

To apply the **Neurodivergent Scale for Interacting with Robots (NSIR)** to the **Attributed Mental States Questionnaire (AMS-Q)**, you can integrate their respective approaches to measuring anthropomorphism and mental state attribution to understand how neurodivergent individuals specifically perceive the "minds" of robotic agents.

The AMS-Q is designed to measure the degree to which individuals attribute mental states (such as emotions, intentions, and thoughts) to non-human entities. By using the NSIR alongside it, you can move beyond general attribution to identify how these perceived mental states foster unique social comfort and identity-based connections for neurodivergent users.

1. Mapping Cognitive Attribution to Non-Verbal Connection

The AMS-Q assesses whether an individual believes an entity has internal thoughts and the capacity for reasoning.

- **Shared Cognitive Links:** Use **NSIR Item 3** (*"I think I can share my thinking with the robot without speaking"*) to deepen the AMS-Q's findings on cognitive attribution. While AMS-Q identifies that a user attributes a "mind" to the robot, the NSIR measures if the user feels a direct, non-verbal cognitive synchronization with that mind, which is a key factor in neurodivergent-robot affinity.

2. Evaluating Affective Attribution and Emotional Safety

The AMS-Q measures the attribution of affective states (the ability to feel).

- **Emotional Recognition:** Correlate AMS-Q affective scores with **NSIR Item 5** (*"My robot can tell what I am feeling..."*). This application investigates if neurodivergent users attribute emotions to robots primarily because they feel the robot is a "safe" perceiver of their own internal states—creating a reciprocal emotional loop that might be absent in their interactions with neurotypical humans.

3. Identity vs. General Mental Attribution

A central tension in applying these scales is the difference between attributing a "human-like mind" (AMS-Q) and finding a "kinship mind" (NSIR).

- **Kinship Mapping:** Use **NSIR Item 1** (*"The robot is more like me than anyone else I know"*) to contextualize high AMS-Q scores. A neurotypical user might attribute mental states to a robot because it *acts* human, but a neurodivergent user might do so because the robot's predictable mental states align with their own "neuroqueer" or divergent internal experience.

4. Behavioral Indicators of Mental State Monitoring

The AMS-Q is often a self-report on belief, while the NSIR includes behavioral engagement items.

- **Social Monitoring: NSIR Item 2** ("Sometimes I stare at the robot") can be used as a behavioral proxy for mental state attribution. Intense staring may indicate that the user is actively "reading" the mental states they have attributed to the robot via the AMS-Q.

Summary of Integrated Application Factors

AMS-Q Dimension	NSIR Application Item	Research Objective
Cognitive Attribution	Item 3: Non-verbal thinking.	Determine if perceived robot "thought" supports alternative communication.
Affective Attribution	Item 5: Recognition of sadness.	Evaluate if the robot is perceived as an empathetic social partner.
Intentionality	Item 8: Behavioral consistency.	Analyze if "intent" is easier to attribute to predictable mechanical agents.
Agency	Item 7: Comfort undressing.	Measure if attributing a "mind" to a robot results in social judgment or radical safety.

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By combining the **NSIR** with the **AMS-Q**, you can distinguish whether neurodivergent anthropomorphism is driven by a desire for a "human-like" interaction or a preference for a "robot-like" consistency that provides a safer environment for social and emotional expression.