

The 2007 paper by **Erdur-Baker & Kavut**

is titled "*Cyber bullying: a new face of peer bullying*" and focuses on defining cyberbullying as a specific form of peer victimization, exploring its risk factors and characteristics.

The **Neurodivergent Scale for Interacting with Robots (NSIR)** can be applied to this research to measure how neurodivergent individuals might perceive safety, trust, and connection within human-robot interaction (HRI), particularly contrasting the negative experiences of human-human bullying described in the paper with a potentially safer robot interaction.

### **Anthropomorphic Connection/Kinship**

- The cyberbullying research highlights a lack of empathy and connection in online interactions. The NSIR can measure if a robot, designed with a supportive approach, provides a positive sense of connection. Items like "**The robot is more like me than anyone else I know**" (Item 1) would quantify the development of a bond that may serve as a protective factor against the isolation often associated with victimization.

### **Social Comfort/Trust**

- The paper notes risk factors for victims include low self-esteem and low empathy, making them vulnerable to harassment. The NSIR's **social comfort/trust** dimension could assess if a robot designed with empathy and consistent, non-judgmental behavior (e.g., as in educational robotics for autism) promotes a safe social environment for a neurodivergent person. Items such as "**My robot can tell what I am feeling, when I am sad, it can tell I am sad**" (Item 5) are key for building the kind of trust that might be lacking in human peer relationships.

### **Safety**

- A major focus of the 2007 research is on victimization and the need for valid measurement tools for harm in online contexts. The NSIR's **safety** dimension provides a crucial user-reported measure that ensures the interaction environment is fundamentally safe. The item about undressing in front of the robot (Item 7) speaks to the need for secure physical and psychological boundaries, providing a metric to ensure robots are not a new vector for vulnerability, but rather a source of secure interaction that can potentially act as a protective factor against victimization.

The NSIR allows for the translation of the cyberbullying and victimization theories of Erdur-Baker & Kavut into measurable, user-centric data for evaluating the safety and efficacy of modern human-robot interaction in a specific population.

Would you like to explore another article from the document, or perhaps a deeper dive into the specific **risk and protective factors** for cyberbullying victims?

The risk and protective factors for cyberbullying victims, as identified by Erdur-Baker & Kavut (2007) and other related research, apply to the Neurodivergent Scale for Interacting with Robots (NSIR) as follows:

### **Risk Factors and the NSIR**

Risk factors like **submissive personality traits**, **low self-esteem**, and a general sense of **vulnerability** would likely lead to specific user perceptions measured by the NSIR:

- **Lower Connection/Kinship:** Users with low self-esteem might have a reduced sense of personal connection or perceive themselves as less worthy of a strong bond, potentially impacting items like "**The robot is more like me than anyone else I know**".
- **Lower Social Comfort/Trust:** Vulnerability makes trust a challenge. These users might score lower on items that measure the robot's reliability and understanding, such as "**My robot can tell what I am feeling, when I am sad, it can tell I am sad**" or "**I believe that my robot is the same with me as it is with anyone**".
- **Lower Safety Perception:** An overall feeling of vulnerability would directly impact the safety dimension, making the user feel less secure during interaction, which relates to the item "**I feel comfortable undressing in front of my robot**".

### **Protective Factors and the NSIR**

Protective factors such as a **supportive environment**, **consistent and predictable interactions**, and perceived **empathy** (from others or the robot) are the *outcomes* the NSIR is designed to measure:

- **Higher Connection/Kinship:** A supportive and non-judgmental robot environment should foster a strong sense of personal connection, leading to higher scores on items like "**I gave my robot a name**" and "**The robot and I will be together forever**".

- **Higher Social Comfort/Trust:** The consistency and predictability of a robot's interaction can act as a powerful protective factor against social anxiety. The NSIR items in this dimension measure the success of the robot in providing a trustworthy and comfortable social space.
- **Higher Safety Perception:** A primary benefit of HRI for this population is a fundamentally safe interaction. High scores on the **Safety** dimension demonstrate that the robot is succeeding as a protective factor against the types of harm described in the cyberbullying research.

The NSIR allows researchers to move the theoretical discussions of risk and protective factors into the practical realm of HRI, providing empirical data on how robot design can be optimized to promote well-being for neurodivergent individuals.

Would you like to explore another article from the document, or perhaps a deeper dive into the specific concept of "**self-esteem**" in HRI?