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# Sensory Processing Deficits in Children That Have Experienced Trauma or Neglect

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## BACKGROUND

- The effects of early childhood trauma and neglect on a child's development are extensive and complex.
- At least half of all children that are exposed to trauma early in life develop significant neuropsychiatric symptoms** (Perry et al., 1995).
- Research shows that when critical periods of development are disrupted by trauma or neglect, neural connections are not properly formed.
- Koomar describes the nervous systems of children who have experienced trauma to be in a constant hyper aroused state, affecting their ability to interpret the world around them and to form secure attachments (2009).
- Romanian orphans have been extensively studied and correlations have been found between deprived environments and delays in cognition, social skills, adaptive behavior, and sensory processing skills (Cermak & Daunhauer, 1997).
- Sensory processing is an area of development that is the basis for cognitive, social, physical, and emotional skills; however research is just in the beginning stages of exploring the effects of childhood trauma or neglect on the development of the sensory processing systems.
- Key characteristics of Sensory Processing Disorder (SPD) have been recorded by parental reports and clinical observations for years, but the current body of literature supporting the presence of SPD in children who have experienced early deprivation or trauma is minimal.

## RESEARCH QUESTIONS

**Do children that experience trauma or neglect have deficits in their ability to process sensory stimuli? Are there specific sensory subsystems that are most effected?**

The objective of this study is to provide quantitative evidence toward the body of literature supporting sensory processing deficits in children that have experienced trauma or neglect.

## METHODS



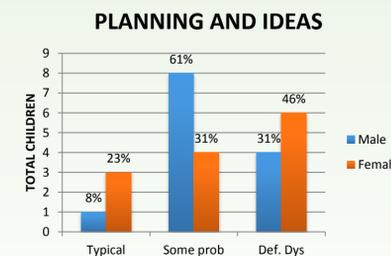
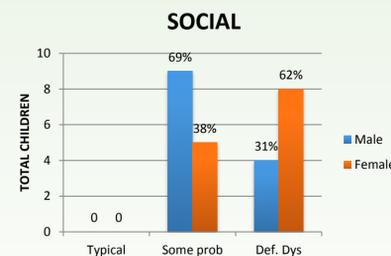
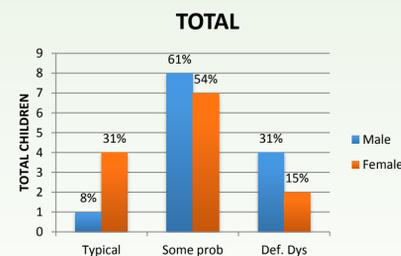
- Design:** Retrospective chart review with HRPO approval.
- Participants:** A total of 26 children, between the ages of 4 and 14, who were enrolled in the La Familia-Namaste Treatment Foster Care Program in New Mexico participated in this study. Each child had a completed Sensory Processing Measure (SPM) on file to guide treatment. The included SPMs were collected between June and September 2015 and were identified as a representative sample of the overall client population by La Familia-Namaste. De-identified copies were used for this study with only the age, gender, and length of time in current foster placement available to the researchers.
- Instrument:** Sensory Processing Measure Home form was completed by the child's primary caregiver and covers eight subscales of behaviors including: Social Participation, Vision, Hearing, Touch, Taste and Smell, Body Awareness, Balance and Motion, and Planning and Ideas.
- Data Analysis:** Data for this population was compiled under the randomly assigned number for each child in Microsoft Excel format. The data was then analyzed to identify trends in subjects scores based upon the interpretive score ranges of *Typical*, *Some Problems*, or *Definite Dysfunction*. Data was analyzed by gender within each subtest according to the percentage of scores in each interpretive range. Data was also analyzed for age and length of placement to determine if any correlations existed between each of these two factors and the total scores.

