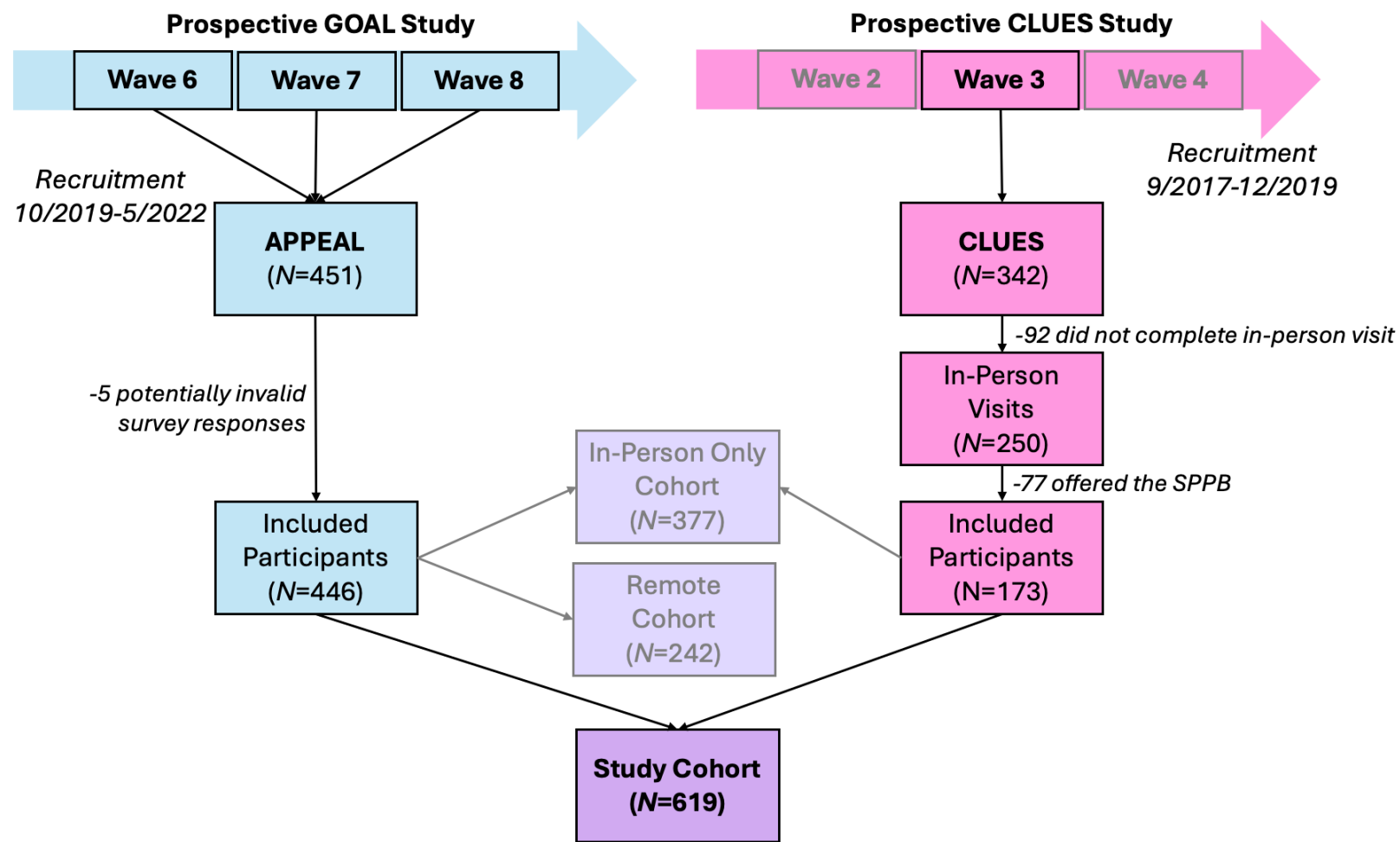


Supplement: Plantinga L *et al.*, Perceived and Objective Physical Function in Two U.S., Population-Based Cohorts of Adults with Systemic Lupus Erythematosus

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Supplementary Figure 1. Study design and participant flow

APPEAL, Approaches to Positive, Patient-centered Experience of Aging with Lupus; CLUES, California Lupus Epidemiology Study; GOAL, Georgians Organized Against Lupus; SPPB, Short Physical Performance Battery.



Supplementary Table 1. Characteristics of participants with systemic lupus erythematosus who had in-person visits, overall and by cohort

Characteristic	Overall	Cohort		<i>P</i> ^a
		APPEAL	CLUES	
<i>N</i>	377	204	173	
Age, years, mean (SD)	45.8 (13.2)	46.3 (12.3)	45.4 (14.1)	0.50
Sex, <i>n</i> (%)				0.60
Female	334 (88.6)	179 (87.7)	155 (89.6)	
Male	43 (11.4)	25 (12.3)	18 (10.4)	
Race/ethnicity, <i>n</i> (%)				<0.001
Asian	74 (19.6)	3 (1.5)	71 (41.0)	
Black	189 (50.1)	175 (85.8)	14 (8.1)	
Hispanic	50 (13.3)	10 (4.9)	40 (23.1)	
Other	6 (1.6)	6 (2.9)	0 (0.0)	
White	58 (15.4)	10 (4.9)	48 (27.7)	
Self-rated health at visit				---
Worse than usual	---	71 (34.9)	---	
Same as usual	---	95 (46.6)	---	
Better than usual	---	38 (18.6)	---	
BMI, kg/m ² , mean (SD)	28.8 (8.0)	30.8 (8.9)	26.5 (6.1)	<0.001
SLAQ score, median (IQR)	11.0 (5.0-17.0)	13 (7.0-20.0)	8.0 (4.0-14.0)	<0.001
BILD score, median (IQR)	2.0 (1.0-3.0)	2.0 (1.0-4.0)	1.0 (0.0-3.0)	0.20
Depressive symptoms ^b				
PROMIS T-score, mean (SD)	---	48.5 (9.1)	---	---
PHQ-8 score, mean (SD)	----	----	6.0 (5.1)	---

