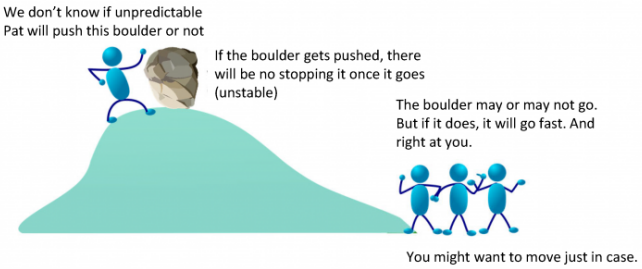
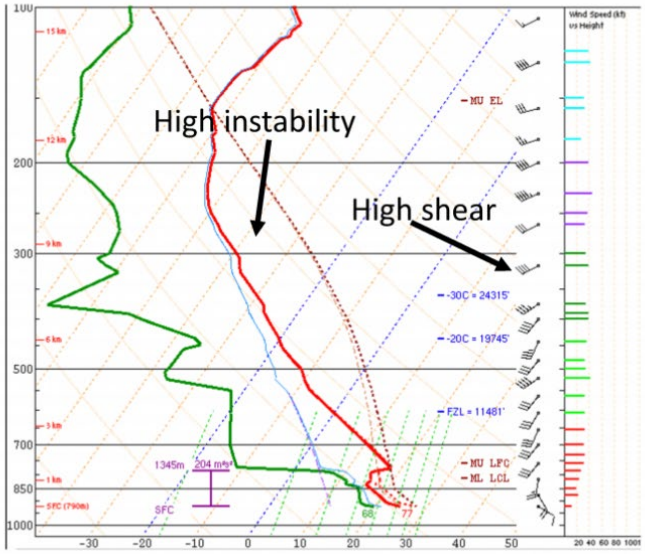
1. **Atwell Seate, A., Liu, B. F., Kim, J., Lee, S., & Hawblitzel, D. (2024). A silver lining to a busted forecast? Building relationships after the storm through humanising messages. *Journal of Contingencies and Crisis Management, 32*(2), e12571. https://doi.org/10.1111/1468-5973.12571**

1) Experimental Messages

Study 1: Missed Event	
Message	**Condition**
US National Weather Service 1m · We are saddened to see the damage that occurred to our community from last night's storm. We strive to ensure every person in our community is able to protect themselves before a dangerous storm like this hits, and in nearly all cases we are able to provide valuable life-saving notice beforehand. But the reality is that our radar has limitations and the tornado occurred without visual evidence of rotation on radar. This is why there wasn't any advance notice for last night's storm. The best we can do is learn from it and get better. We will take a closer look at this event.	Community care
US National Weather Service 1m · Our office finalized assessing the damage from last night's severe weather outbreak. The tornado that struck in our area last night occurred between radar scans and we had no visual evidence of rotation on radar. This is why a tornado warning was not issued for last night's storm. It is important to remember that tornadoes can and do appear without time to warn for them, as was the case with the tornado that affected our area last night. This is why we say to treat any storm in a tornado watch as though it could produce a tornado, with or without a warning. We will take a closer look at this event and determine how warning services can be improved in the future.	Organizational voice [scientific protective action guidance]

Study 2: False Alarm	
Message	**Condition**
US National Weather Service 1m · Yesterday we predicted a severe weather outbreak, including tornadoes for our community, but no severe weather occurred. Think about it this way--you're standing downhill from a large boulder that may or may not roll towards you. Using this analogy, last night we knew that the boulder was large and could lead to devastating consequences if it rolled towards you. What we didn't know was whether unpredictable Pat would push it towards you. Thankfully, Pat didn't, but we're glad everyone knew the risk was there just in case.  	Conversational human voice
US National Weather Service 1m · Yesterday we predicted a severe weather outbreak, including tornadoes for our area, but no severe weather occurred. While tornadoes didn't occur, the instability and wind shear that were in place were very high and necessitated the moderate risk for severe weather including tornadoes. It's important to remember that even with those parameters in place, severe weather may not always occur. In this case the forcing was not strong enough to produce tornadic thunderstorms. It is important that you are aware any time there is tornado risk.  	Organizational voice [standard scientific language]

