

## Appendix B: Coding scheme with definitions and operationalizations

The table below introduced 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.

Category	Definition	Operationalization
Post types	<ul style="list-style-type: none"><li>• Whether a post is relevant to conspiracy or not; if so, whether it debunks conspiracy or is about conspiracy</li></ul>	<ul style="list-style-type: none"><li>• Conspiracy posts</li><li>• Debunking posts of conspiracy narratives</li><li>• Irrelevant to conspiracies or debunking</li></ul>
Origin types	<ul style="list-style-type: none"><li>• Different conspiracies regarding the origin of coronavirus</li></ul>	<ul style="list-style-type: none"><li>• Nature/unknown origin</li><li>• Human synthesis</li><li>• Lab-edited</li><li>• Bioweapon</li><li>• 5G</li><li>• E-cigarette</li><li>• GMO</li><li>• Others</li></ul>
Responsibility attribution	<ul style="list-style-type: none"><li>• Whether a post blamed any countries/individuals for the origination of COVID-19</li></ul>	<ul style="list-style-type: none"><li>• China</li><li>• The United States</li><li>• Japan</li></ul>

		<ul style="list-style-type: none"> <li>• Serbia</li> <li>• Other European countries</li> <li>• Bill Gates</li> <li>• Other countries (outside of the above countries)</li> <li>• No clear responsibility attribution</li> </ul>
Sources cited	<ul style="list-style-type: none"> <li>• Source is a person, thing, or place from which information comes, arises, or is quoted or referenced in a post</li> </ul>	<ul style="list-style-type: none"> <li>• Government sources (documents, officials, organizations): Chinese government, the U.S. government, and the governments of other countries</li> <li>• Scientific scholars</li> <li>• Celebrities</li> <li>• Ordinary people</li> <li>• Foreign media</li> <li>• Chinese media</li> <li>• Industry/companies</li> <li>• Non-governmental organizations</li> <li>• Others (outside of the above categories)</li> <li>• No sources</li> </ul>

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