## RESULTS

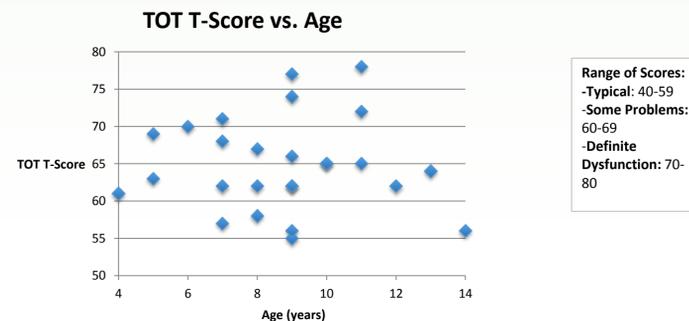
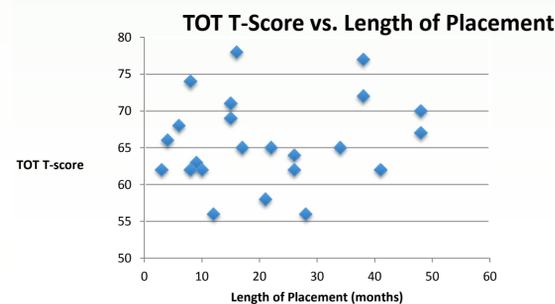
- Analysis showed a significant amount of children (81%) to have a total t-score ranging in *Some Problems* or *Definite Dysfunction*.
- All 26 children had either *Some Problems* or *Definite Dysfunction* in the subtest for social participation and 84% of children had either *Some Problems* or *Definite Dysfunction* on the subtest for Planning and Ideas.

Table A. Percentage of total participant scores per subtest.

Subtest	Typical	Some Problems	Definite Dysfunction	Some Problems Plus Definite Dysfunction
VIS	38%	50%	12%	62%
HEA	38%	42%	19%	61%
TOU	27%	61%	12%	73%
BOD	27%	50%	23%	73%
BAL	58%	23%	19%	42%
PLA	15%	46%	38%	84%
SOC	0%	54%	46%	100%
TOT	19%	58%	23%	81%



- Age, gender, and length of placement appeared to have no significant effects on the total sensory t-scores.



## SPM Example Questions:

### Social Participation

- Play with friends cooperatively (without lots of arguments)?  
Never....Occasionally....Frequently....Always
- Interact appropriately with parents and other significant adults (communicates well, follows directions, shows respect, etc.)? N....O....F....A.
- Share things when asked? N....O....F....A.
- Carry on a conversation without standing or sitting too close to others? N....O....F....A.
- Maintain appropriate eye contact during conversation? N....O....F....A.

## CONCLUSIONS

- Children within the treatment foster care system are likely to have some difficulties in sensory processing, specifically the sensory system of planning and ideas (praxis) as well as **definite impairments** in social participation.
- Age, gender, and length of placement do not seem to effect the total scores on the SPM.

## CLINICAL IMPLICATIONS

- Services focused on social skills training are indicated for this population as well as an individualized evaluation of sensory needs.
- Trauma-informed, attachment-based, occupational therapy interventions may be indicated by the results of this study, however, implementation of sensory interventions to effect attachment requires further research.

## REFERENCES

Cermak, S.A. & Daunhauer, L.A. (1997). Sensory processing in the postinstitutionalized child. *The American Journal of Occupational Therapy*, 51, 500-507. doi:10.5014/ajot.51.7.500

Koomar, J. A. (2009). Trauma- and attachment-informed sensory integration assessment and intervention. *American Occupational Therapy Association: Sensory Integration Special Interest Section Quarterly*, 32, 1-4.

Perry, B. D., Pollard, R. A., Blaicley, T.L., Baker, W.L., & Vigilante, D. (1995). Childhood trauma, the neurobiology of adaptation, and "use-dependent" development of the brain: how "states" become "traits". *Infant Mental Health Journal*, 16, 271-291. doi: 10.1002/1097-0355