# STARS – parent report

**Instructions:** Below are statements about your child's behavior and feelings. For each statement, decide whether or not it is true for your child. If your child never shows the behavior or express those feelings, choose the "never" option. If your child very occasionally or sometimes shows that behavior or expressed those feelings (once or twice a month or you've seen it once or twice in the situation described), then choose the "sometimes" option. If the statement is true for your child most of the time (every week or most of the time in the situation described) but is occasionally not true for your child, then choose the "often" option. Finally, if that is the behavior that your child always shows or the feelings your child will always respond with in that situation, then choose the "always" option.

**Likert Scale: 1=Never, 2=Sometimes, 3=Often, 4=Always**

| # | Item |
|---|------|
| 1 | Gets upset when people around him/her are crying |
| 2 | Plays make believe with other children |
| 3 | Knows he/she has done something wrong just from seeing my face |
| 4 | Notices if an adult around him/her is scared |
| 5 | Finds hugs and physical touch to be comforting if he/she is upset |
| 6 | Worries about dangerous things or accidents happening |
| 7 | Tells me that he/she loves me |
| 8 | Wants to join in when others are holding hands |
| 9 | Gets upset when unexpected events happen |
| 10 | Draws my attention to the sounds of other children crying |
| 11 | Changes his/her behavior if yelled or shouted at |
| 12 | Engages others in conversations |
| 13 | Notices if a child around him/her is scared |
| 14 | Talks about hanging out with or spending time with others |
| 15 | Does not like to be alone in the dark |
| 16 | Notices loud or aggressive people on the street |
| 17 | Wants to join in when others are hugging |
| 18 | Gets upset when people around him/her are angry |
| 19 | Likes to hug best friends or family |
| 20 | Prefers to sit close to me to read a book or watch television |
| 21 | Is comforted by having his/her head or hair stroked |
| 22 | Likes to cuddle, tickle, or play affectionately |
| 23 | Gets excited about seeing favorite family members |
| 24 | Wants to hug or kiss me to say hello or goodbye |
| 25 | Knows if I am angry or upset by the tone of my voice |
| 26 | Talks about feelings with me |
| 27 | Likes to be picked up and swung around |
| 28 | Needs to be comforted during thunderstorms |

# Scoring Information for Researchers for the Sensitivity to Threat and Affiliative Reward Scale (STARS) – parent report

| # | Item | STAR dimension | STAR sub-dimension |
|---|------|----------------|--------------------|
| 1 | Gets upset when people around him/her are crying | Sensitivity to Threat | Social Threat |
| 2 | Plays make believe with other children | Affiliative Reward | Non-Physical Affiliation |
| 3 | Knows he/she has done something wrong just from seeing my face | Sensitivity to Threat | Social Threat |
| 4 | Notices if an adult around him/her is scared | Sensitivity to Threat | Social Threat |
| 5 | Finds hugs and physical touch to be comforting if he/she is upset | Affiliative Reward | Physical Affiliation |
| 6 | Worries about dangerous things or accidents happening | Sensitivity to Threat | Non-Social Threat |
| 7 | Tells me that he/she loves me | Affiliative Reward | Non-Physical Affiliation |
| 8 | Wants to join in when others are holding hands | Affiliative Reward | Physical Affiliation |
| 9 | Gets upset when unexpected events happen | Sensitivity to Threat | Non-Social Threat |
| 10 | Draws my attention to the sounds of other children crying | Sensitivity to Threat | Social Threat |
| 11 | Changes his/her behavior if yelled or shouted at | Sensitivity to Threat | Social Threat |
| 12 | Engages others in conversations | Affiliative Reward | Non-Physical Affiliation |
| 13 | Notices if a child around him/her is scared | Sensitivity to Threat | Social Threat |
| 14 | Talks about hanging out with or spending time with others | Affiliative Reward | Non-Physical Affiliation |
| 15 | Does not like to be alone in the dark | Sensitivity to Threat | Non-Social Threat |
| 16 | Notices loud or aggressive people on the street | Sensitivity to Threat | Social Threat |
| 17 | Wants to join in when others are hugging | Affiliative Reward | Physical Affiliation |
| 18 | Gets upset when people around him/her are angry | Sensitivity to Threat | Social Threat |
| 19 | Likes to hug best friends or family | Affiliative Reward | Physical Affiliation |
| 20 | Prefers to sit close to me to read a book or watch television | Affiliative Reward | Physical Affiliation |
| 21 | Is comforted by having his/her head or hair stroked | Affiliative Reward | Physical Affiliation |
| 22 | Likes to cuddle, tickle, or play affectionately | Affiliative Reward | Physical Affiliation |
| 23 | Gets excited about seeing favorite family members | Affiliative Reward | Non-Physical Affiliation |
| 24 | Wants to hug or kiss me to say hello or goodbye | Affiliative Reward | Physical Affiliation |
| 25 | Knows if I am angry or upset by the tone of my voice | Sensitivity to Threat | Social Threat |
| 26 | Talks about feelings with me | Affiliative Reward | Non-Physical Affiliation |
| 27 | Likes to be picked up and swung around | Affiliative Reward | Physical Affiliation |
| 28 | Needs to be comforted during thunderstorms | Sensitivity to Threat | Non-Social Threat |

