

The **Neurodivergent Scale for Interacting with Robots (NSIR)** can be applied to the work of Park & Whang (2022) as a way to measure the impact of empathetic robot behaviors on neurodivergent users.

The work by Park & Whang (2022) focuses on how nonverbal communication "humanizes" a robot, allowing for greater **empathy**. They propose design principles for social robots that elicit positive perceptions by recognizing the user's emotional state and expressing congruent emotions. The NSIR's dimensions directly relate to these concepts:

Anthropomorphic Connection/Kinship

- The work suggests that empathy and nonverbal communication can make a robot more human-like.
- The NSIR items in this dimension (e.g., "**The robot is more like me than anyone else I know**", "**I gave my robot a name**" (p. 1)) can quantify the extent to which the robot's empathic behaviors successfully foster a sense of personal connection and perceived kinship in a neurodivergent user.

Social Comfort/Trust

- A key goal of the design principles is to improve user affect and foster cooperation.
- The NSIR items that measure perceived emotional understanding and consistency (e.g., "**My robot can tell what I am feeling, when I am sad, it can tell I am sad**" (p. 1)) directly assess the success of the robot's empathic design in building **social comfort** and **trust** for the neurodivergent individual.

Safety

- The development of appropriate trust is a key ethical consideration in HRI, and the potential for over-reliance or manipulation needs to be managed.
- The NSIR's **safety** dimension (e.g., the item about undressing in front of the robot (p. 1)) provides a user-reported measure of security that ensures the implementation of empathy in robots does not compromise the fundamental safety and trust required for healthy interaction.

The NSIR translates the design principles and abstract concepts of empathy in HRI into measurable, user-centric data points for neurodivergent individuals.

Would you like to examine how the scale applies to another article from the document, or maybe compare the concepts of **empathy** in the Park & Whang paper to another study?