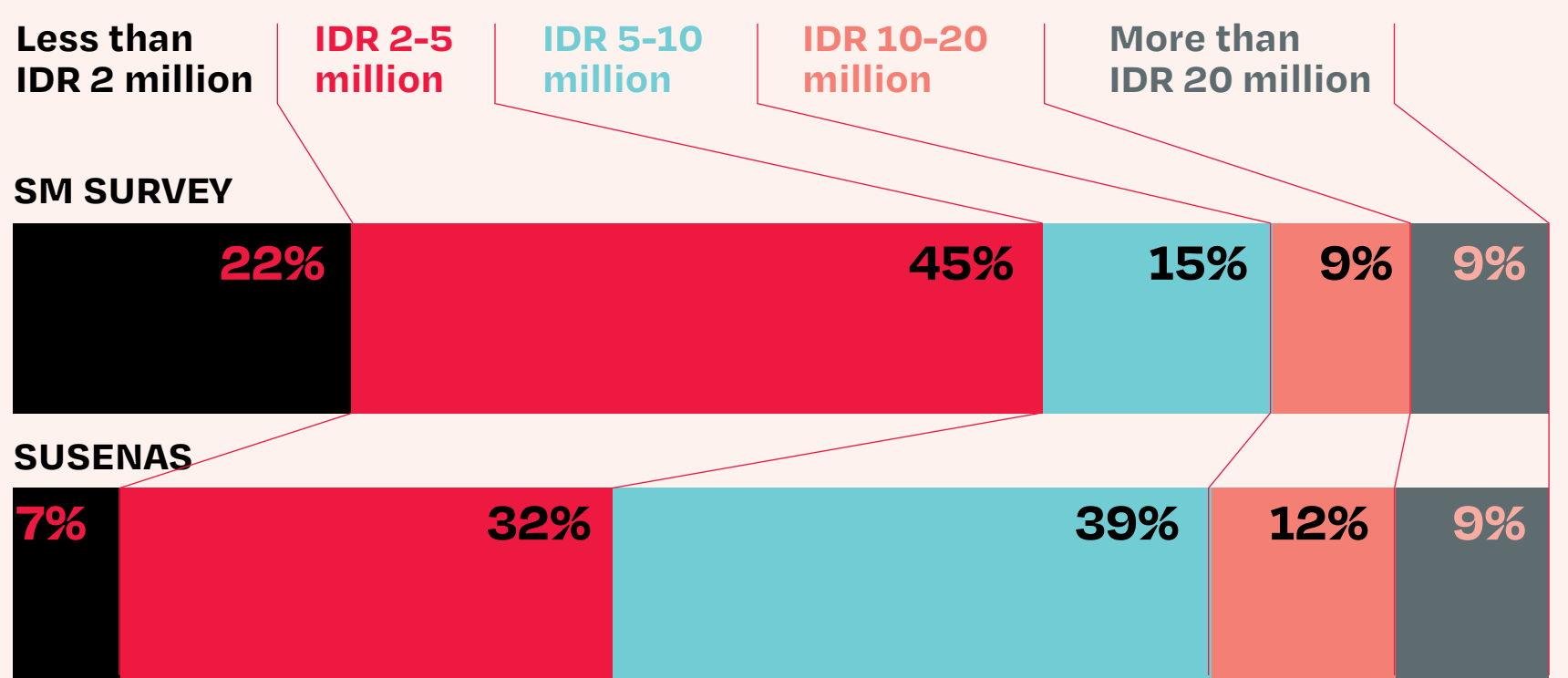
Figure 8 How well does the SM Survey capture Indonesia's online population by region?