**Final item pool and factor structure of the STARS established in**:

Perlstein, S., Wagner, N.J., & Waller, R. (2020). Psychometric Properties, Factor Structure, and Construct Validity of the Sensitivity to Threat and Affiliative Reward Scale (STARS) in Children and Young Adults, *under invited review*

**Abstract (in preparation)**

Callous-Unemotional (CU) traits (i.e., lack of empathy, prosociality, and guilt) identify children at risk for severe antisocial behavior. A recent theoretical model proposed that CU traits arise from deficits in two psychobiological dimensions of temperament: sensitivity to threat (i.e., fear in response to social and nonsocial cues of threat) and affiliative reward (i.e., motivation to seek out and get pleasure from social closeness with others). To assess these dimensions, we developed the parent- and self-reported *Sensitivity to Threat and Affiliative Reward Scale (STARS)*. We tested the psychometric properties, factor structure, and construct validity of the STARS in independent samples of children and adults.

We used confirmatory factor analysis (CFA), Differential Item functioning (DIF), and Item Response Theory (IRT) techniques to identify the most parsimonious, best-performing set of items from the initial 64-item pool of items of the STARS. IRT and DIF analyses using the initial item pool resulted in a revised set of 28 items that functioned equivalently for children regardless of age, gender, or racial/ethnic minority status. CFA indicated adequate fit for both a theorized 2-factor model (i.e., Threat Sensitivity and Sensitivity to Affiliation) and 4-factor model (i.e., Non-Social Threat, Social Threat, Non-Physical Affiliation, and Physical Affiliation). These factors were replicated in independent samples of children and young adults. Across all samples, the STARS dimensions of _threat sensitivity_ and _sensitivity to affiliation_ showed convergent validity with criterion measures and both low levels of threat sensitivity and affiliation specifically predicted CU traits, but not conduct problems.

## Scoring – compute mean

1) **STAR Dimensions (recommended)**
   - **Compute mean of 13 items for Threat Sensitivity:** 1, 3, 4, 6, 9, 10, 11, 13, 15, 16, 18, 25, 28
   - **Compute mean of 15 items for Affiliative Reward:** 2, 5, 7, 8, 12, 14, 17, 19, 20, 21, 22, 23, 24, 26, 27

2) **STAR sub-dimensions (exploratory)**
   - **Compute mean of 4 items for Non-Social Threat Sensitivity:** 6, 9, 15, 28
   - **Compute mean of 9 items for Social Threat Sensitivity:** 1, 3, 4, 10, 11, 13, 16, 18, 25
   - **Compute mean of 6 items for Non-Physical Affiliation:** 2, 7, 12, 14, 23, 26
     **Compute mean of 9 items for Physical Affiliation:** 5, 8, 17, 19, 20, 21, 22, 24, 27