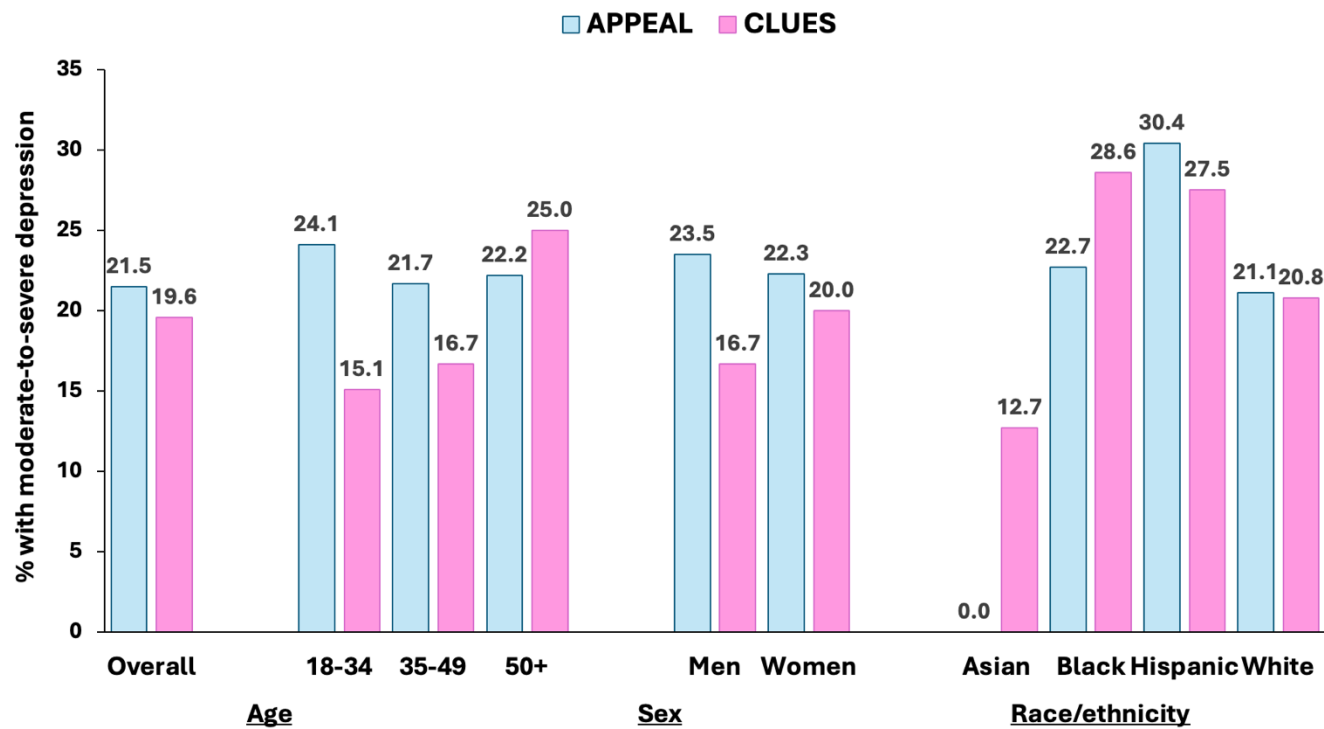
APPEAL, Approaches to Positive, Patient-centered Experiences of Aging with Lupus; BILD, Brief Index of Lupus Damage (score range, 0-26; higher scores reflect higher levels of disease damage); BMI, body mass index; CLUES, California Lupus Epidemiology Study; IQR, interquartile range (25th-75th percentile); PROMIS, Patient-Reported Outcomes Measurement Information System; PHQ-8, 8-item Patient Health Questionnaire; SLAQ, Systemic Lupus Activity Questionnaire (score range, 0-44; higher scores reflect higher levels of lupus disease activity).

^aBy χ^2 , Fisher's exact, or Wilcoxon rank-sum test, as appropriate.

^bIn APPEAL, depressive symptoms were measured using the PROMIS Depression Short Form 8b and reported as T-scores, which have a population mean of 50 and a standard deviation of 10. Higher scores indicate greater levels of depressive symptoms. In CLUES, depressive symptoms were assessed using the PHQ-8, with scores ranging from 0 to 24. Higher scores similarly reflect greater levels of depressive symptoms.

