To apply the **Neurodivergent Scale for Interacting with Robots (NSIR)** to the **Multidimensional Robot Attitude Scale (MRAS)** (Ninomiya et al., 2015), you can integrate their respective factors to create a more inclusive evaluation of robot acceptance.

While the MRAS provides a comprehensive overview of general attitudes toward domestic robots across 12 dimensions, the NSIR adds critical nuance by highlighting the specific relational and sensory needs of neurodivergent users.

1. Mapping Shared Dimensions

You can align specific items from the NSIR with the established dimensions of the MRAS to see where neurodivergent perspectives differ or intensify general attitudes.

- **Familiarity & Kinship:** The MRAS *Familiarity* dimension includes the sentiment: "If a robot was introduced to my home, I would feel like I have a new family member". You can deepen this with **NSIR Item 1**: *"The robot is more like me than anyone else I know,"* which measures a deeper, identity-based connection often specific to neurodivergent populations.
- **Social Support & Trust:** The MRAS *Social Support* dimension measures expectations that friends or family will help with robot use. The NSIR shifts the focus to the robot-user dyad with **NSIR Item 3**: *"I think I can share my thinking with the robot without speaking,"* highlighting a preference for non-verbal or direct interaction as a form of social comfort.
- **Negative Attitude & Sensory Comfort:** While the MRAS *Negative Attitude* factor covers general fear or unpleasantness (e.g., "The movements of a robot are unpleasant"), the NSIR adds a positive behavioral observation in **Item 2**: *"Sometimes I stare at the robot,"* which may indicate a unique form of engagement or sensory processing rather than a negative reaction.

2. Expanding the Evaluation Framework

The MRAS is often used to survey the needs of potential "buyers" or users in a domestic setting. By adding the NSIR subscales, you shift the framework from general "acceptance" to **"Equitable Interaction."**

- **Social Comfort/Trust Safety:** Use items like **NSIR Item 7** (*"I feel comfortable undressing in front of my robot"*) to extend the MRAS *Control* and *Utility* dimensions into the realm of radical privacy and psychological safety.
- **Anthropomorphic Connection:** While the MRAS *Appearance* factor focuses on whether a robot is "cute" or "human-like," the NSIR's **Anthropomorphic Connection** factor (e.g., **Item 6**: *"I gave my robot a name"*) measures the emotional labor and bonding that neurodivergent users may invest in the machine.

3. Practical Implementation Strategy

Integration Step	Method
Comparative Analysis	Administer both scales to neurodivergent and neurotypical groups to identify where the MRAS fails to capture the specific "Kinship" (NSIR Factor) felt by neurodivergent users.
Subscale Substitution	In studies focusing on long-term companionship, replace or augment the MRAS *Familiarity* items with NSIR items like **Item 4**: *"The robot and I will be together forever"* to capture high-intensity bonding.
Cross-Validation	Correlate MRAS *Self-Efficacy* scores with NSIR *Social Comfort* scores. A user might feel they "can easily learn to use the robot" (MRAS) but still not feel they "can share their thinking without speaking" (NSIR).

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By combining these tools, you can ensure that the "multidimensional" nature of the MRAS includes the specific psychological and social dimensions relevant to neurodivergence, moving beyond a "one-size-fits-all" attitude assessment.