■ SM Survey
■ Susenas

80
60
40
20
0

Jakarta   Java-Bali   Kalimantan   Maluku   Nusa Tenggara   Papua   Sulawesi   Sumatera
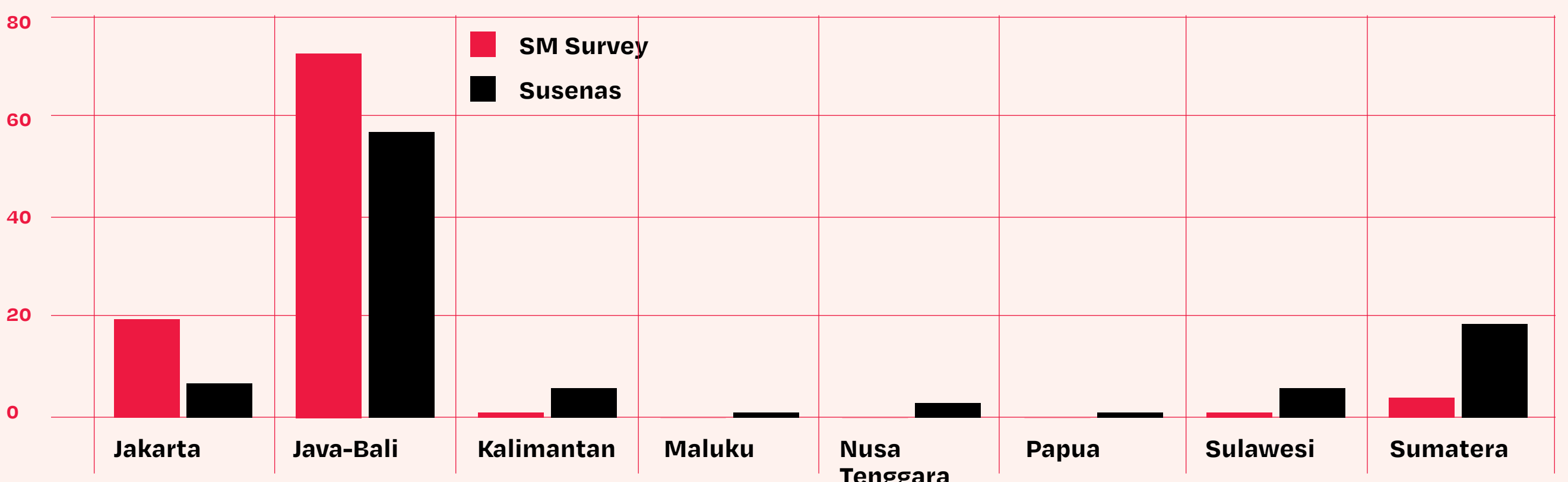
❸ Methodology

Online conversations about COVID-19 are monitored through collecting Twitter tweets and Instagram posts with COVID-related hashtags and geotag information. This amounted to over 3 million tweets from 410,000 unique Twitter users and 5.1 million Instagram posts from over 1 million unique Instagram users.[6] The content of these posts is analyzed using two approaches: (i) unsupervised Latent Dirichlet Allocation (LDA) to review trending topics, and (ii) word embedding methods to identify the volume of conversation on pre-identified topics. To complement this social media data, online news media data is accessed from GDELT repos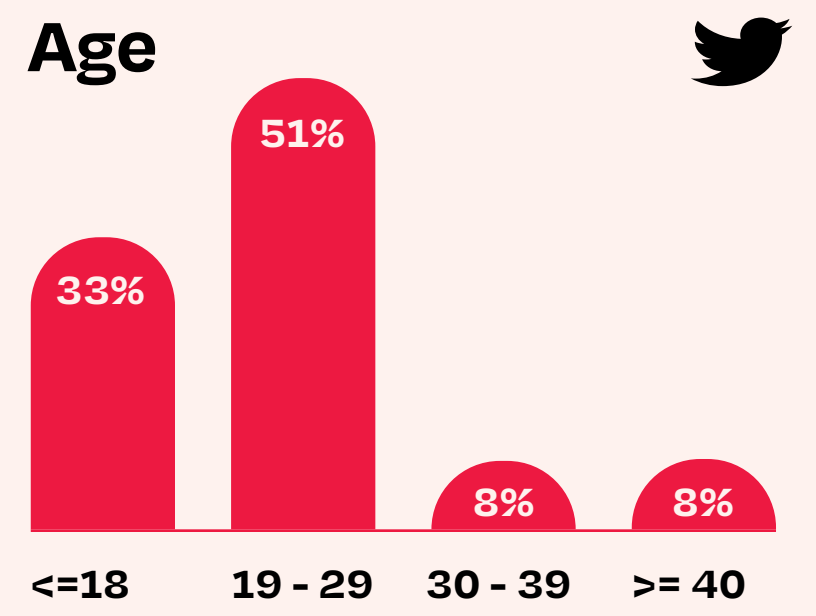itory of headlines covering over 200,000 articles and 98 different sources. Data collection for all sources began on in the last week of March 2020.

