Appendix B: Coding scheme with definitions and operationalizations

The table below introduces the definition and attributes for our four content analysis variables: post types, origin types, responsibility attribution, and sources cited. **Post types** include: 1) conspiracy posts, 2) debunking posts that correct conspiracy narratives, and 3) irrelevant to conspiracies or debunking: other posts which contain conspiracy keywords but are not specifically about COVID-19 origin (e.g., conspiracy or debunking posts about local government corruption). **Origin types** concern the various theories on the origins of COVID-19, including: (1) COVID-19 came from nature or some unknown origin (nature/unknown origin); (2) COVID-19 was entirely developed by humans (human synthesis), (3) COVID-19 was the result of modifying the genes of one or more natural organisms (lab-edited), (4) COVID-19 was developed as a biological weapon (bioweapon), (5) COVID-19 is caused by 5G (5G), (6) Smoking e-cigarettes caused COVID-19 (e-cigarette), (7) Genetically modified crops caused COVID-19 (GMO), and (8) Others. **Responsibility attribution** concerns the country or entities who are responsible for causing the COVID-19 pandemic as pointed out in a post, including: (1) China, (2) The United States, (3) Japan, (4) Serbia, (5) other European countries, (6) Bill Gates, (7) other countries (outside of the above-mentioned countries), and (8) no clear responsibility attribution. **Sources cited** include: (1) government sources (documents, officials, organizations) (2) scientific scholars, (3) celebrities, (4) ordinary people, (5) foreign media, (6) Chinese media, (7) industry/companies, (8) non-governmental organizations, (9) others (outside of the above categories), and (10) no sources. For origin type, responsibility attribution and sources cited, coders were allowed to select multiple categories simultaneously.

<table>
<thead>
<tr>
<th>Category</th>
<th>Definition</th>
<th>Operationalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post types</td>
<td>・ Whether a post is relevant to conspiracy or not; if so, whether it debunks conspiracy or is about conspiracy</td>
<td>・ Conspiracy posts &lt;br&gt; ・ Debunking posts of conspiracy narratives&lt;br&gt; ・ Irrelevant to conspiracies or debunking</td>
</tr>
<tr>
<td>Origin types</td>
<td>・ Different conspiracies regarding the origin of coronavirus</td>
<td>・ Nature/unknown origin &lt;br&gt; ・ Human synthesis &lt;br&gt; ・ Lab-edited &lt;br&gt; ・ Bioweapon &lt;br&gt; ・ 5G &lt;br&gt; ・ E-cigarette &lt;br&gt; ・ GMO &lt;br&gt; ・ Others</td>
</tr>
<tr>
<td>Responsibility attribution</td>
<td>・ Whether a post blamed any countries/individuals for the origination of COVID-19</td>
<td>・ China &lt;br&gt; ・ The United States &lt;br&gt; ・ Japan</td>
</tr>
</tbody>
</table>
 Sources cited

- Source is a person, thing, or place from which information comes, arises, or is quoted or referenced in a post

- Government sources (documents, officials, organizations): Chinese government, the U.S. government, and the governments of other countries
- Scientific scholars
- Celebrities
- Ordinary people
- Foreign media
- Chinese media
- Industry/companies
- Non-governmental organizations
- Others (outside of the above categories)
- No sources