

# Diagnostic Predictive Utility of Perceived Subjective Cognitive Complaints Measured by Ascertain Dementia 8 (AD8)

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## Background

- The mixed evidence for the relationship between Subjective Cognitive Complaints (SCCs) and cognitive performance and decline has been both cross-sectional and longitudinally
- One meta-analytic study found that among participants aged 59 and older, the presence of SCC was associated with a 1.5-3-fold higher risk of progression to MCI or dementia<sup>6</sup>
- Another study found that occurrence SCCs was associated with 80% increase in risk of developing incident dementia<sup>1</sup>
- In contrast, other studies found that SCCs alone did not predict incident dementia in 6 year follow up<sup>7</sup>
- Persistence of SCCs has been posed to explain the inconsistency in previous research on the relationship between SCCs and cognitive function. However, evidence supporting the impact of the persistence of such complaints on the predictive utility of SCCs with respect to incident MCI and dementia has been limited.
- Persistence of SCCs was associated with increased risk of incident dementia. Specifically, incidence dementia was higher in the persistent SCCs group, defined as present at baseline and follow-up, and transient SCCs group, defined as present at baseline but not follow up<sup>5</sup>
- The current study was designed to address an important gap in the literature concerning persistence of SCCs decline in community residing older adults.

## Study Objective

**Objective:** Whether SCCs status (no/non-persistent/persistent SCCs), predicted the risk of developing incident Mild Cognitive Impairment (MCI)

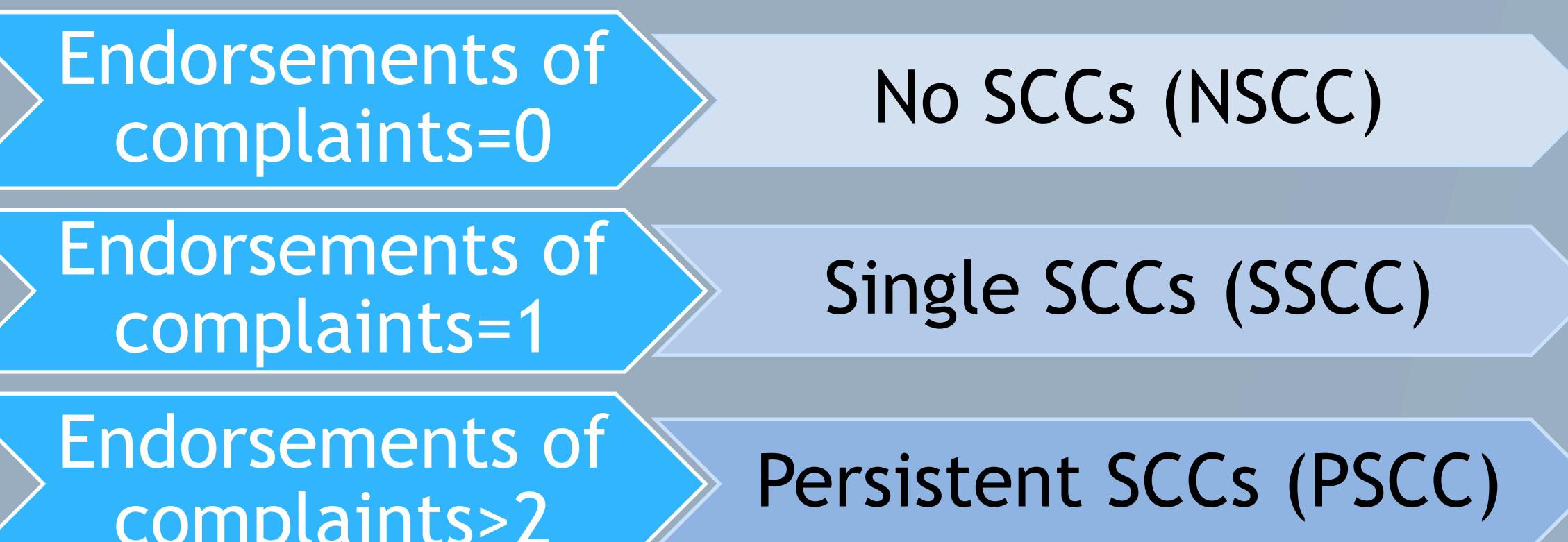
## Method

### Participants

- 454 relatively healthy community-dwelling older adults recruited from Westchester County, NY
- Exclusion criteria: inability to ambulate independently, dementia at baseline and at follow-ups over 5 years, significant difficulties with vision or hearing, history of neurological disorders

