

Abnormal Sensory Processing In Adults With Dementia Linked To Dementia Symptom Severity, Impaired Communication, And Caregiver Burden



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BACKGROUND

- Alzheimer’s disease and related dementias (ADRD) impact multiple areas of daily life for both people with ADRD (PwADRD) and their caregivers.
- Declining social functioning,¹ behavioral and psychiatric symptoms of dementia (BPSD),^{2,3} and sensory processing impairments^{2,4} are commonly observed in ADRD.
- Sensory processing impairment is not only a symptom of ADRD, but it also contributes to the expression of BPSD.^{2,4}
- Declining communication ability in PwADRD, which impacts social function, has also been reported as a major stressor amongst caregivers.⁵
- Communication deficits may be associated with sensory processing impairment via degeneration of the cortical language network.⁶
- Aim:** To clarify the implications of potential relationships between BPSD, social functioning, and sensory processing impairments on caregiver burden.

METHODS

- Data were collected among adults with ADRD and their caregivers (N=102).
- Spearman correlation assessed relationships between sensory processing, BPSD, caregiver burden, and social functioning, as measured by the following assessments:
 - Adult Sensory Profile (ASP)
 - Neuropsychiatric Inventory (NPI)
 - Language, Community Affairs Clinical Dementia Rating Scale (CDR) subscores
- Statistical analyses and demographic data were assessed using IBM SPSS Statistics 31. Figures were created in JMP Student Edition 19.



Fig. 1 Examples of common care challenges made more difficult due to communication breakdowns.
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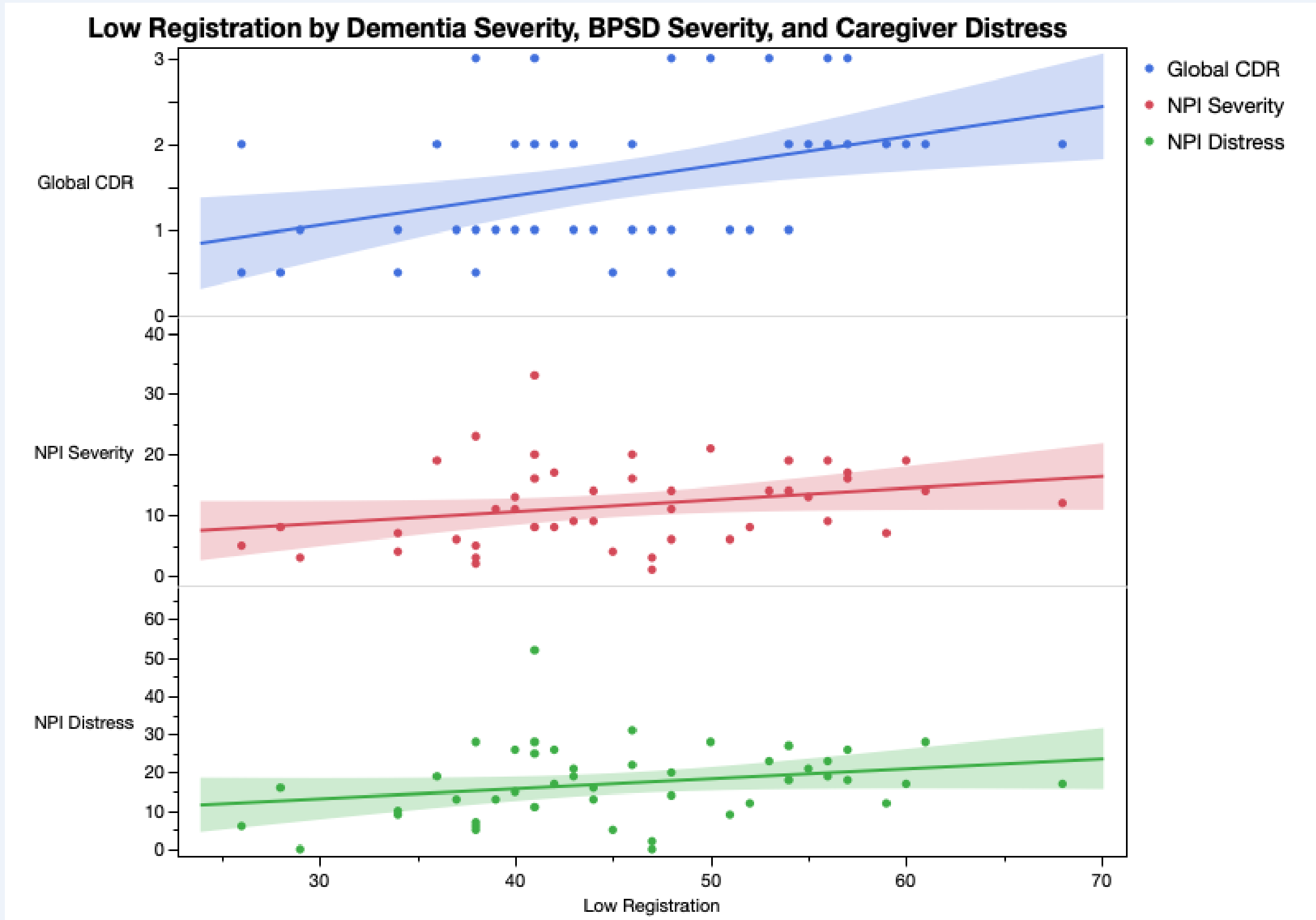


Fig. 2 Low Registration (ASP) is positively correlated with dementia severity (CDR), BPSD severity (NPI), and caregiver distress (NPI)

