The **Neurodivergent Scale for Interacting with Robots (NSIR)** can be applied to the work of Allan & Gilbert (1994) to measure the user-reported outcomes of social rank and submissiveness dynamics within human-robot interactions.
Allan & Gilbert (1994) developed the **Submissive Behavior Scale (SBS)** and the **Social Comparison Scale**. Their research focuses on how perceptions of social rank and tendencies towards submissive behaviors relate to mental health issues like depression and paranoia. The NSIR's dimensions are highly relevant for assessing these dynamics when applied to robot design:

Anthropomorphic Connection/Kinship

- The concepts of social rank and submissiveness are complex human social dynamics.
- The NSIR can measure if embedding these specific rank-related behaviors in a robot makes it more or less relatable and human-like. Items like **"The robot is more like me than anyone else I know"** (Item 1) would quantify how a neurodivergent individual perceives the robot's social identity, a core element of the Allan & Gilbert work.

Social Comfort/Trust

- Allan & Gilbert found that submissive behavior functions as an appeasing strategy to avoid threat, which is crucial for comfort and trust in a social context.
- The NSIR items in this dimension (e.g., **"My robot can tell what I am feeling, when I am sad, it can tell I am sad"**, Item 5) can assess how successfully a robot's designed "submissive" or "dominant" behaviors impact the user's feeling of **social comfort** and **trust**. This helps determine if the robot's rank-based actions are perceived as a reliable, non-threatening interaction style or a source of anxiety.

Safety

- The original research found strong links between feeling inferior, submissive behavior, and psychopathology. In HRI, this relates directly to user 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 dominance cues,

does not compromise the fundamental physical and psychological safety of the user.

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

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