### Measures

SCCs: The self-rating Ascertain Dementia 8 (AD8)<sup>3</sup> asked the respondent to rate change (yes or no) in memory, problem solving abilities, orientation, and daily activities in order to measure SCCs. It has also been found to be an effective tool for clinically screening cognitive impairment and optimal to administer in a busy primary care setting, which is usually where SCCs are first reported<sup>2</sup>. There is no clinical cut-off for this measure to determine persistence. The determination of persistence for this study was made by examining the sample distribution of SCCs endorsement over the first year of the parent study collected via bimonthly structured phone interviews with up to 6 interviews over 12 months. Any endorsement of a question on the AD8 counted as an instance of endorsement of SCCs.



**Clinical Case Diagnosis:** Cognitive status was determined by formal case conference diagnostic procedures using objective neuropsychological test performance and subjective functional measures including activities of daily living and mood.

### Covariates

- Age, sex, years of education, ethnicity, depressive symptoms using the long form Geriatric Depression Scale (GDS) and health comorbidities using a Global Health Score (GHS)

### Statistical Analyses

- Generalized Estimating Equations (GEE), logistic model type, were used to determine the odds of developing MCI during 5 year follow-up
- Adjusted for covariates (see Table 1)

## Results

Table 1. Descriptive statistics of baseline demographic information by Persistence of SCCs status

	Total Sample (n=454) M(SD) or N (%)	No SCCs (NSCC) (n=245) M(SD) or N (%)	Single SCCs (SSCC) (n=105) M(SD) or N (%)	Persistent SCCs (PSCC) (n=104) M(SD) or N (%)	p
Age years	75.67(6.43)	74.87(6.01)	75.50(5.58)	77.74(7.65)	<.001
Sex	-	-	-	-	.574
Female	251(55.29%)	131(53.47%)	58(55.24%)	62(59.61%)	-
Male	203(44.71%)	114(46.53%)	47(44.76%)	42(40.38%)	-
Ethnicity	-	-	-	-	.361
Caucasian	382(84.14%)	211(86.12%)	87(82.86%)	84(80.77%)	-
Non-Caucasian	71(15.86%)	34(13.88%)	18(17.14%)	20(19.23%)	-
Education years	14.83(2.86)	15.14(2.84)	14.61(2.77)	14.32(2.92)	.033
GHS	1.61(1.10)	1.44(1.03)	1.75(1.20)	1.86(1.11)	.002
GDS	4.51(3.95)	3.33(3.04)	5.05(3.95)	6.76(4.71)	<.001
Baseline RBANS Total Score	95.03(10.37)	94.63(10.53)	95.39(9.37)	95.74(10.98)	.657
Incident MCI during follow-up	59	22	19	18	-

Note: GHS = Global Health Status score potential range from 0 to 10, GDS = Geriatric Depression Scale score potential range from 0 to 30, Persistent SCCs status= 2+ SCCs over one year follow up

