The **Neurodivergent Scale for Interacting with Robots (NSIR)** can be applied to the work of Allan & Gilbert's 1995 paper by providing a way to measure the user-perceived outcomes of social rank and status dynamics in human-robot interactions.
The paper, titled "*A social comparison scale: Psychometric properties and relationship to psychopathology,*" focused on developing the **Social Comparison Scale (SCS)** to measure an individual's self-perperceived social rank and standing relative to others. It uses bipolar constructs (e.g., "inferior" vs. "superior") to assess judgments of rank, attractiveness, and group fit. The NSIR's dimensions are highly relevant for assessing these dynamics when applied to robot design:

Anthropomorphic Connection/Kinship

- The SCS measures how individuals perceive their social status and how well they "fit in".
- The NSIR can measure if embedding specific rank-related behaviors or visual cues (e.g., making a robot seem "superior" or "inferior" through its design) affects the neurodivergent user's sense of connection or kinship with it. Items like **"The robot is more like me than anyone else I know"** (Item 1) would quantify this perceived similarity or difference.

Social Comfort/Trust

- Allan & Gilbert found that low social rank perceptions were significantly correlated with psychopathology, including depression and anxiety. This highlights the importance of feeling a non-threatening social status.
- The NSIR's **social comfort/trust** dimension could assess if a neurodivergent user feels more comfortable or trusting with a robot designed to be an "equal" or "subordinate" (which might feel less threatening) versus one designed with a "superior" demeanor. Measuring items such as **"I believe that my robot is the same with me as it is with anyone"** (Item 8) could also ensure that the robot's rank is a consistent design feature and perceived as fair.

Safety

- The original research found links between feelings of inferiority and mental health issues, which in HRI translates to the user's well-being and safety.
- The NSIR's **safety** dimension (e.g., the item about undressing in front of the robot, Item 7) provides a crucial user-reported measure that ensures the design

of social robots, particularly those with embedded rank or status cues, does not compromise the fundamental physical and psychological safety of the user.

The NSIR translates the psychometric and social rank theories of Allan & Gilbert into measurable, user-centric data for evaluating modern human-robot interaction in a specific population.

Would you like a deeper dive into the **Social Comparison Scale** itself, or another article from the document?