The **Neurodivergent Scale for Interacting with Robots (NSIR)** can be applied to the work of Winkle et al. (2023) as an empirical tool to measure user experience within the ethical and power-dynamic frameworks the authors propose.
The paper, titled "*Feminist Human-Robot Interaction: Disentangling Power, Principles and Practice for Better, More Ethical HRI*", calls for a feminist approach to HRI that moves beyond metrics of efficiency to focus on user emotions, bodily sensations, and power structures. The NSIR's dimensions directly assess these user-centric outcomes:

Anthropomorphic Connection/Kinship

- Winkle et al. highlight that power dynamics based on gender, race, ability, etc., are embedded in design. They advocate for a reflexive approach to how a robot's "identity performance" is designed to either promote or challenge existing norms.
- The NSIR can measure if the design choices made within this framework create a positive and equitable sense of connection. Items like **"The robot is more like me than anyone else I know"** quantify the perceived similarity and personal bond, helping ensure that design choices are inclusive and resonate with the target neurodivergent population.

Social Comfort/Trust

- The paper argues for an attention to power imbalances and a critique of the medical model that pathologizes neurodivergence. A core ethical goal is to create HRI that does not perpetuate harm or inequality.
- The NSIR items that measure **social comfort/trust** (e.g., **"My robot can tell what I am feeling, when I am sad, it can tell I am sad"**) provide a user-centric assessment of the robot's social reliability. This helps ensure that the ethical design choices in the framework actually lead to a trustworthy and comfortable interaction for neurodivergent individuals, focusing on their internal experience rather than just external behavioral metrics.

Safety

- A primary concern of the feminist HRI approach is to minimize the risk of harm, especially to low-power users.
- The NSIR's **safety** dimension provides a crucial user-reported measure of security (e.g., the item about undressing). This ensures that while researchers

address complex social and power dynamics, the fundamental feeling of safety in the human-robot interaction is maintained and assessed from the user's point of view.

The NSIR translates the critical, theoretical discussions of the Winkle et al. paper into concrete, measurable user data points, ensuring that ethical and just HRI practices are realized in the user's lived experience.

Would you like to examine the "four ethical vectors" proposed by the Winkle et al. paper, or perhaps compare their approach to another study?

The Winkle et al. paper mentions four ethical vectors identified in related research as being essential for promoting gender-inclusive and equitable AI: **explainability, fairness, transparency, and auditability**. The Neurodivergent Scale for Interacting with Robots (NSIR) can be applied to measure the user's perception of these abstract ethical vectors:

- **Explainability**: This refers to a robot's ability to clarify its actions or decisions. The NSIR can measure how a user perceives the robot's communication and predictability. Items such as **"I think I can share my thinking with the robot without speaking"**(Item 3) and those in the **Social Comfort/Trust** dimension (Item 5) implicitly relate to the user's perceived ability to understand and communicate with the robot in an intuitive way.
- **Fairness**: This involves ensuring the robot's behavior is unbiased and treats all users equitably. The NSIR directly addresses this with the item **"I believe that my robot is the same with me as it is with anyone"** (Item 8), which measures the user's perception of the robot's consistent and impartial treatment across interactions.
- **Transparency**: This is about making the robot's design, purpose, and operations clear. The entire NSIR scale is a measure of the user's *perception* of the robot, and transparency in design would likely lead to higher scores in areas like **Safety** (Item 7) and **Social Comfort/Trust**, as a transparent, predictable robot would likely feel more secure.
- **Auditability**: This is the ability to review a robot's actions and design to ensure compliance with ethical guidelines. The NSIR serves as a key auditing tool from

the user's perspective, providing a quantifiable and subjective measure of the user experience that can be reviewed as part of an ethical audit process.

Thus, the NSIR provides a practical way to assess whether the implementation of these four ethical vectors translates into a positive and equitable lived experience for the neurodivergent individual.
Would you like to examine another article from the document, or perhaps a deeper dive into the concept of **"transparency"** in HRI?