Crisis is a Gateway to Censored Information: The Case of Coronavirus in China

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Crisis and Information Seeking

- Dependence on the media increases during crisis
Crisis and Information Seeking

- Dependence on the media increases during crisis
- But independent media is not available in many places
Is Crisis a Gateway to Uncensored Information?

- Censorship impedes access to information
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  - Does crisis inspire censorship circumvention?
  - Do people circumvent censorship to seek out information only about the crisis?
  - Or does crisis provide a gateway to long censored information?
  - Gateway effects may make crises additionally sensitive for autocracies
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- March 13: first lockdown removal in Hubei Province
Empirical Tests

1. Do individuals circumvent censorship more during crisis?

• VPN ranking; increased use of blocked services; new Twitter users

2. What do individuals access once they circumvent censorship?

• Wikipedia traffic; Twitter accounts that receive disproportionate numbers of new followers from mainland China

3. Do individuals access non-crisis sensitive information?

• Wikipedia traffic to blocked pages; new mainland China followers for activists and foreign political figures

4. Do these same dynamics occur in democracies and less censored environments?

• Wikipedia page views in Germany, Italy, Iran, and Russia
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iPhone Application Downloads in China
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VPN Ranking

Wuhan Lockdown

Date (2020)

Jan 01
Feb 01
Mar 01

Rank
iPhone Application Downloads in China

Facebook, App Ranking

Date (2020)

Rank

Wuhan Lockdown

Jan 01  Feb 01  Mar 01

0

400

8/31
iPhone Application Downloads in China

Twitter, App Ranking

Date (2020)

Rank

Jan 01
Feb 01
Mar 01

Wuhan Lockdown
iPhone Application Downloads in China

Wikipedia, Reference App Ranking

Wuhan Lockdown

Date (2020)
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Number of geo-locating users in China posting in Chinese

Date

Number of geo-locating users in China posting in Chinese

Jan Mar May Jul

Lockdown

1.4x

1.1x

Jan Mar May Jul

12/31
Fraction of geo-locating users who joined in last 30 days

0.00
0.05
0.10
0.15

Jan Mar May Jul

Lockdown +30 days

1.5x

Date
Increase in Twitter Activity by Province

Average Number of Users Geo-Locating Each Day After Wuhan Lockdown

<table>
<thead>
<tr>
<th>Province</th>
<th>Jump - January 24, 2020</th>
</tr>
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<tbody>
<tr>
<td>Guangdong</td>
<td>1.0</td>
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<tr>
<td>Anhui</td>
<td>1.0</td>
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<tr>
<td>Beijing</td>
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Jump after 90 days
Increase in Twitter Activity by Province

Average Number of Users Geo-locating Each Day After Wuhan Lockdown

- Guangdong: 50
- Anhui: 100
- Beijing: 150
Views of Wikipedia Pages in Chinese

ZH: Change in Page Views per Day

Date

Total Views (Compared to Pre-Covid Level)

Jan Mar May Jul

Lockdown

16/31
What information do people view on Twitter?

- Lots of content on both Twitter and Wikipedia

1. International news agencies
2. Chinese citizen journalists or political commentators
3. Activists, or other accounts disseminating political information
4. Pornography
5. State media and political figures
6. Entertainment or commercial influencers

Identify whether followers are from mainland China or HK.
What information do people view on Twitter?

- Lots of content on both Twitter and Wikipedia
- What types of information do users seek out?

Identify Chinese language accounts commonly followed
Categorize 5,000 most followed accounts into 6 categories:
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Twitter @ChineseWSJ Number of New Followers by Location

Dec 2019 Jan 2020 Wuhan Lockdown First Hubei Lockdown Removal Apr 2020

China
Hong Kong

0 50 100 150
(China / China Avg in Dec) / (HK / HK Avg in Dec)

International News Agencies
- 1.31x

Citizen Journalists / Political Bloggers
- 1.42x

Activists or US / Taiwan / Hong Kong Politics
- 1.23x
(China / China Avg in Dec) / (HK / HK Avg in Dec)
Relative Size of New Followers, China / Hong Kong

- International News Agencies
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- State Media or Chinese Officials
- Non-Political Bloggers or Entertainment Accounts
What do people view on Wikipedia?