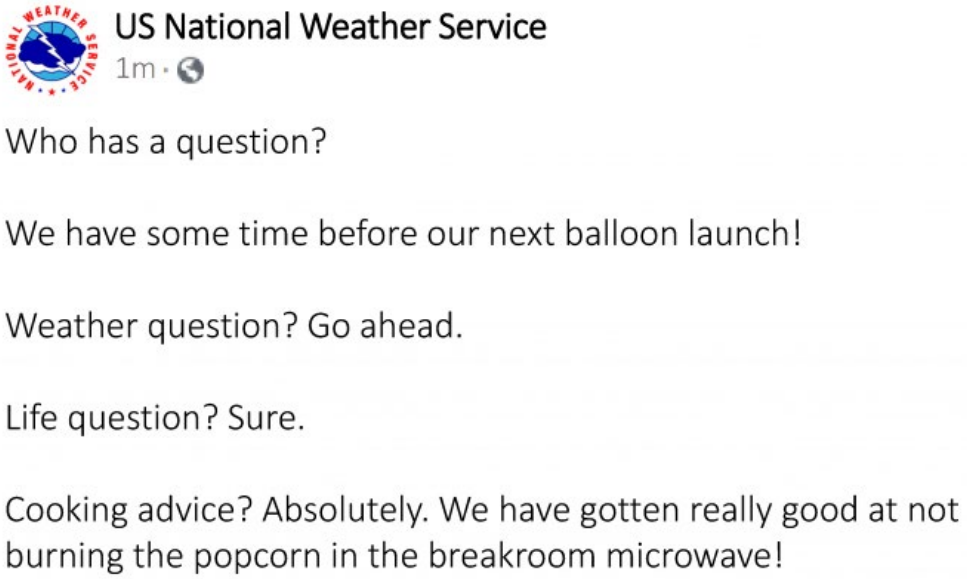
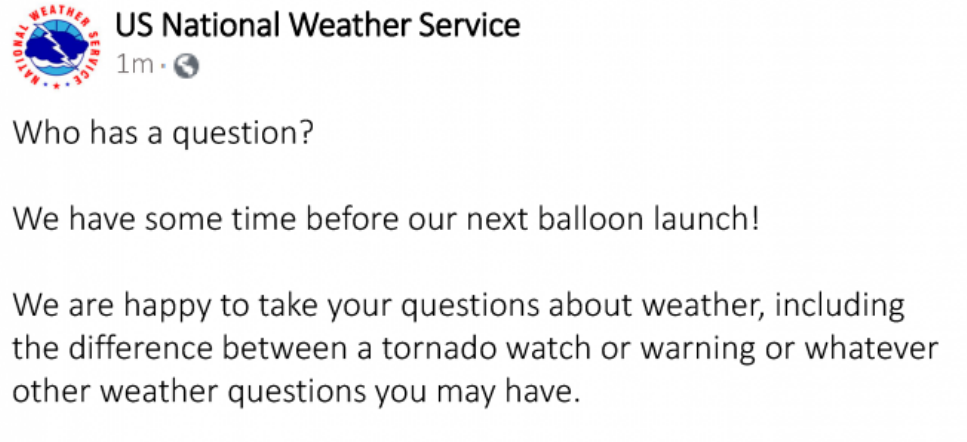
2) Measurement Items

Variable	Items
Perceived conversational human voice of the message	In this message, the local National Weather Service office _____: • Uses a sense of humor. • Makes communication enjoyable. • Seems like they would admit mistakes. • Seems like they would positively address complaints or queries.
Message passing	• I would share this message on my Facebook feed.
Community resilience	• People in my community are committed to the well-being of the community. • People in my community help each other. • My community has priorities and sets goals for the future. • My community tries to prevent disasters. • My community actively prepares for future disasters. • My community can provide emergency services during a disaster. • My community has services and programs to help people after a disaster. • My community keeps people informed about issues that are relevant to them. • My community provides information about what to do if a disaster occurs. • I get information/communication through my community to help with my home and work life.
Relationship: Trust	• Whenever the local National Weather Service office makes an important decision, I know it will be concerned about my community. • The local National Weather Service office can be relied on to keep its promises to my community.
Relationship: Control mutuality	• The local National Weather Service office and my community are attentive to what each other says. • The local National Weather Service office believes the opinions from my community are legitimate.
Relationship: Commitment	• The local National Weather Service office does NOT treat my community like "part of the family." [reversed] • The local National Weather Service office tries to create a great deal of personal meaning for my community. • The local National Weather Service office tries to create a long-lasting bond between themselves and my community.
Relationship: Satisfaction	• I am happy with what the local National Weather Service office does for and with my community. • I believe most members of the community are happy in their interactions with the local National Weather Service office.

Note. Items were measured on a 9-point Likert-type scale ranging from 1 = Strongly disagree to 9 = Strongly agree.