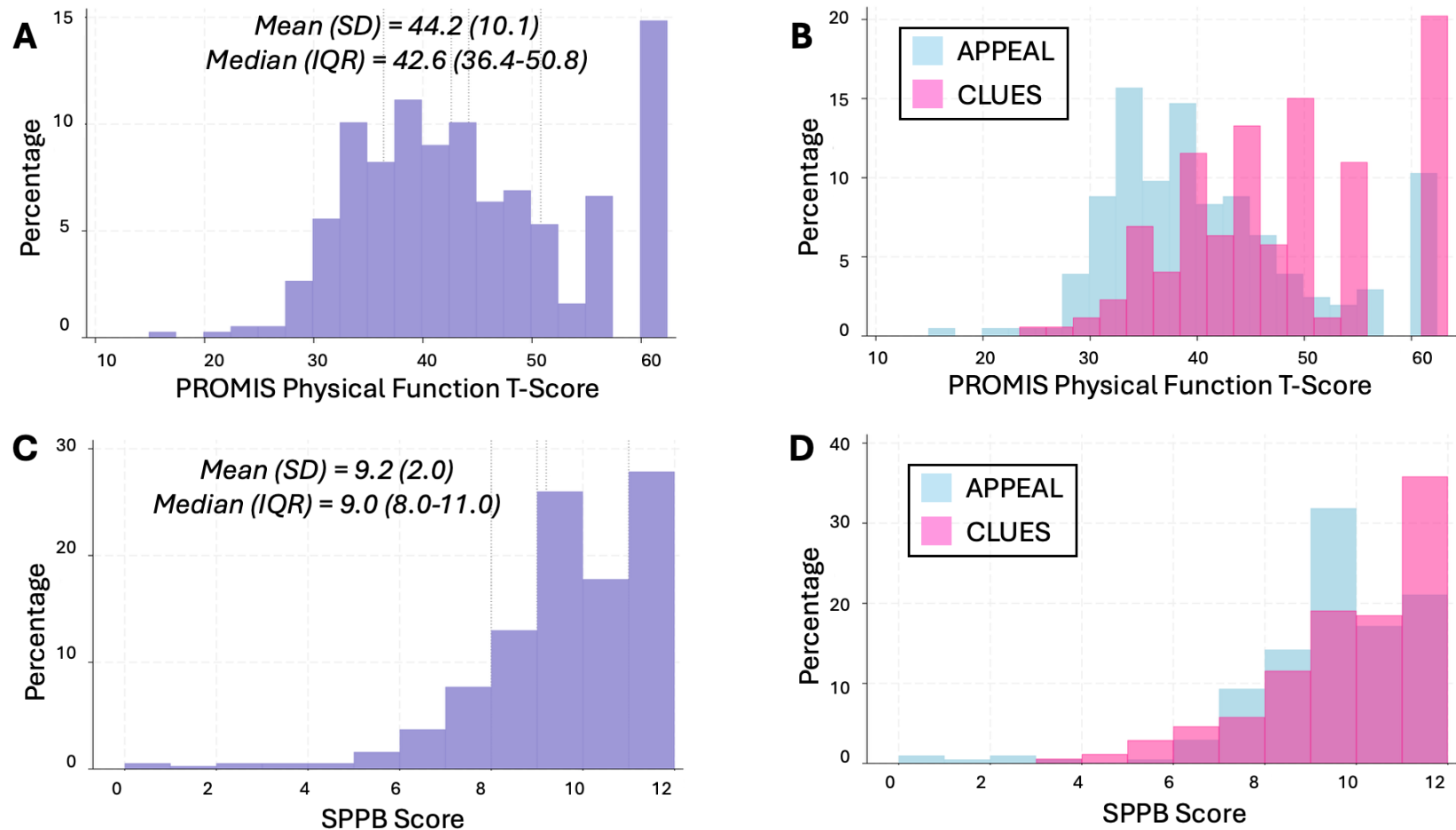
Supplementary Figure 2. Percentages of participants with moderate-to-severe depression by cohort and by age group, sex, and race/ethnicity

Moderate-to-severe vs. no or mild depression was estimated using cutoffs of Patient-Reported Outcomes Measurement Information System Depression Short Form 8b T-score >56.2 and PHQ-8 score ≥10.



Supplementary Figure 3. Distributions of perceived and objective physical function, overall and by cohort, among those with in-person visits only

Histograms of PROMIS Physical Function T-scores (perceived function) (**A** and **B**) and Short Physical Performance Battery (objective function) scores (**C** and **D**) are shown overall (**A** and **C**) and by cohort (**B** and **D**). IQR, interquartile range (25th, 75th percentile); PROMIS, Patient-Reported Outcomes Measurement Information System; SPPB, Short Physical Performance Battery. T-scores have a population mean of 50 and SD of 10, with higher scores indicating better physical function. SPPB range is 0-12, with higher scores indicating better performance.



Supplementary Table 2. APPEAL vs. CLUES differences in perceived and objective physical function

Model ^a	APPEAL vs. CLUES difference in score, β (95% CI)	
	Perceived physical function (per SD of PROMIS PF T-Score)	Objective physical function (per SD of SPPB score)
Unadjusted	-0.64 (-0.81 to -0.47)	-0.19 (-0.37 to -0.02)
Model 1	-0.62 (-0.78 to -0.45)	-0.18 (-0.36 to -0.01)
Model 2	-0.11 (-0.31 to 0.08)	0.19 (-0.06 to 0.44)
Model 3	-0.26 (-0.40 to -0.12)	-0.01 (-0.19 to 0.16)

APPEAL, Approaches to Positive, Patient-centered Experiences of Aging with Lupus; CLUES, California Lupus Epidemiology Study; PF, physical function; PROMIS, Patient-Reported Outcomes Measurement Information System; SPPB, Short Physical Performance Battery.

^aModel 1, adjusted for age and sex; model 2, additionally adjusted for body mass index, disease activity, and disease damage; and model 3, additionally adjusted for race/ethnicity.

Supplementary Table 3. Perceived and objective physical function by patient characteristics, by visit modality

Characteristic	Mean (SD) score for physical function			
	Perceived (PROMIS PF T-Score)		Objective (SPPB score)	
	In-person	Remote	In-person	Remote
Age				
18-34	48.4 (10.1)	45.5 (11.2)	9.7 (1.5)	9.3 (2.3)
35-49	45.1 (10.8)	41.2 (9.7)	9.3 (2.1)	9.0 (2.2)
≥50	41.0 (8.5)	40.6 (8.8)	8.8 (2.0)	9.1 (2.2)
<i>P</i> ^a	<0.001	0.01	<0.001	0.77
Sex				
Female	43.9 (10.1)	45.5 (11.2)	9.2 (2.0)	9.1 (2.2)
Male	47.0 (10.5)	41.2 (9.7)	9.2 (1.8)	9.1 (3.2)
<i>P</i> ^a	0.07	0.54	0.99	0.99
Race/ethnicity				
Asian	50.6 (9.2)	49.8 (6.8)	9.8 (1.9)	9.2 (0.5)
Black	40.8 (9.4)	40.8 (9.6)	8.8 (2.0)	8.9 (2.3)
Hispanic	45.9 (9.6)	45.5 (10.0)	9.1 (1.9)	9.8 (1.7)
White	46.3 (9.3)	44.1 (8.9)	9.7 (1.8)	9.8 (1.8)
<i>P</i> ^a	<0.001	0.03	<0.001	0.30
Body mass index				
<30 kg/m ² (non-obese)	46.3 (10.4)	42.6 (10.1)	9.4 (2.1)	9.3 (2.3)
≥30 kg/m ² (obese)	40.3 (8.3)	41.0 (9.5)	8.8 (1.8)	8.9 (2.2)
<i>P</i> ^a	<0.001	0.21	0.009	0.14
Disease activity				
Lower (<median SLAQ)	49.6 (9.4)	46.4 (9.2)	9.7 (1.8)	9.5 (2.0)
Higher (≥median SLAQ)	38.4 (7.3)	37.6 (8.4)	8.7 (2.0)	8.7 (2.4)
<i>P</i> ^a	<0.001	<0.001	<0.001	0.006
Disease burden				
Lower (<median BILD)	47.2 (9.8)	44.7 (10.1)	9.5 (1.8)	9.3 (2.4)
Higher (≥median BILD)	40.9 (9.5)	39.3 (8.8)	8.9 (2.1)	8.9 (2.1)
<i>P</i> ^a	<0.001	<0.001	0.003	0.15
Depressive symptoms				
None or mild ^b	46.4 (10.0)	42.8 (10.0)	9.4 (2.0)	9.2 (2.2)
Moderate to severe ^b	37.1 (6.7)	38.3 (9.1)	8.6 (1.7)	8.6 (2.5)
<i>P</i> ^a	<0.001	0.003	0.001	0.12

