

Table 1. Keywords from *CTM* for Sulli's case

No.	Keywords from <i>CTM</i>	Themes
1	高功能，微笑，抑郁症，专家，会笑，积极，风险，判断，正常人，习以为常 high-functioning, smiling depression, expert, ability to smile, positivity, risk, judgement, normality, habituation	Smiling depression
2	八字，星盘，占星学，皇后，前世，超自然，神秘，白羊座，脆弱，抑郁症 Bazi, astrological chart, astrology, queen, past life, supernatural, mystery, Aries, vulnerability, depression	Mysterious/pseudoscientific forces and depression
3	10，症状，迹象，抑郁症，孤立，睡眠，恐惧，朋友，关心，可怕 ten, symptoms, indicators, depression, isolation, sleep, fear, friends, care, and terror	Ask users to assess whether they have depression
4	压力，抑郁症，千禧，财政，焦虑，崩溃，摆脱，情绪，脆弱，强大 stress, depression, millennials, fiscal issues, anxiety, collapse, escape, emotionality, vulnerability, and strength	Stress leads to depression
5	网络，暴力，刽子手，雪花，深渊，恶评，抑郁症，喷子，网暴，键盘侠 cyber, violence, executioners, snowflake, abyss, malicious reviews, depression, internet trolls, cyberbullying, and keyboard warrior	Cyberbully and depression
6	朋友，亲密，家人，求助，崩溃，抑郁症，父母，遗产，离婚，家庭 friends, intimacy, family, help-seeking, breakdown, depression, parents, inheritance, divorce, and domesticity	Personal family background and depression
7	娱乐圈，明星，抑郁症，韩国，公司，保护，奴隶，压榨，证据，黑暗 entertainment industry, celebrities, depression, South Korea, companies, protection, enslavement, exploitation, evidence, and darkness	Systematic risk in entertainment industry and celebrities' depression

8	韩国，明星，中国，压力，压榨，黑暗，网友，高危，网暴，官方	Celebrities in South Korea are more vulnerable to mental illness
	South Korea, celebrities, China, pressure, exploited, darkness, social media users, high-risky, cyberbullying, official	

Table 2. Keywords from *CTM* for Coco's case

No.	Keywords from <i>CTM</i>	Themes
1	去世，噩耗，不敢相信，震惊，轻生，自杀，热搜，昏迷，抢救，浴室 passed away, sad news, cannot believe, shocked, took her own life, suicide, hot search, coma, rescue, bathroom	Coco confirmed dead
2	抑郁症，病魔，心理，情绪，痛苦，挣扎，脆弱，黑暗，治疗，康复 depression, illness, mental, emotions, pain, struggle, fragile, darkness, treatment, recovery	Coco's battles with depression
3	老公，Bruce，婚变，出轨，分居，离婚，小三，女儿，继女，财产 husband, Bruce, martial change, cheating, separated, divorce, mistress, daughters, stepdaughter, property	Coco's martial issues
4	白人，老头，垃圾，白眼狼，中国，国外，出轨，骗子，财富，良心 white people, old man, trash, ungrateful person, China, foreign, cheating, liar, wealth, conscience	Netizen's outrage about Coco's husband

Detailed description of the implementation of these four procedures (investigator triangulation, audit trail, referential adequacy, and exemplar identification):

1. Investigator Triangulation

This involves using multiple researchers to review and analyze the data to ensure the findings are not based on one person's bias or subjective interpretation. In our research, the first author conducted the initial analysis, identifying and naming themes from CTM output. The second author then independently reviewed the same CTM topics, and the proposed themes. The two

researchers then met to compare their interpretations, discuss any disagreements, and reach a consensus on the final theme definitions and frame categorizations.

2. Audit Trail

It involves creating a detailed record of the entire research process. In practice, we maintained a comprehensive audit trail consisting of 1) the raw data collected by the Python crawlers. 2) the code and parameters used for the CTM topic modeling. 3) notes from the data familiarization phase. 4) a log of our analytical decisions, including how we moved from the raw CTM topics to the defined themes, and from the themes to the final frames. This includes the "supplementary file" mentioned in the manuscript, which shows the direct link between CTM keywords and our defined themes.

3. Referential Adequacy

It involves archiving a portion of the raw data so that it can be re-examined later to support the findings. During our research, we have archived the full datasets of all collected posts, comments and reposts. Throughout the writing process, when describing a particular frame, we repeatedly returned to this raw data archive to ensure our descriptions were accurate and well-supported by the actual content of the Weibo posts.

4. Exemplar Identification

It refers to the process of selecting clear, and representative examples from the data. In presenting our findings, we selected some examples of Weibo posts to represent the frames being described.

Table 3. Evolution of frames over time

Phase	Case	Frames Description
Phase 1	Sulli	Dominated by mental health frame: factual reporting of death confirmation and the severe depression of Sulli
	Coco Lee	Contestation between mental health and gossip frames: reporting on Coco's death, her struggle with depression and the rumors on her marital conflicts
Phase 2	Sulli	Shift from mental health frame to gossip frame: rumors of Sulli's experience in K-pop industry become prevail
	Coco Lee	Gossip frame intensifies, focusing on Coco's husband and her experience in a reality TV show
Phase 3	Sulli	Nationalism frame consolidates around a critique of foreign (South Korean) social system.
	Coco Lee	Mental health frame becomes dominant guided by institutional actors. Gossip frame fades and is replaced by patriotic mourning
Phase 4	Sulli	Dominated by nationalism frame: Sulli becomes a symbol of the Korean entertainment industry suicide curse
	Coco Lee	Dominated by mental health frame: an online mental health awareness campaign led by the institutional actors