2. **Kim, J., Liu, B. F., Atwell Seate, A., Lee, S., & Hawblitzel, D. (2024). All joking aside? Comparing the effects of a humorous vs. a non-humorous message strategy in building organization–public relationships and community resilience. *Journal of Applied Communication Research, 52*(1), 110–128. https://doi.org/10.1080/00909882.2023.2208653**

1) Experimental Messages

Message	Condition
	Humorous
	Non-humorous

2) Measurement Items

Variable	Items
Perceived community resilience	• People in my community are committed to the well-being of the community. • People in my community help each other. • My community has priorities and sets goals for the future. • My community tries to prevent disasters. • My community actively prepares for future disasters. • My community can provide emergency services during a disaster. • My community has services and programs to help people after a disaster. • My community keeps people informed about issues that are relevant to them. • My community provides information about what to do if a disaster occurs. • I get information/communication through my community to help with my home and work life.
Perceived OPRs	**Trust** • Whenever the local National Weather Service office makes an important decision, I know it will be concerned about my community. • The local National Weather Service office can be relied on to keep its promises to my community. **Control mutuality** • The local National Weather Service office and my community are attentive to what each other says. • The local National Weather Service office believes the opinions from my community are legitimate. **Commitment** • The local National Weather Service office does NOT treat my community like "part of the family." [reversed] • The local National Weather Service office tries to create a great deal of personal meaning for my community. • The local National Weather Service office tries to create a long-lasting bond between themselves and my community. **Satisfaction** • I am happy with what the local National Weather Service office does for and with my community. • I believe most members of the community are happy in their interactions with the local National Weather Service office.
Weather salience	• I use online information to obtain weather forecasts or weather information (e.g., temperatures, radar images). • I use a cellphone weather app to obtain weather forecasts or weather information (e.g., temperatures, radar images). • I look at a weather radar on television or on the internet to see where precipitation (e.g., rain, thunderstorms, snow) may be occurring.

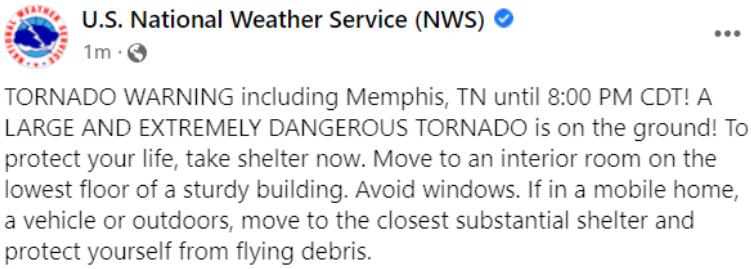
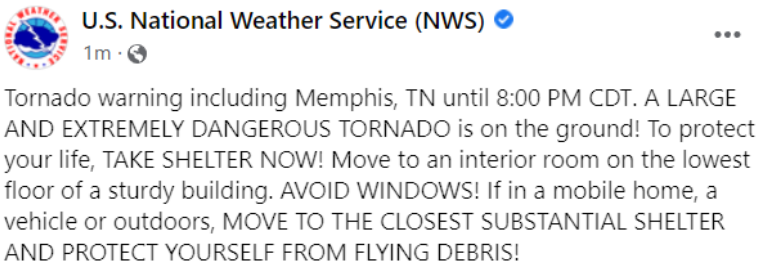
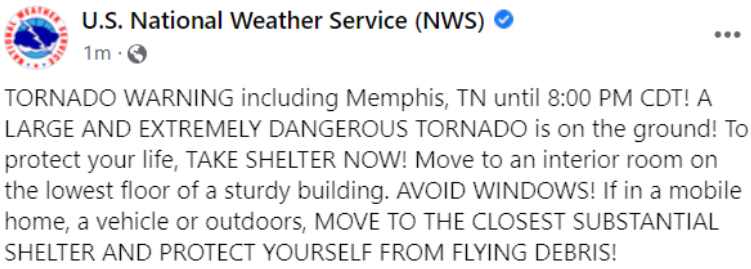
	• I seek out more up-to-date weather information than what is provided on television or radio. • I watch television or listen to the radio to get a weather forecast so that I can know what to expect. • I plan my daily routine around what the weather may bring. • If a friend or family member asked me what the weather forecast was for today, I could NOT tell them what to expect. • I only pay attention to what the weather is doing when the conditions become severe (e.g., tornado, flooding, heat wave, hurricane, thunderstorm, winter storm). • I take notice of changes that occur in the weather. • During certain seasons of the year, the weather conditions routinely (i.e., at least once per week) affect my ability to perform tasks at school or work. • The work that I do is affected by the daily weather conditions.

3. **Atwell Seate, A., Liu, B. F., Kim, J. Y., Lee, S., & Hawblitzel, D. (2024). The what and how of warning messages: An experimental examination of instructing information and linguistic features use. *Journal of Contingencies and Crisis Management*, *32*(4), e12630. https://doi.org/10.1111/1468-5973.12630**