BILD, Brief Index of Lupus Damage; PF, physical function; PROMIS, Patient-Reported Outcomes Measurement Information System; SLAQ, Systemic Lupus Activity Questionnaire; SPPB, Short Physical Performance Battery.

^aBy *t* test or ANOVA, as appropriate. ^bUsing cutoffs of PROMIS Depression Short Form 8b T-score >56.2 and PHQ-8 score ≥10.0.

Supplementary Table 4. Perceived and objective physical function by patient characteristics, by cohort

Characteristic	Mean (SD) score for physical function			
	Perceived (PROMIS PF T-Score)		Objective (SPPB score)	
	APPEAL	CLUES	APPEAL	CLUES
Age				
18-34	45.2 (10.8) ^c	51.3 (8.9) ^c	9.6 (1.8)	9.7 (1.8)
35-49	41.4 (9.9) ^c	50.4 (9.3) ^c	9.0 (2.2)	9.9 (1.8)
≥50	39.7 (8.4) ^c	43.7 (8.6) ^c	8.8 (2.2)	8.9 (2.1)
<i>P</i> ^a	<0.001	<0.001	0.03	0.01
Sex				
Female	41.2 (9.7)	47.6 (9.4)	9.0 (2.1)	9.5 (1.9)
Male	44.3 (9.7)	50.3 (10.8)	9.1 (2.0)	9.3 (2.4)
<i>P</i> ^a	0.08	0.33	0.84	0.77
Race/ethnicity				
Asian	51.2 (7.5)	50.4 (9.3)	10.1 (1.2)	9.7 (1.9)
Black	40.7 (9.5)	42.4 (9.3)	8.9 (2.2)	8.7 (1.7)
Hispanic	45.2 (10.0)	46.2 (9.5)	9.9 (1.5)	8.8 (2.0)
White	43.7 (9.0)	47.0 (9.2)	9.7 (1.7)	9.8 (1.9)
<i>P</i> ^a	0.003	0.009	0.02	0.03
Body mass index				
<30 kg/m ² (non-obese)	42.8 (10.3)	48.8 (9.6)	9.2 (2.3)	9.6 (1.9)
≥30 kg/m ² (obese)	40.0 (8.9)	43.9 (8.1)	8.9 (2.0)	8.7 (2.1)
<i>P</i> ^a	0.003	0.003	0.14	0.02
Disease activity				
Lower (<median SLAQ)	46.5 (9.5)	51.7 (8.4)	9.5 (1.9)	9.9 (1.8)
Higher (≥median SLAQ)	37.6 (8.0)	40.1 (6.5)	8.7 (2.2)	8.6 (1.9)
<i>P</i> ^a	<0.001	<0.001	<0.001	<0.001
Disease burden				
Lower (<median BILD)	44.5 (9.8)	50.0 (9.2)	9.4 (2.1)	9.5 (1.9)
Higher (≥median BILD)	38.8 (8.8)	44.8 (9.2)	8.8 (2.1)	9.3 (2.0)
<i>P</i> ^a	<0.001	<0.001	0.002	0.57
Depressive symptoms				
None or mild ^b	42.8 (9.9) ^c	50.2 (8.7) ^c	9.2 (2.1)	9.6 (1.9)
Moderate to severe ^b	37.3 (8.1) ^c	38.3 (6.2) ^c	8.6 (2.1)	8.8 (1.8)
<i>P</i> ^a	<0.001	<0.001	0.009	0.04

APPEAL, Approaches to Positive, Patient-centered Experiences of Aging with Lupus; BILD, Brief Index of Lupus Damage; CLUES, California Lupus Epidemiology Study; PF, physical function; PROMIS, Patient-Reported Outcomes Measurement Information System; SLAQ, Systemic Lupus Activity Questionnaire; SPPB, Short Physical Performance Battery.

^aBy *t* test or ANOVA, as appropriate. ^bUsing cutoffs of PROMIS Depression Short Form 8b T-score >56.2 and PHQ-8 score ≥10.0.

^c*P*_{interaction} < 0.05, from an unadjusted linear regression model including characteristic, cohort, and their interaction term (characteristic × cohort).

