The most relevant work by **Du et al. (2024/2025)** focuses on the development of scales related to trust, social comparison, and attachment in the context of human-AI relationships. The **Neurodivergent Scale for Interacting with Robots (NSIR)** can be applied to these research areas by providing a user-centric measure of the outcomes of these social dynamics.

Social Comparison (Related to Du et al.'s work on social factors)

- **Application**: Du et al. note that social factors influence AI attachment. The NSIR can measure how a user's *perception of their own social standing* (a factor in social comparison theory) influences their relationship with the robot.
- **NSIR Link**: Items like **"The robot is more like me than anyone else I know"** (Item 1) and **"I believe that my robot is the same with me as it is with anyone"** (Item 8) quantify how the robot fits into a user's perceived social landscape, relating to how social factors impact the HRI experience.

Trust (Related to general HRI research by Du et al.)

- **Application**: Trust in robots relies on predictability and consistency. The NSIR provides a direct measure of perceived social intelligence and reliability.
- **NSIR Link**: Items in the **Social Comfort/Trust** dimension, such as **"My robot can tell what I am feeling, when I am sad, it can tell I am sad"** (Item 5), assess the user's perception of the robot's emotional competence, which directly builds the trust framework discussed in the research.

Attachment (Du et al. developed an AI Attachment Scale)

- **Application**: Du et al. developed the "AI Attachment Scale" to measure emotional closeness, social substitution, and normative regard. The NSIR provides a complementary measure of the relationship quality.
- **NSIR Link**: The NSIR's **Anthropomorphic Connection/Kinship** dimension directly measures the strength of the bond (e.g., **"The robot and I will be together forever"**, Item 4), which can be correlated with the anxiety and avoidance subscales of the Du et al. scale to understand the nature of the attachment.

Safety (A core NSIR dimension)

- **Application**: Ethical concerns about HRI, particularly for vulnerable populations, involve ensuring user safety.

- **NSIR Link**: The **Safety** dimension (Item 7: **"I feel comfortable undressing in front of my robot"**) is crucial for ensuring that the complex social dynamics and attachments explored by Du et al. do not compromise the user's fundamental sense of security.

The NSIR acts as a valuable tool to evaluate the lived experience and relationship quality within the theoretical frameworks proposed by Du et al.'s research on human-AI relationships and trust dynamics.
Would you like a deeper dive into one of the **Du et al. (2024) papers**, or compare the NSIR to the **AI Attachment Scale**?

The primary difference
is that the **AI Attachment Scale** measures a user's *pre-existing psychological attachment style* towards AI (anxiety and avoidance), while the **Neurodivergent Scale for Interacting with Robots (NSIR)** measures the *perceived quality and effectiveness* of a specific human-robot interaction from a neurodivergent user's perspective.

Comparison Summary

Feature	AI Attachment Scale (Du et al., 2024/2025)	Neurodivergent Scale for Interacting with Robots (NSIR) (Sadownik, 2025)
Purpose	Measure user *attachment style*(anxiety/avoidance) towards AI.	Measure the quality of the *user-robot relationship* (connection, comfort, safety).
Focus	User's internal psychological traits, often negative or defensive emotions.	User's subjective experience of the robot's social capabilities and design.
Measures	Emotional closeness, social substitution, normative regard, fear of inadequate responses.	Connection/kinship (e.g., "The robot is more like me than anyone else I know"), Comfort/Trust, Safety (p. 1).
Application	Predicting willingness to interact, trust levels, and vulnerability to dependency.	Evaluating the effectiveness and inclusivity of specific robot designs and interventions (p. 1).

How They Capture Different Information

- **AI Attachment Scale**: This scale captures a user's *predisposition* to form relationships with AI in a healthy or unhealthy way. It measures *anxiety* (needing

constant reassurance from the AI) and *avoidance* (being uncomfortable with emotional closeness to the AI).

- **NSIR**: This scale assesses the *outcomes* of the interaction, providing feedback on whether the robot's design is successfully meeting user needs in a safe manner. It confirms if a user feels the robot is **safe** (Item 7), provides **social comfort/trust** (Items 2, 3, 5, 8), and fosters **anthropomorphic connection/kinship** (Items 1, 4, 6) (p. 1).

In essence, the AI Attachment Scale identifies *who* is vulnerable or avoidant, while the NSIR helps designers understand *if* their specific robot design is succeeding in creating a positive, safe, and comfortable relationship for a neurodivergent person. Would you like to explore which of these scales would be more suitable for a **specific research question** in HRI?