- Examine page views of **three categories** of pages:
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- How do **page views** in each category change **relative to all other pages**?
Increases in Wikipedia Page Views By Category

ZH: Page Views by Category

Lockdown

Current Leader Pages
Historical Leader Pages
Blocked Pages (pre-https)
Rest of Wikipedia (=1)
Ratio of Mobile to Desktop Views (7-day MA)
Comparison to where Wikipedia is not censored

- Examine Wikipedia page views for other countries that:
  - Do not censor Wikipedia
  - Language primarily spoken within that country
  - Experienced similar COVID crises & lockdowns
  - Because Wikipedia uncensored, we do not expect a gateway

  - Countries:
    - Italy: March 9, 2020-May 18, 2020
    - Germany: March 22, 2020-May 6, 2020
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- Examine the same categories:
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Comparison to where Wikipedia is not censored

- Examine Wikipedia page views for other countries that:
  - Do not censor Wikipedia
  - Language primarily spoken within that country
  - Experienced similar COVID crises & lockdowns

- Because Wikipedia uncensored, we do not expect a gateway

- Countries:
  - **Italy**: March 9, 2020-May 18, 2020
  - **Germany**: March 22, 2020-May 6, 2020
  - **Russia**: March 28, 2020-May 12, 2020
  - **Iran**: March 20, 2020-April 18, 2020

- Examine the same categories:
  1. Current leaders
  2. Historical leaders
  3. Pages that were selectively blocked pre-2015 (Iran)
<table>
<thead>
<tr>
<th>Language</th>
<th>Overall</th>
<th>Blocked relative to overall</th>
<th>Leaders</th>
<th>Historical Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese</td>
<td>1.09</td>
<td>1.15</td>
<td>1.86</td>
<td>1.42</td>
</tr>
<tr>
<td></td>
<td>(1.05 - 1.12)</td>
<td>(1.09 - 1.22)</td>
<td>(1.67 - 2.07)</td>
<td>(1.32 - 1.52)</td>
</tr>
<tr>
<td>Persian</td>
<td>1.42</td>
<td>0.84</td>
<td>0.91</td>
<td>0.82</td>
</tr>
<tr>
<td></td>
<td>(1.37 - 1.46)</td>
<td>(0.79 - 0.89)</td>
<td>(0.80 - 1.05)</td>
<td>(0.75 - 0.90)</td>
</tr>
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<td>Russian</td>
<td>1.23</td>
<td></td>
<td>1.73</td>
<td>0.90</td>
</tr>
<tr>
<td></td>
<td>(1.18 - 1.28)</td>
<td></td>
<td>(1.48 - 2.02)</td>
<td>(0.82 - 0.99)</td>
</tr>
<tr>
<td>German</td>
<td>1.16</td>
<td></td>
<td>2.36</td>
<td>1.21</td>
</tr>
<tr>
<td></td>
<td>(1.12 - 1.20)</td>
<td></td>
<td>(2.02 - 2.76)</td>
<td>(1.05 - 1.40)</td>
</tr>
<tr>
<td>Italian</td>
<td>1.47</td>
<td></td>
<td>3.29</td>
<td>1.17</td>
</tr>
<tr>
<td></td>
<td>(1.40 - 1.53)</td>
<td></td>
<td>(2.72 - 4.00)</td>
<td>(1.02 - 1.34)</td>
</tr>
</tbody>
</table>
Increases in Wikipedia Page Views in German

DE: Page Views by Category

Wikipedia Page Views
Ratio to Rest of Wikipedia

Current Leader Pages
Historical Leader Pages
Rest of Wikipedia (=1)
Ratio of Mobile to Desktop Views (7−day MA)

Lockdown in Italy
Lockdown

Jan Mar May Jul

Date

Jan
Mar
May
Jul
Increases in Wikipedia Page Views in Italian

IT: Page Views by Category

- Current Leader Pages
- Historical Leader Pages
- Rest of Wikipedia (=1)
- Ratio of Mobile to Desktop Views (7-day MA)

Date:
- Jan
- Mar
- May
- Jul

Ratio to Rest of Wikipedia:
- 0.5
- 1
- 2
- 4

Lockdown
Increases in Wikipedia Page Views in Chinese

ZH: Page Views by Category

Lockdown

- Current Leader Pages
- Historical Leader Pages
- Blocked Pages (pre-https)
- Rest of Wikipedia (=1)
- Ratio of Mobile to Desktop Views (7-day MA)
Conclusion

- Crisis increases attention to the media
Conclusion

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- In censored environments:
Conclusion

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  - Increases information seeking outside of state media
Conclusion

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- In censored environments:
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  - long-censored platforms
  - sensitive information
- May provide a reason why crisis additionally sensitive for autocrats