1) Experimental Messages

Message	Instructing Level	Linguistic Feature
U.S. National Weather Service (NWS) 1m · Tornado warning including Memphis, TN until 8:00 PM CDT. A large and extremely dangerous tornado is on the ground.	Low	None
U.S. National Weather Service (NWS) 1m · Tornado warning including Memphis, TN until 8:00 PM CDT. A LARGE AND EXTREMELY DANGEROUS TORNADO is on the ground!	Low	Present on the threat
U.S. National Weather Service (NWS) 1m · TORNADO WARNING including Memphis, TN until 8:00 PM CDT! A LARGE AND EXTREMELY DANGEROUS TORNADO is on the ground!	Low	Present on the warning and the threat
U.S. National Weather Service (NWS) 1m · Tornado warning including Memphis, TN until 8:00 PM CDT. A large and extremely dangerous tornado is on the ground. Take shelter now.	Moderate	None
U.S. National Weather Service (NWS) 1m · Tornado warning including Memphis, TN until 8:00 PM CDT. A large and extremely dangerous tornado is on the ground. TAKE SHELTER NOW!	Moderate	Present on the protective action
U.S. National Weather Service (NWS) 1m · Tornado warning including Memphis, TN until 8:00 PM CDT. A LARGE AND EXTREMELY DANGEROUS TORNADO is on the ground! Take shelter now.	Moderate	Present on the threat

U.S. National Weather Service (NWS) 1m · TORNADO WARNING including Memphis, TN until 8:00 PM CDT! A LARGE AND EXTREMELY DANGEROUS TORNADO is on the ground! Take shelter now.	Moderate	Present on the warning and the threat
U.S. National Weather Service (NWS) 1m · Tornado warning including Memphis, TN until 8:00 PM CDT. A LARGE AND EXTREMELY DANGEROUS TORNADO is on the ground! TAKE SHELTER NOW!	Moderate	Present on the threat and protective action
U.S. National Weather Service (NWS) 1m · TORNADO WARNING including Memphis, TN until 8:00 PM CDT! A LARGE AND EXTREMELY DANGEROUS TORNADO is on the ground! TAKE SHELTER NOW!	Moderate	Present on the warning, the threat, and the protective action
U.S. National Weather Service (NWS) 1m · Tornado warning including Memphis, TN until 8:00 PM CDT. A large and extremely dangerous tornado is on the ground. To protect your life, take cover now. Move to an interior room on the lowest floor of a sturdy building. Avoid windows. If in a mobile home, a vehicle or outdoors, move to the closest substantial shelter and protect yourself from flying debris.	High	None
U.S. National Weather Service (NWS) 1m · Tornado warning including Memphis, TN until 8:00 PM CDT. A large and extremely dangerous tornado is on the ground. To protect your life, TAKE COVER NOW! Move to an interior room on the lowest floor of a sturdy building. AVOID WINDOWS! If in a mobile home, a vehicle or outdoors, MOVE TO THE CLOSEST SUBSTANTIAL SHELTER AND PROTECT YOURSELF FROM FLYING DEBRIS!	High	Present on the protective action
U.S. National Weather Service (NWS) 1m · Tornado warning including Memphis, TN until 8:00 PM CDT. A LARGE AND EXTREMELY DANGEROUS TORNADO is on the ground! To protect your life, take shelter now. Move to an interior room on the lowest floor of a sturdy building. Avoid windows. If in a mobile home, a vehicle or outdoors, move to the closest substantial shelter and protect yourself from flying debris.	High	Present on the threat

	High	Present on the warning and the threat
	High	Present on the threat and the protective action
	High	Present on the warning, the threat, and the protective action

2) Measurement Items

Variable	Items
Self-efficacy	• I am certain I can figure out how to take action to prevent injury from a tornado. • What I do with the knowledge I have about a tornado will keep me safe. • I believe that I can do things to protect myself from a tornado. • I am able to follow the message recommendations to prevent injury from a tornado. • The message recommends useful tips I can follow to prevent injury from a tornado. • I am able to take appropriate shelter to protect myself from a tornado. • It is easy to take appropriate shelter to protect myself from a tornado. • I can take appropriate shelter to protect myself from a tornado.
Protective behavioral intentions	If I saw the above message on my Facebook news feed, I would • Follow government instructions step by step.