Participant Characteristics		
	Caregivers	Persons w/ ADRD
n	51	51
Global CDR (mean ± SD)	n/a	1.55 (0.80)
Age (years; mean ± SD)	64.66 (11.54)	78.06 (9.34)
Education (years; mean ± SD)	15.76 (2.25)	13.29 (4.98)
Gender	39 Female, 12 Male	32 Female, 19 Male
Race	46 White, 4 Black/African American, 1 Asian	46 White, 4 Black/African American, 1 Not Reported
Care Partner Type	28 Child, 20 Spouse, Child, 3 Other relative	n/a

RESULTS

- PwADRD had a mean Standard Global CDR of 1.55 (SD=0.80) and had functional sensory acuity, with or without aids (e.g. hearing aids, glasses).
- Low Registration type sensory processing impairment was significantly, positively associated with dementia severity ($r_s(45)=.434, p=.002$), BPSD severity ($r_s(45)=.344, p=.018$), and caregiver distress ($r_s(45)=.334, p=.022$).
- Further analyses identified a significant positive relationship between Low Registration and impaired communication, as measured by both Language ($r_s(34)=.374, p=.024$) and Community Affairs ($r_s(44)=.378, p=.010$) CDR subscores.

CONCLUSION

- This work highlights the implications of sensory processing capacity, an underexplored area, along with BPSD as associated with caregiver distress and social dysfunction.
- With a known gap in assessing sensory processing capacity, these correlations help to guide further research addressing BPSD as associated with caregiver distress and social dysfunction.
- Occupational therapy has a unique role in addressing this gap in assessing sensory processing capacity due to the wealth of experience and evidence in pediatric assessment and intervention.
- Additional exploration of sensory processing classification is warranted, as this may reveal a novel area for reducing caregiver distress.

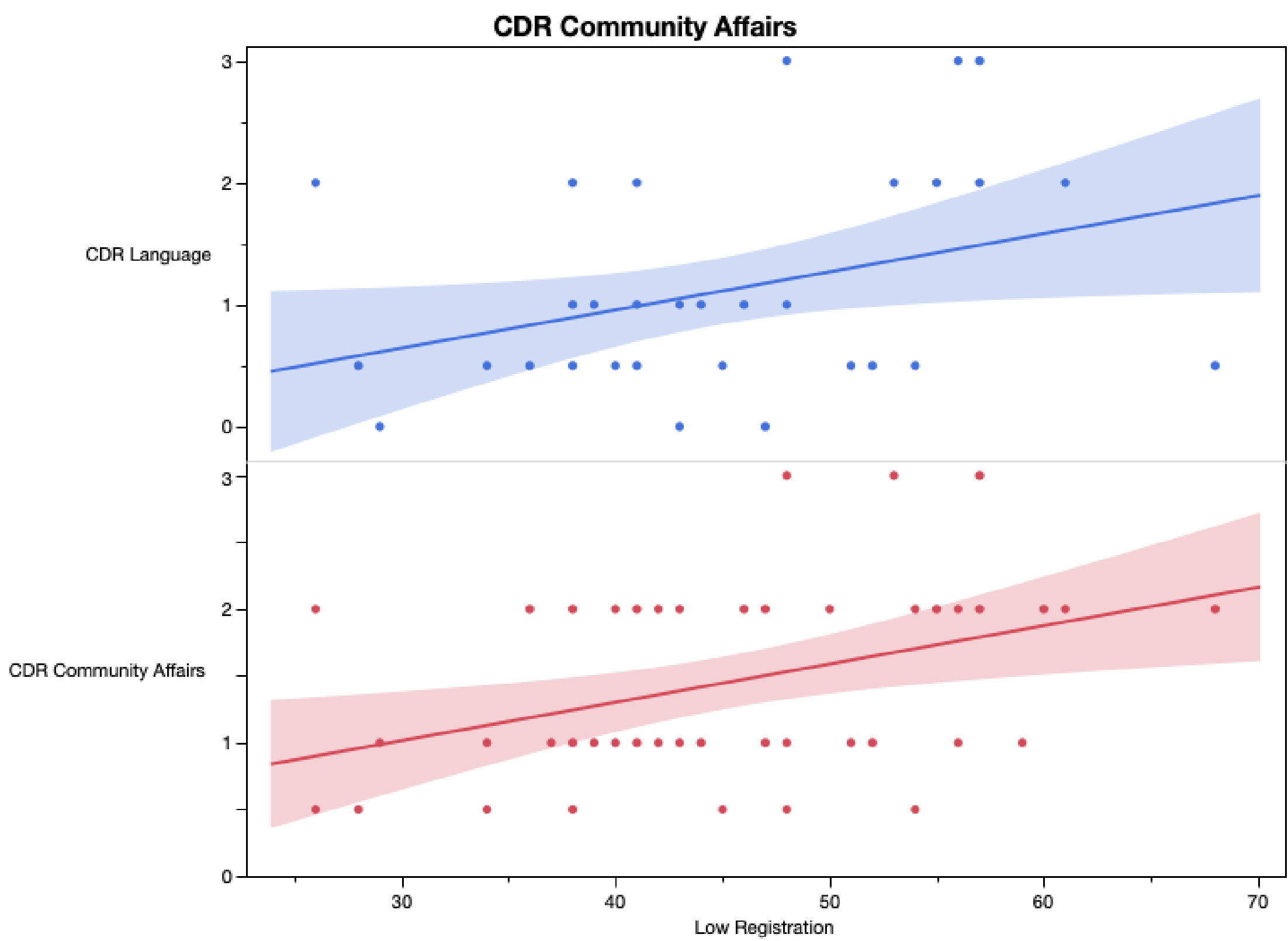


Fig. 3 Positive relationship is shown between Low Registration (ASP) and Socialization Impairment and (CDR Language, CDR Community Affairs), where higher scores on the CDR reflect greater impairment

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References are available upon request.