Supplementary Table 5. Perceived and objective physical function by patient characteristics, by cohort, among those with in-person visits only

Characteristic	Mean (SD) score for physical function			
	Perceived (PROMIS PF T-Score)		Objective (SPPB score)	
	APPEAL	CLUES	APPEAL	CLUES
Age				
18-34	44.9 (10.4)	51.3 (8.9)	9.8 (1.1)	9.7 (1.8)
35-49	41.7 (10.3)	50.4 (9.3)	8.9 (2.2)	9.9 (1.8)
³ 50	38.7 (7.8)	43.7 (8.6)	8.6 (2.0)	8.9 (2.1)
<i>P</i> ^a	0.002	<0.001	0.003	0.01
Sex				
Female	40.7 (9.5)	47.6 (9.4)	9.0 (2.1)	9.5 (1.9)
Male	44.6 (9.8)	50.3 (10.8)	9.1 (1.2)	9.3 (2.4)
<i>P</i> ^a	0.07	0.33	0.58	0.77
Race/ethnicity				
Asian	53.2 (9.3)	50.4 (9.3)	11.3 (0.6)	9.7 (1.9)
Black	40.7 (9.5)	42.4 (9.3)	8.8 (2.0)	8.7 (1.7)
Hispanic	44.7 (10.4)	46.2 (9.5)	10.1 (1.1)	8.8 (2.0)
White	42.5 (9.6)	47.0 (9.2)	9.7 (1.5)	9.8 (1.9)
<i>P</i> ^a	0.2	0.009	0.04	0.03
Body mass index				
<30 kg/m ² (non-obese)	43.0 (10.5)	48.8 (9.6)	9.0 (2.2)	9.6 (1.9)
30 kg/m ² (obese)	39.0 (8.0)	43.9 (8.1)	8.9 (1.7)	8.7 (2.1)
<i>P</i> ^a	0.003	0.003	0.62	0.02
Disease activity				
Lower (<median SLAQ)	46.6 (10.0)	51.7 (8.4)	9.4 (1.9)	9.9 (1.8)
Higher (³ median SLAQ)	37.6 (7.5)	40.1 (6.5)	8.7 (2.0)	8.6 (1.9)
<i>P</i> ^a	<0.001	<0.001	0.02	<0.001
Disease burden				
Lower (<median BILD)	44.3 (9.5)	50.0 (9.2)	9.4 (1.7)	9.5 (1.9)
Higher (³ median BILD)	38.3 (8.9)	44.8 (9.2)	8.6 (2.1)	9.3 (2.0)
<i>P</i> ^a	<0.001	<0.001	0.001	0.57
Depressive symptoms				
None or mild ^b	42.8 (9.8)	50.2 (8.7)	9.2 (2.1)	9.2 (2.1)
Moderate to severe ^b	36.2 (6.9)	38.3 (6.2)	8.5 (1.6)	8.5 (1.6)
<i>P</i> ^a	<0.001	<0.001	0.03	0.04

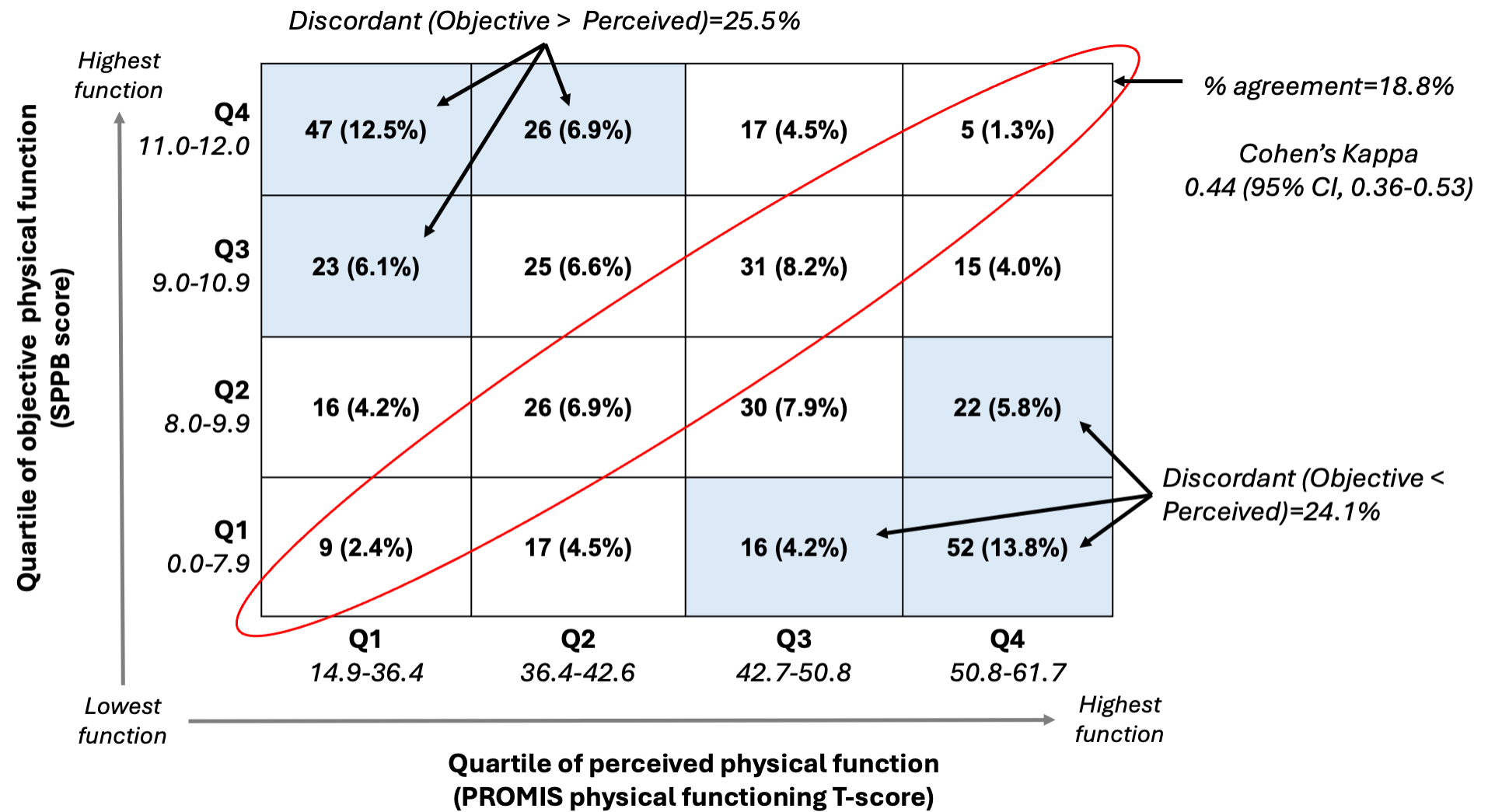
APPEAL, Approaches to Positive, Patient-centered Experiences of Aging with Lupus; BILD, Brief Index of Lupus Damage; CLUES, California Lupus Epidemiology Study; PF, physical function; PROMIS, Patient-Reported Outcomes Measurement Information System; SLAQ, Systemic Lupus Activity Questionnaire; SPPB, Short Physical Performance Battery.