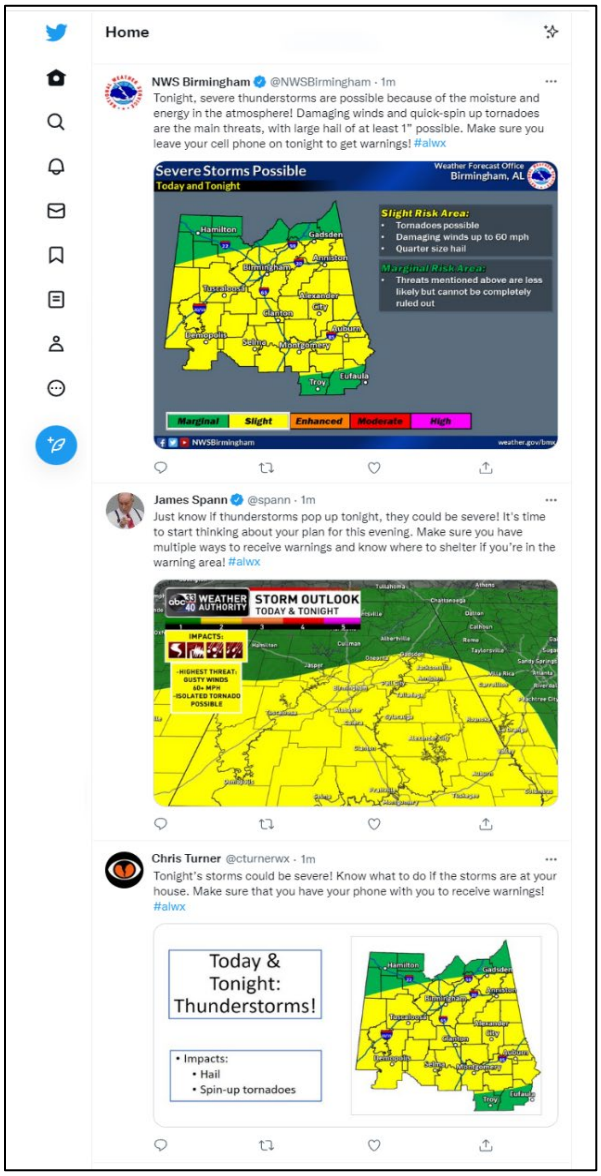
	• Seek shelter in an interior room on the lowest level of the building I am in. • Do nothing. [reversed]
Message retransmission intentions	If I saw the above message on my Facebook news feed, I would • Share the Facebook post about the severe weather on my Facebook page • Tag others in the comments to alert them to the message. • Post on my Facebook page about the severe weather. • Tell people I know (family, friends and coworkers, etc.) via in-person face-to-face conversations about the severe weather. • Call people I know (family, friends and coworkers, etc.) via telephone to talk about the severe weather. • Text people I know (family, friends and coworkers, etc.) about the severe weather. • Tell others to follow the local National Weather Service office's instructions about the severe weather. • Knock on my neighbor's door to alert them about the severe weather.
Perceived instructing information	In the message above, the U.S. National Weather Service office (NWS) • Informs people who could be hurt. • Helps people know to get to safety. • Tells people how to protect themselves. • Gives information to protect people who could be harmed.

Note. Items were measured on a 9-point Likert scale ranging from 1 = Strongly disagree (Very uncertain) to 9 = Strongly agree (Very certain).

4. **Atwell Seate, A., Liu, B. F., Kim, J., *Lee, S., & Hawblitzel, D. (2024, January 31). Preparing for the next storm: The intersection of convergent messages and strong organization-public relationships [Research Presentation]. Annual Meeting of the American Meteorological Society, Baltimore, MD, United States.**
    a. **Atwell Seate, A., Liu, B. F., Kim, J. Y., Lee, S., & Hawblitzel, D. (2024). Preparing for the next storm: The intersection of consistent weather messages and relational risk communication in predicting publics' protective actions. Manuscript submitted for publication.**