To compare online conversation with om-the-ground situation, an online survey collected additional data from 3,375 respondents between April 20th to May 20th. This survey was distributed through Facebook to targeted audiences and through the networks of social media influencers. Ex-post survey weights were applied to improve representativeness of sample. In order to provide a holistic view of the on-the ground situation, these survey results were compared to other COVID-19 surveys conducted in Indonesia since March 2020.

6 This user base has a young demographic with the majority being aged below 30 years old. Twitter has a stronger male user base, while Instagram has a stronger female userbase.
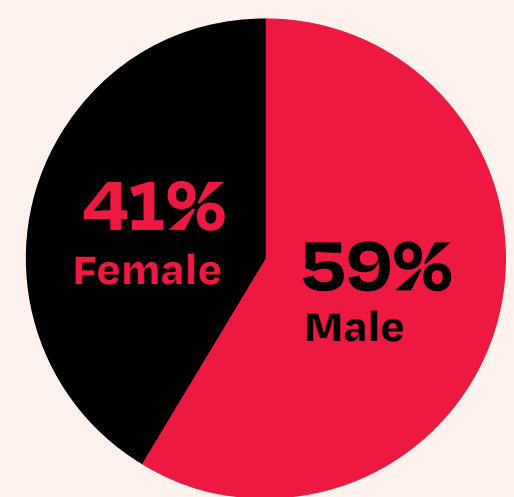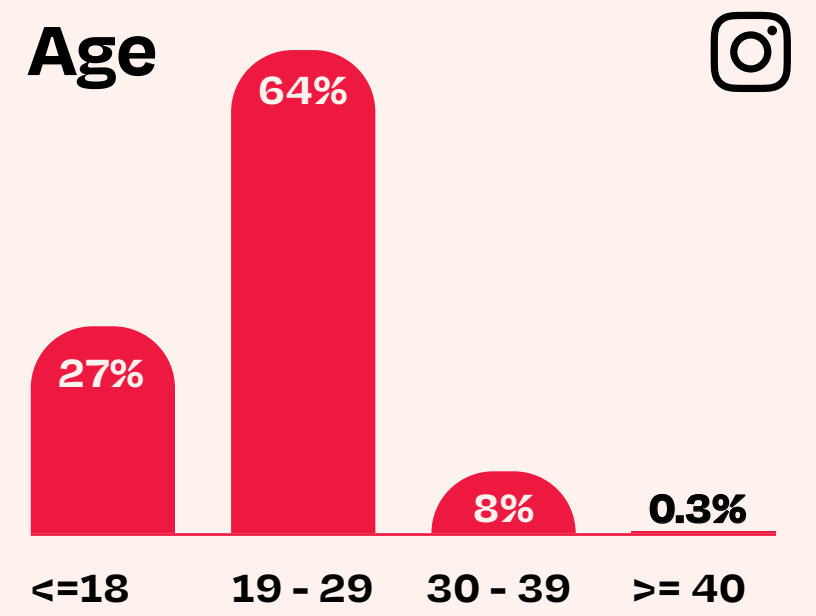

Figure 9 Twitter Users Distribution

Age

33% <=18
51% 19 - 29
8% 30 - 39
8% >= 40

Gender

41% Female
59% Male

Figure 9 Instagram Users Distribution

Age

27% <=18
64% 19 - 29
8% 30 - 39
0.3% >= 40

Gender

37% Male
63% Female