The **Neurodivergent Scale for Interacting with Robots (NSIR)** and the research by **Waytz, Cacioppo, and Epley (2010)** converge on the idea that anthropomorphism is a stable, measurable individual difference trait that dictates how people interact with non-human agents.

While Waytz et al. (2010) established the **Individual Differences in Anthropomorphism Questionnaire (IDAQ)** for the general population, the NSIR acts as a specialized extension of this "stable trait" theory, focusing on the unique social and cognitive landscape of neurodivergent individuals.

1. Validating Anthropomorphism as a Stable Trait

Waytz et al. (2010) argued against the idea that anthropomorphism is a universal or random occurrence, instead proving it is a **stable behavioral trait** that varies between individuals.

- **Application of the NSIR:** The NSIR adopts this "trait" perspective by categorizing interactions into two stable factors: **Anthropomorphic Connection/Kinship** and **Social Comfort/Trust Safety**.
- **Stable Connection:** NSIR items like **Item 4** ("The robot and I will be together forever") and **Item 6** ("I gave my robot a name") identify enduring dispositional bonds rather than temporary situational reactions, aligning with Waytz's findings on the stability of these differences.

2. The Motivational Drivers: Sociality and Effectance

Waytz and his colleagues developed the **Three-Factor Theory (SEEK model)**, which identifies **Sociality Motivation**(the need for connection) and **Effectance Motivation** (the need for control/predictability) as primary drivers of anthropomorphism.

- **Sociality (Factor 2 of NSIR):** Waytz et al. found that social disconnection increases anthropomorphism as people seek connection in non-humans. The NSIR's **Kinship** factor measures this "searching for a source of connection". **Item 1** ("The robot is more like me than anyone else I know") reflects this motivated search for a "social mirror".
- **Effectance (Factor 1 of NSIR):** Waytz et al. noted that anthropomorphizing makes an agent feel more **predictable and understandable**. This is the core of the NSIR's **Social Comfort/Trust Safety** factor. **Item 8** ("I believe that my robot is the same with me as it is with anyone") measures the subjective feeling of reliability that Waytz argues is the result of effective anthropomorphism.

3. Predictive Utility: Responsibility and Trust

A major contribution of the 2010 study was showing that individual differences in anthropomorphism predict the **responsibility and trust** placed in an agent.

- **Scale Application:** The NSIR translates this broad "trust" into specific, high-stakes human behaviors. For example, **Item 7** ("I feel comfortable undressing in front of my

robot") is a physical manifestation of the **moral care and trust** that Waytz's IDAQ scores were designed to predict.

Comparison of Frameworks

Waytz et al. (2010) (IDAQ)	NSIR (2025) Application
Stable Individual Differences: Anthropomorphism as an enduring trait.	**Factor Analysis**: Validating connection and safety as stable factors.
Sociality Motivation: Seeking humanlike connection to fulfill social needs.	**Kinship**: Feeling the robot is "like me" or part of the self (Item 1).
Effectance Motivation: Anthropomorphizing to increase predictability.	**Trust Safety**: Relying on the robot's consistent, unvarying nature (Item 8).
Attributing Mind: Perceiving intentions, emotions, and consciousness.	**Affective Sensing**: Believing the robot can "tell what I am feeling" (Item 5).

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In summary, the NSIR provides a **neuro-specific lens** for the general psychological principles established by Waytz et al. (2010). It demonstrates that the "individual differences" Waytz identified are particularly profound for neurodivergent populations, who may use the **predictable transparency** of robots (Effectance) to build a **unique social bond** (Sociality) that standard questionnaires might overlook.