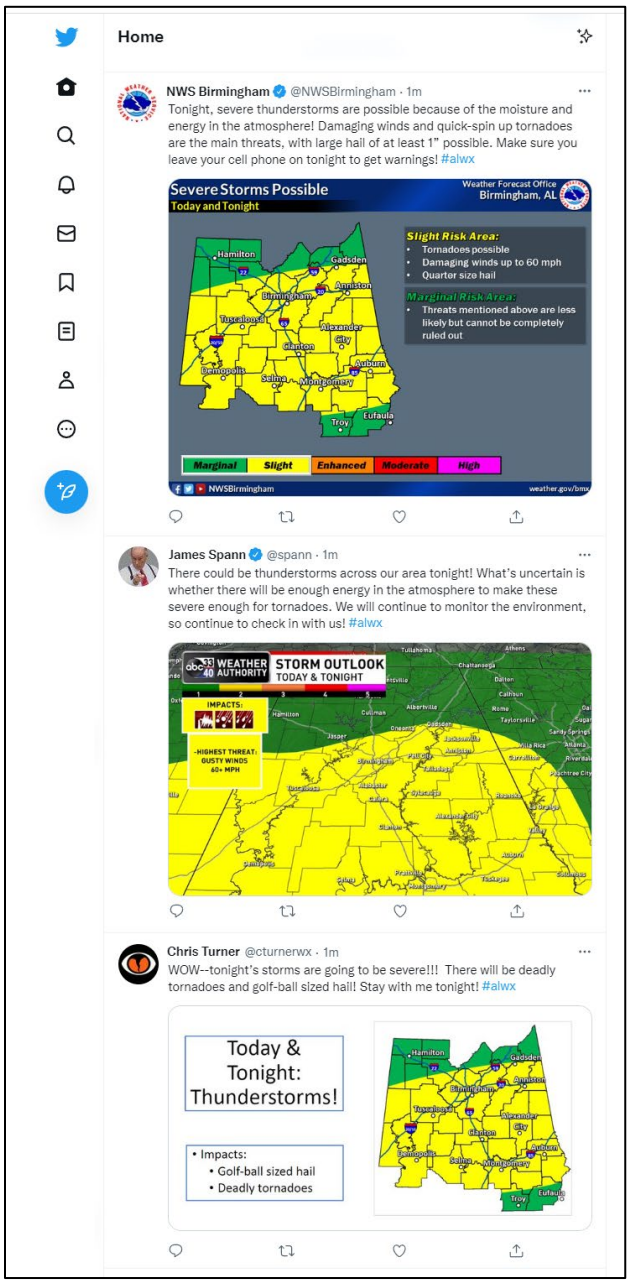
1) Experimental Messages

Message 1: High message consistency



Note. The order of the three messages was randomized during the experiment.

Message 2: Low message consistency



Note. The order of the three messages was randomized during the experiment.

2) Measurement Items

Variable	Measurement Items
Perceived message credibility (NWS)	The message from Birmingham NWS is: • Credible • Believable • Accurate

Perceived message credibility (Broadcast meteorologist)	The message from James Spann is: • Credible • Believable • Accurate
Perceived message credibility (Social mediaorologist)	The message from Chris Turner is: • Credible • Believable • Accurate
Perceived information consistency	• I find the same messages from different sources. • The same message is repeated by different weather sources multiple times.
Perceived organization-public relationships (OPRs) with the NWS	• Whenever Birmingham NWS makes an important decision, I know it will be concerned about my community. • Birmingham NWS can be relied on to keep its promises to my community. • I am skeptical about whether Birmingham NWS will keep my community's interests in mind when it makes decisions. [R] • I feel that Birmingham NWS will exploit my community's vulnerability given the chance. [R] • I feel that Birmingham NWS will engage in damaging and harmful behavior towards my community to pursue its own interests. [R] • Birmingham NWS and my community are attentive to what each other says. • Birmingham NWS believes the opinions from my community are legitimate. • In dealing with my community, Birmingham NWS has a tendency to throw its weight around. [R] • Birmingham NWS does NOT treat my community like part of the family. [R] • Birmingham NWS tries to create a great deal of personal meaning for my community. • Birmingham NWS tries to create a long-lasting bond between themselves and my community. • I am happy with Birmingham NWS does for and with my community. • I believe most members of the community are happy in their interactions with Birmingham NWS.
Communicative preparatory action intentions	If I saw the messages on my Twitter feed, I would: • Ensure I have multiple ways to receive messages about the severe weather (i.e., warnings).

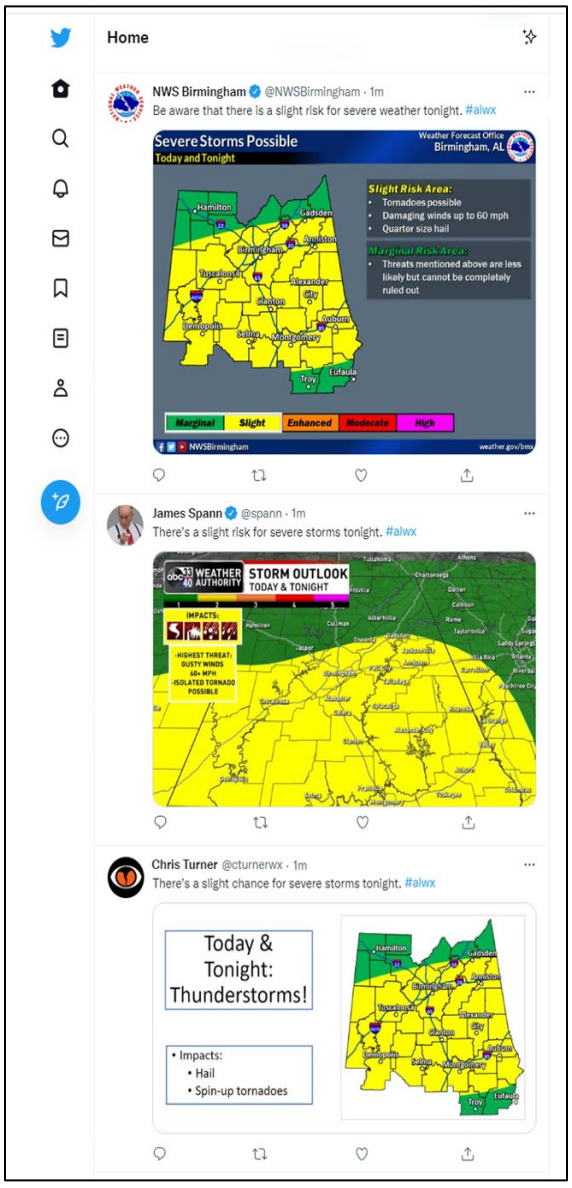
	• Ensure that I leave my cell phone turned on to receive messages about the severe weather (i.e., warnings). • Ensure that my weather radio is turned on and ready to receive messages about the severe weather (i.e., warnings).