Figure 1. Incident MCI by Persistence of SCCs status

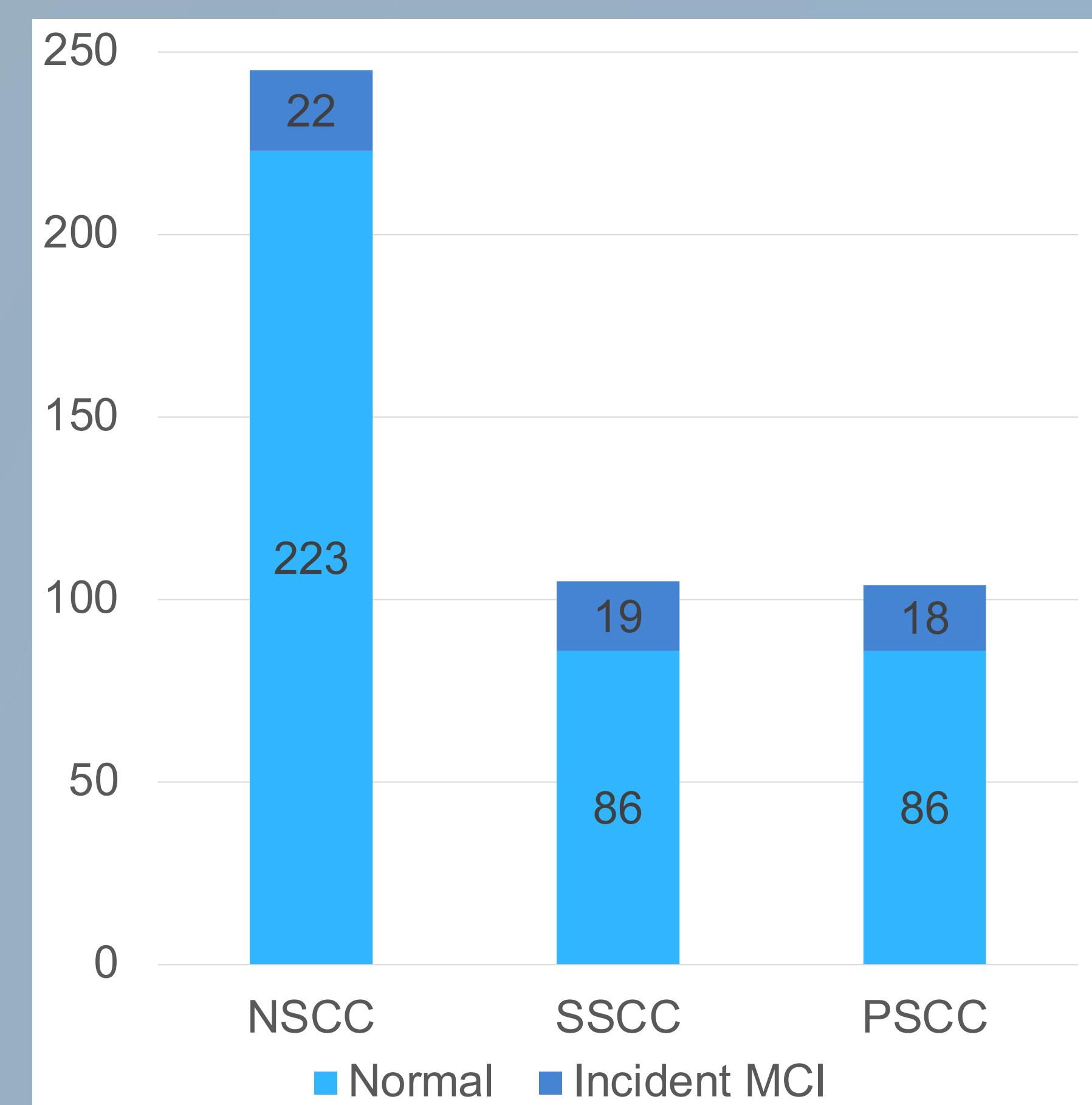


Table 2. Generalized Estimating Equations, logistic model type, examining the odds of developing MCI during follow-up by persistent SCCs endorsement.

Parameter	OR	95% CI	p
Age	1.053	[1.023, 1.084]	<.001
GHS	0.944	[0.826, 1.078]	.393
GDS	1.025	[0.975, 1.078]	.331
Gender	0.732	[0.486, 1.101]	.134
Ethnicity	1.254	[0.964, 1.630]	.091
Education years	0.930	[0.873, 0.991]	.026
Time	0.927	[0.830, 1.035]	.175
Persistent SCC vs. NSCC	2.448	[1.422, 4.216]	.001
Single SCC vs. NSCC	2.538	[1.473, 4.372]	<.001
Single SCC vs. Persistent SCC	0.885	[0.594, 1.567]	.885

Note: No SCC group (NSCC) was used as reference group in analysis; Dependent Variable: MCI; Model: (Intercept), Age, GHS, Gender, Ethnic, Education years, Wave, Persistence SCC Level; GHS = Global Health Status

## Discussion

- Results showed that compared to no SCCs, persistent SCCs and non-persistent endorsements of SCCs were significantly associated with increased odds of developing MCI during follow-up
- Results for Single and Persistent SCCs were not different. Clinically, this provides support that presence alone increases risk of MCI, not persistence alone.

### Limitations:

- The cohort used in the present study was relatively healthy which has been reported to be related to SCCs in the literature as well as have links to increased dementia-risk

### Conclusions:

- The presence of SCCs regardless of its persistence was associated with increased odds of developing MCI among older adults.

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