

Response to Reviewer 1

We sincerely thank Reviewer 1 for the careful and constructive reading of our manuscript. Below we respond to each comment individually.

Comment 1. In line 45, you claim that "social media operates not only as an information infrastructure but also as an affective interface". Please clarify how this is possible and what this implies.

Response1: We appreciate this prompt for clarification. Social media functions as information infrastructure in the conventional sense—enabling rapid, wide-reach dissemination of factual disaster content. Its role as an affective interface, however, stems from its structural affordances: public visibility, viral reposting mechanisms, and reaction features that are not emotionally neutral but actively facilitate the expression, circulation, and mutual reinforcement of emotional states among users who may share no direct experiential connection to the disaster site. In transboundary disasters particularly, where geographic decoupling severs direct experiential access, it is precisely through these affective-infrastructure properties that distant publics construct emotional engagement with the event. In the revision, we will add a brief clarifying sentence at this point to make the distinction and its implications explicit.

Comment 2. In line 50, you referred to "evolving topic structures" without clarifying what this means. Please do this to ensure clarity.

Response2: By "evolving topic structures" we refer to the temporally shifting configuration of thematic clusters within disaster discourse—the way public attention successively reorganizes itself around different concerns (initial shock and factual information, then rescue operations, humanitarian response, and eventually recovery narratives) as the event unfolds. Named entities serve as the semantic anchors that give these structures their shape. We will insert a brief definitional parenthetical at line 50 to make this meaning transparent to readers.

Comment 3. The paragraph on the 2025 Myanmar earthquake (lines 53-65) appears under-supported, as several of the claims are not referenced. Please address this.

Response3: The reviewer is correct. Several empirical claims in that paragraph—including the characterization of the event's scale relative to prior disasters, the description of cross-border physical impacts in Yunnan, and the assertion of widespread emotional engagement on Weibo—currently lack citation support. In the revision, we will add references to seismological reports documenting the earthquake's parameters and regional impacts, and to prior literature on Chinese social media responses to neighboring-country disasters, to substantiate each of these claims.

Comment 4. In line 91, you do not clarify what "semantic chains" are. This may detract from the clarity of your work.

Response4: This is a valid concern, as "semantic chains" is a construct central to our framework yet was deployed without definition at its first appearance. We use the term to denote sequences of relationally co-occurring named entities—entities repeatedly co-mentioned across posts in ways that form structured, directional pathways of meaning within discourse. These chains constitute the referential scaffolding along which emotional content travels and transforms. We will add a concise definitional sentence at line 91 before the term is used analytically.

Comment 5. In line 99, "transnational solidarity, symbolic alignment, and cognitive resonance" should be individually briefly discussed to ensure the clarity of your contribution from the beginning of the paper.

Response5: Agreed. These three constructs were invoked in compressed form without sufficient unpacking. Briefly: transnational solidarity refers to the formation of collective affective bonds across national boundaries manifest as shared grief and concern for a foreign-affected population; symbolic alignment denotes the process by which users anchor their responses to culturally resonant referents (such as China's own historical earthquake experiences) to construct identification with distant victims; cognitive resonance describes the convergence of interpretive frames among dispersed users through repeated engagement with shared entity references and narrative structures. We will expand this passage in the revision to briefly gloss each construct in sequence.

Comment 6. The contribution of your work should also be highlighted further, following line 108, by explaining the relevance and motivations behind this growing research interest in this area.

Response6: We agree that the motivating intellectual context for this line of research was underarticulated. The growing interest in emotional dynamics within disaster social media discourse reflects converging theoretical, methodological, and practical imperatives: theoretically, there is increasing recognition that emotions in digital public spheres are primary mechanisms of meaning-construction rather than epiphenomenal reactions; methodologically, the availability of large-scale social media data alongside advances in NLP has opened new analytical possibilities; practically, emergency management and humanitarian communication fields increasingly recognize that public emotion is not peripheral but constitutive of crisis response dynamics. We will add a passage following line 108 to articulate these motivations and more explicitly situate our contribution within this broader context.

Comment 7. The dynamics mentioned in line 153 could also be discussed more explicitly.

Response7: The passage in question asserted that institutional and organizational entities function as discursive nodes structuring responsibility attribution, empathy mobilization, and collective frustration, but did not elaborate the mechanisms. In the revision, we will briefly explicate each: responsibility attribution operates through the narrative co-occurrence of crisis event entities with institutional actor entities, which positions institutions within evaluative frames; empathy mobilization occurs when victim-category entities are co-mentioned with affectively charged descriptors, channeling compassion toward identifiable human subjects; collective frustration emerges from the co-occurrence of institutional entities with failure-related outcome terms, activating shared moral evaluations. Supporting references will be added accordingly.

Comment 8. The key reasons for the importance of addressing the gap identified in line 163 should also be pointed out more clearly.

Response8: We will make the motivation more explicit. The gap matters at three levels: theoretically, treating emotion as semantically disembodied forecloses mechanism-based explanation—emotions are always emotions about something, and their trajectory cannot be adequately understood in abstraction from the referential structures to which they are attached; methodologically, without entity-level anchoring we can observe emotional trends but cannot explain the pathways through which they intensify or shift; practically, for disaster risk reduction purposes, identifying which semantic configurations drive which affective responses offers direct operational value for crisis communication design. We will incorporate these motivations in a revised passage at lines 163–168.

Comment 9. The graphs included in the results section could be described briefly for increased clarity and accessibility.

I hope this helps. All the very best.

Response9: This is a practical and well-taken suggestion. The network visualizations in Figures 8–11 in particular presuppose familiarity with graph-analytic conventions that cannot be assumed of all readers. In the revision, we will add brief explanatory sentences preceding each figure description, covering the visual encoding scheme (what node color, edge color, and edge thickness respectively represent) before moving to substantive interpretation. This is especially important for Figure 10 and Figure 11, where the density of the visualization risks obscuring the analytical logic without adequate verbal scaffolding.

We hope this response demonstrates our commitment to addressing the reviewer's concerns rigorously.