Note. All items were measured on a 9-point scale ranging from 1 (Strongly disagree) to 9 (Strongly agree).

5. **Lee, S., Kim, J., Atwell Seate, A., & Liu, B. F. (forthcoming). The effectiveness of converging alert messages from multiple weather communicators. In W. T. Coombs (Ed.), Media and crisis communication. Routledge.**

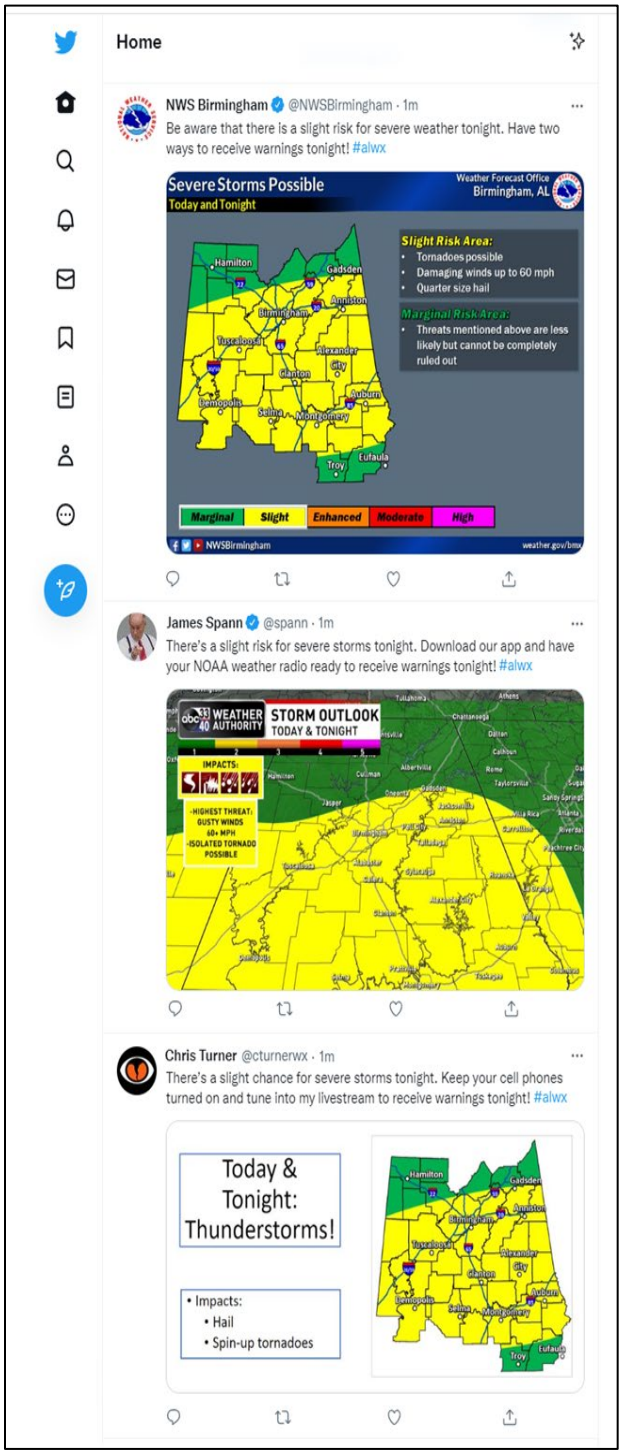
3) Experimental Messages

Message 1: Convergence on the threat



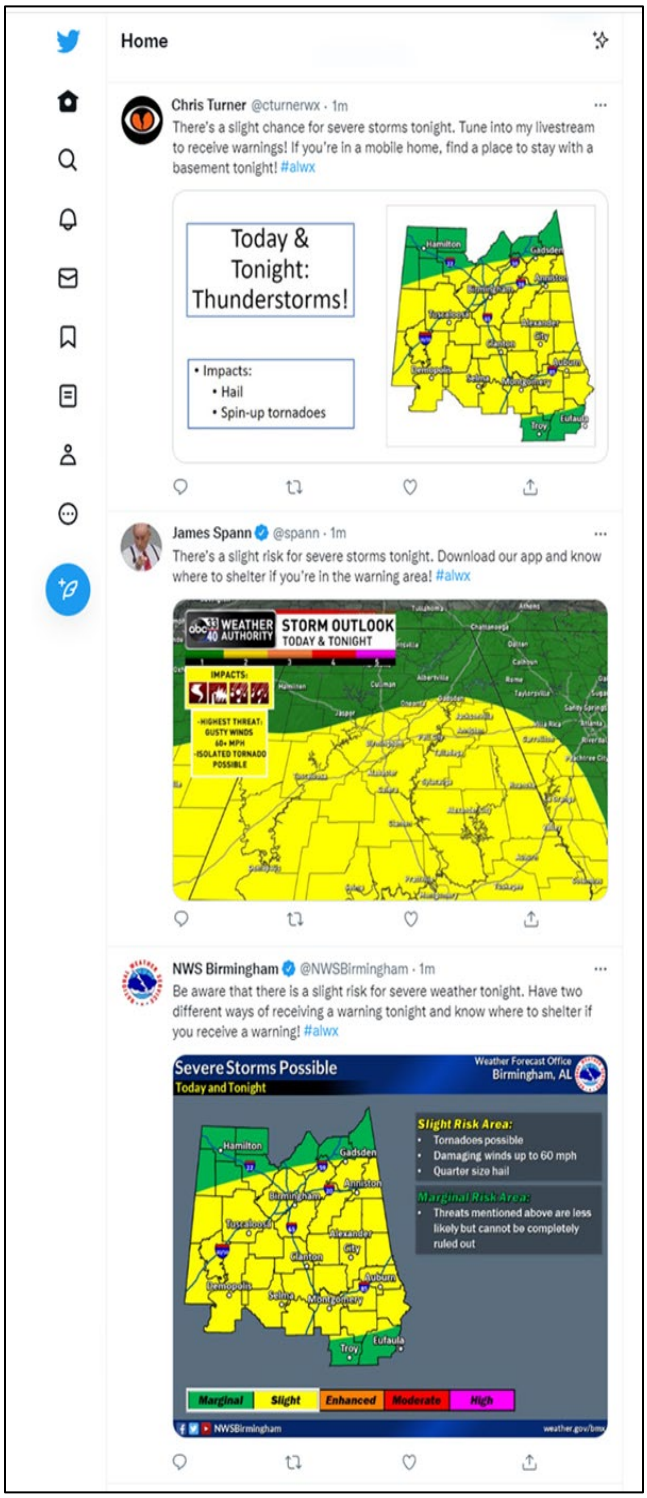
Note. The three Tweet messages were presented in a random order.

Message 2: Convergence on the threat and communicative preparatory action



Note. The three Tweet messages were presented in a random order.

Message 3: Convergence on the threat, communicative preparatory action, and sheltering preparatory action



Note. The three Tweet messages were presented in a random order.

4) Measurement Items

Variable	Items
Message credibility (NWS)	The message from Birmingham NWS is • Credible • Believable • Accurate
Message credibility (Broadcast meteorologist)	The message from James Spann is • Credible • Believable • Accurate
Message credibility (Social media-rologist)	The message from Chris Turner is • Credible • Believable • Accurate
Communicative preparatory action	If I saw the messages on my Twitter feed, I would • Ensure I have multiple ways to receive messages about the severe weather (i.e., warnings). • Ensure that I leave my cell phone turned on to receive messages about the severe weather (i.e., warnings). • Ensure that my weather radio is turned on and ready to receive messages about the severe weather (i.e., warnings).
