

The **Neurodivergent Scale for Interacting with Robots (NSIR)** (Sadownik, 2025) and the **Cyber Bullying Scale (CBS)** (Topcu & Erdur-Baker, 2010) are used together to assess the digital and social experiences of neurodivergent individuals, specifically contrasting **human-induced social harm** with **robot-facilitated social safety**.

The application of these scales focuses on three primary areas:

## 1. Identifying Compensatory Social Refuges

The **Cyber Bullying Scale** measures the severity of cyberbullying perpetration and victimization, specifically looking at behaviors like sending hurtful emails or humiliating others online. Because neurodivergent individuals—particularly those with ADHD or ASD—are at a significantly higher risk for cybervictimization, the NSIR is applied to see if robots provide a safer alternative.

- **Contrasting Experiences:** While the CBS tracks negative human interactions (e.g., "someone posted a mean comment about me"), the NSIR items like "*I believe that my robot is the same with me as it is with anyone*" (Item 8) measure a domain free from the prejudice and social "power imbalances" inherent in cyberbullying.

## 2. Anthropomorphism as a Response to Social Exclusion

High scores on the **Cyber Bullying Scale** often correlate with lower self-esteem, anxiety, and social isolation. The NSIR is applied to evaluate whether this social exclusion drives a stronger **Anthropomorphic Connection** with non-human agents.

- **Kinship with Robots:** Neurodivergent individuals may score high on NSIR Item 1 ("*The robot is more like me than anyone else I know*") as a direct response to being bullied or ignored by human peers in online spaces.
- **Non-Judgmental Presence:** The NSIR subscale for **Social Comfort/Trust/Safety** highlights the robot's role as a predictable and non-threatening social actor, which directly counters the unpredictable and aggressive nature of the "cyberbully" measured by Topcu and Erdur-Baker.

## 3. Measuring Intervention Efficacy

In clinical settings, these two scales can be used to monitor the progress of social skills training for neurodivergent youth.

- **Reducing Victimization:** Researchers use the NSIR to ensure that a participant feels **Social Comfort** (e.g., Item 7: "*I feel comfortable undressing in front of my robot*") and trust with a social robot that is being used as a training tool to teach them how to identify and avoid cyberbullying behaviors.
- **Predictive Values:** If an individual has a high CBS victimization score, the NSIR helps determine if a robot can serve as a "bridge" to re-establish social trust and connection after the trauma of being bullied.

## Summary of Scale Application

<b>Goal</b>	Cyber Bullying Scale (CBS)	NSIR (Sadownik, 2025)
<b>Measurement</b>	Human-led aggression	Robot-led connection
<b>Target</b>	(victimization/perpetration).	(comfort/safety).
<b>Psychological State</b>	Anxiety, depression, and social rejection.	Trust, kinship, and "sharing thinking".
<b>User Role</b>	Often the victim due to neurotypical norms.	An equal partner in a "judgment-free" zone.
<b>Research Application</b>	Quantify the level of social trauma in digital spaces.	