^aBy *t* test or ANOVA, as appropriate.

^bUsing cutoffs of PROMIS Depression Short Form 8b T-score >56.2 and PHQ-8 score ≥10.0.

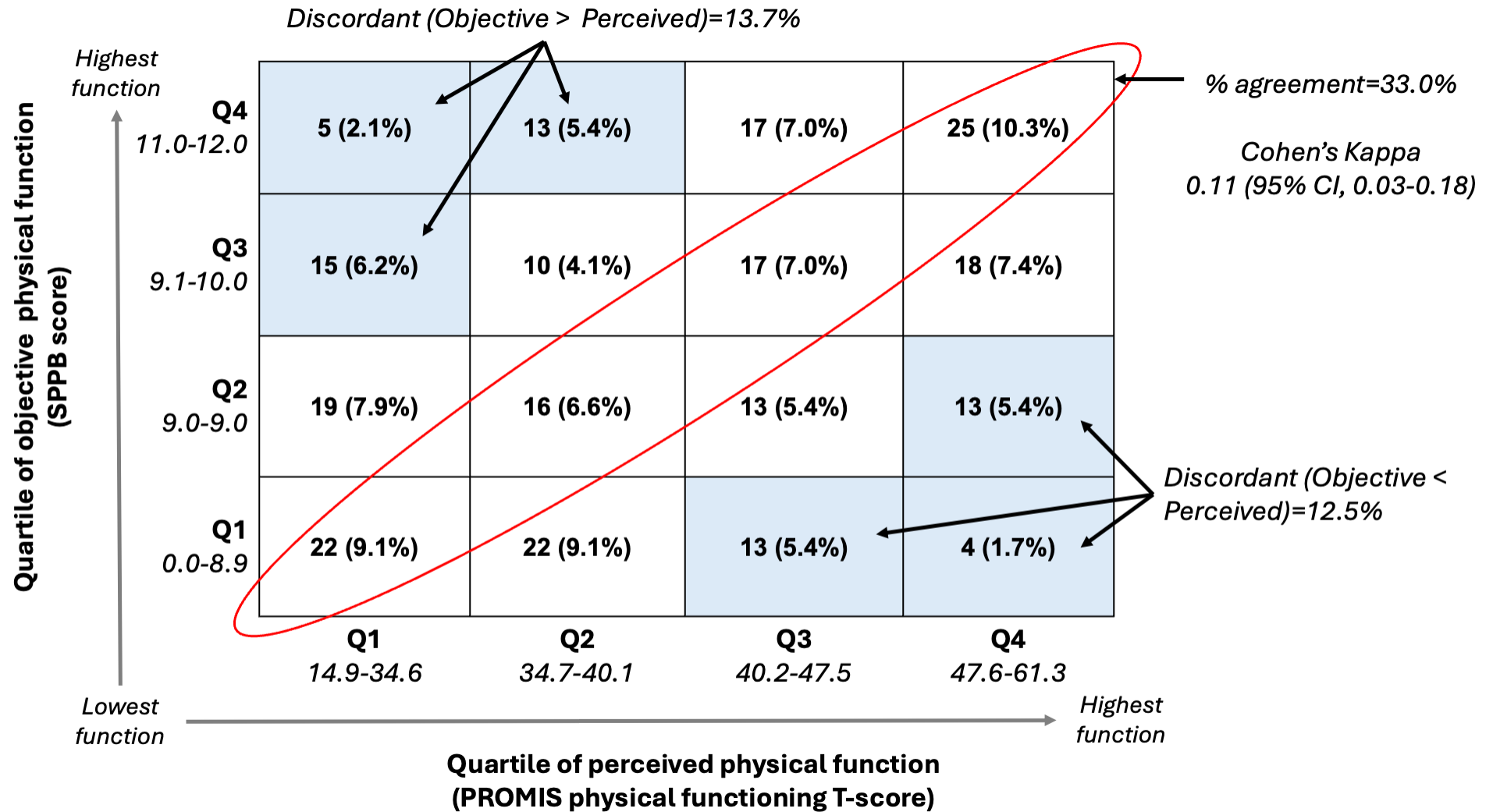
Supplementary Figure 4. Agreement between perceived and objective physical function in APPEAL and CLUES, by quartile of score, among those with in-person visits only

Quartiles were defined among those with in-person visits. APPEAL, Approaches to Positive, Patient-centered Experiences of Aging with Lupus; CLUES, California Lupus Epidemiology Study.