Sheltering preparatory action	If I saw the messages on my Twitter feed, I would • Change my schedule to ensure that I am in a safe place during the severe weather event. • Leave my residence to stay in a location where sturdy shelter is readily available. • Put lawn furniture, trash bins, etc. in a secure location. • Park my vehicle in a garage.
Sharing the information with others	If I saw the messages on my Twitter feed, I would • Create my own Tweet about the predicted weather. • Tell people I know (family, friends and coworkers, etc.) via in-person face-to-face conversations about the severe weather. • Call people I know (family, friends and coworkers, etc.) via telephone to talk about the severe weather. • Text people I know (family, friends and coworkers, etc.) about the severe weather. • Tell others to follow the local National Weather Service office's instructions about the severe weather. • Knock on my neighbor's door to alert them about the severe weather.

Social media engagement with the NWS message	• I would retweet Birmingham NWS' message. • I would use the like button in response to Birmingham NWS' message. • I would reply with a positive comment to Birmingham NWS' message. • I would reply with a question to Birmingham NWS' message.
Social media engagement with the broadcast meteorologist's message	• I would retweet James Spann's message. • I would use the like button in response to James Spann's message. • I would reply with a positive comment to James Spann's message. • I would reply with a question to James Spann's message.
Social media engagement with the social media-rologist's message	• I would retweet Chris Turner's message. • I would use the like button in response to Chris Turner's message. • I would reply with a positive comment to Chris Turner's message. • I would reply with a question to Chris Turner's message.