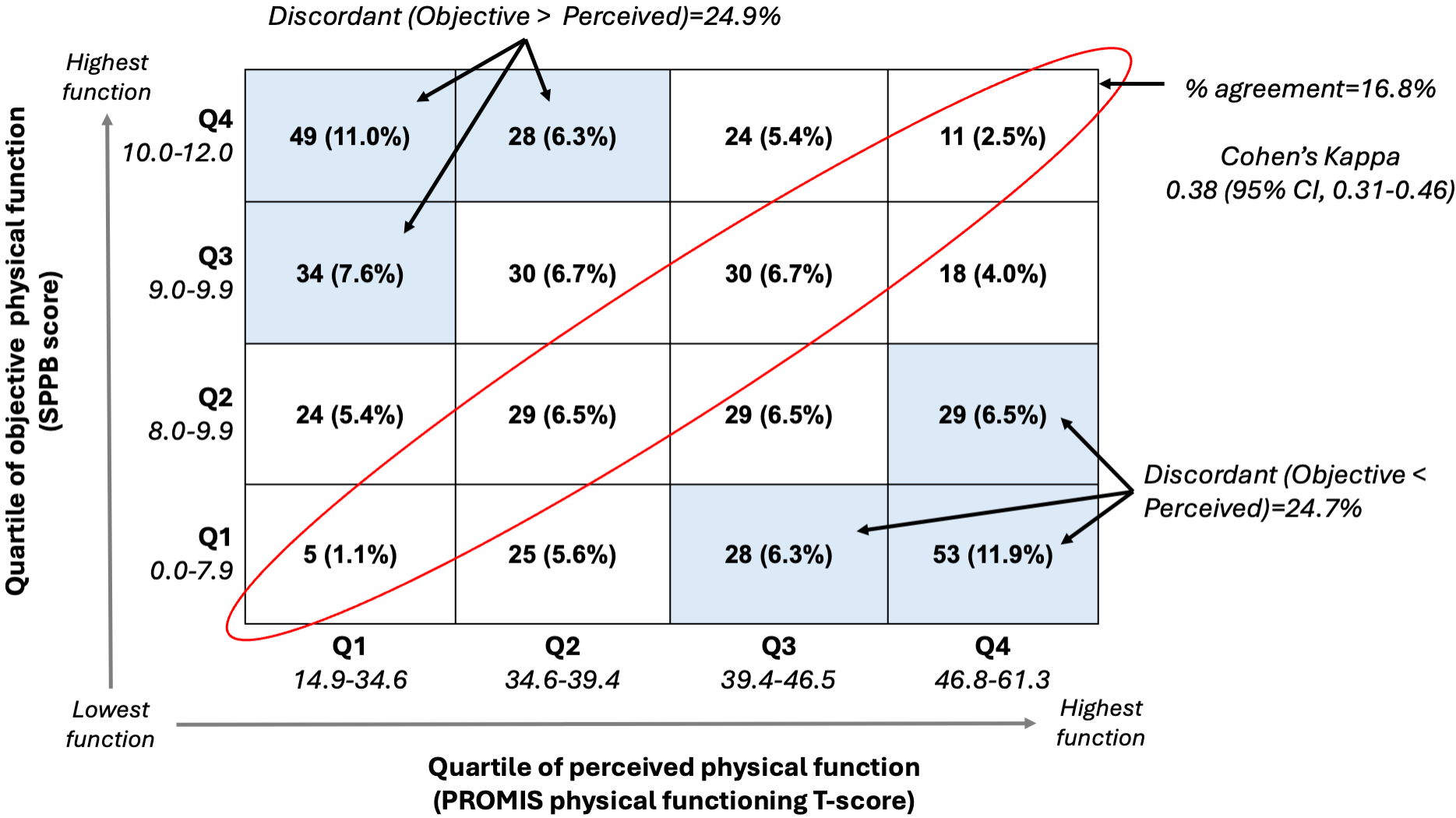


Supplementary Figure 5. Agreement between perceived and objective physical function in APPEAL and CLUES, by quartile of score, among those with remote visits only

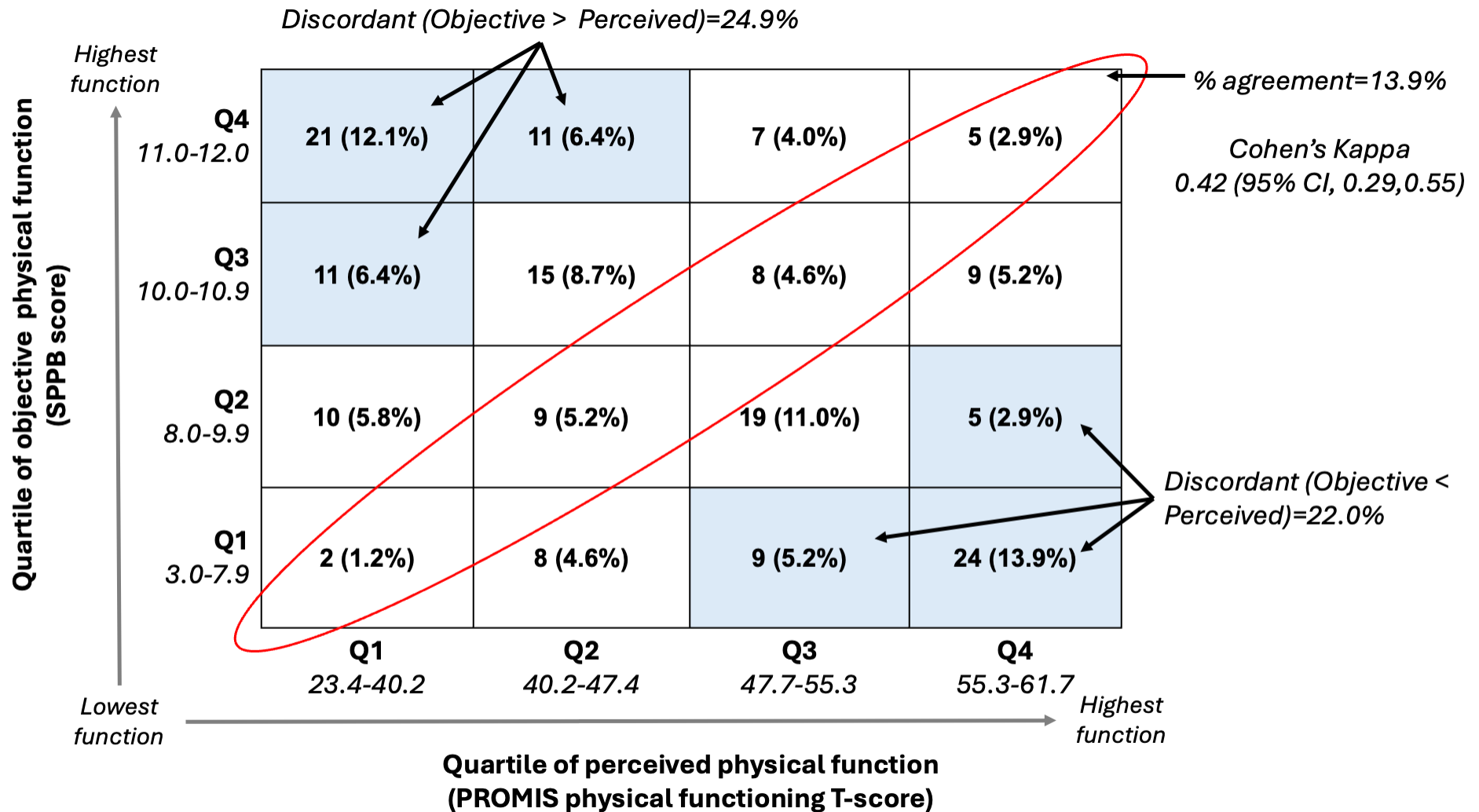
Quartiles were defined among those with in-person visits. APPEAL, Approaches to Positive, Patient-centered Experiences of Aging with Lupus; CLUES, California Lupus Epidemiology Study.



Supplementary Figure 6. Agreement between perceived and objective physical function in APPEAL participants only, by quartile of score
Quartiles were defined among those in the APPEAL study. APPEAL, Approaches to Positive, Patient-centered Experiences of Aging with Lupus.

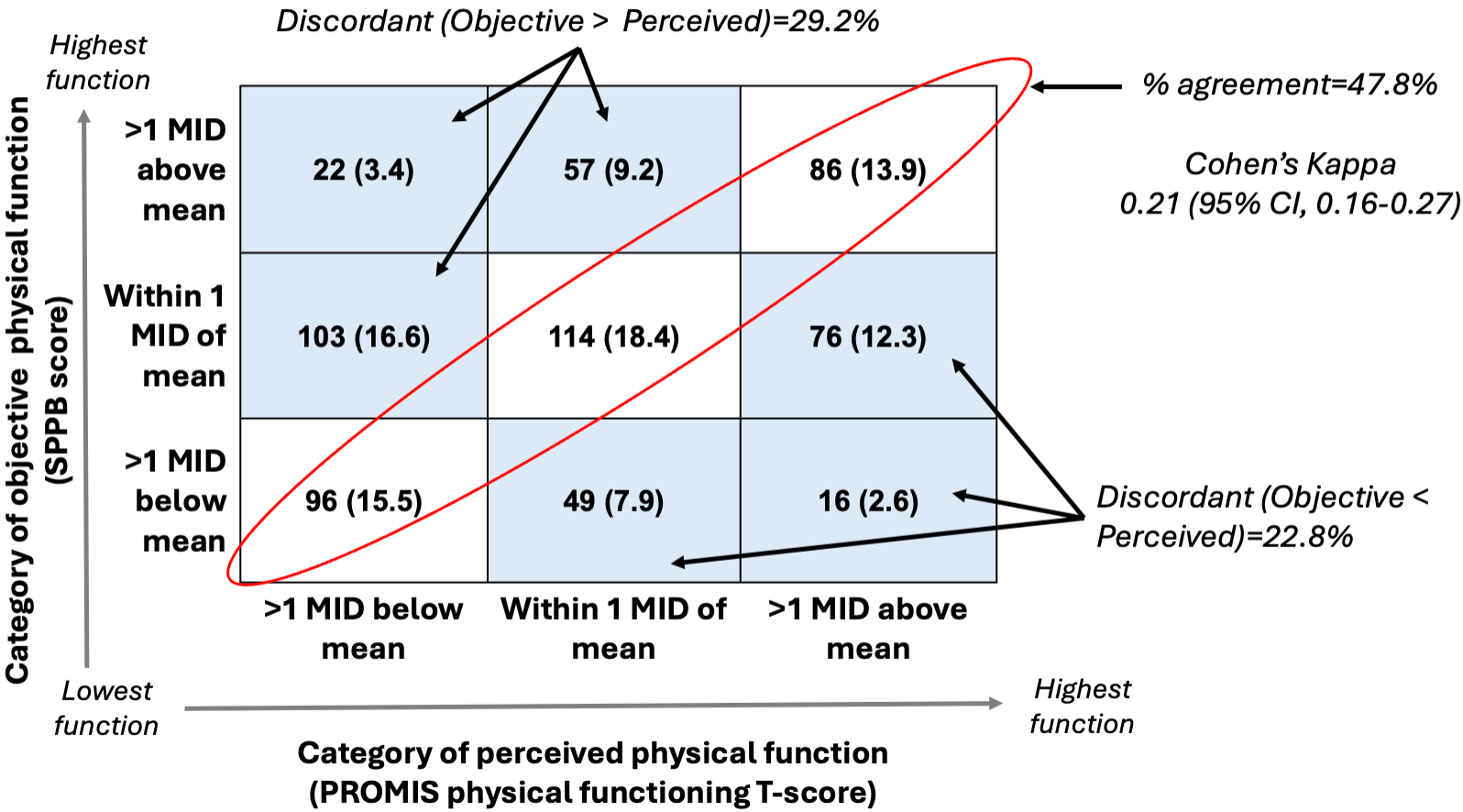


Supplementary Figure 7. Agreement between perceived and objective physical function in CLUES participants only, by quartile of score. Quartiles were defined among those in the CLUES study. CLUES, California Lupus Epidemiology Study.



Supplementary Figure 8. Agreement between perceived and objective physical function, by categories defined by the minimally important difference

*MID, minimally important difference, defined as 0.5*SD in the study sample.*



Supplementary Table 6. Association of participant characteristics with discordance between perceived and objective physical functioning in APPEAL and CLUES combined, among those with in-person visits only

Characteristic	Relative risk ratio for discordant ^a (vs. concordant) physical function scores			
	Underestimation (objective>perceived)		Overestimation (objective<perceived)	
	Unadjusted	Adjusted ^b	Unadjusted	Adjusted ^b
Age (vs. 18-34 years)				
35-49 years	0.87 (0.33-2.30)	0.59 (0.21-1.68)	0.47 (0.22-1.02)	0.59 (0.25-1.39)
≥50 years	0.76 (0.29-1.99)	0.54 (0.19-1.55)	0.56 (0.28-1.12)	0.99 (0.42-2.24)
Sex (vs. female)				
Male	1.48 (0.48-4.54)	1.86 (0.58-5.98)	2.25 (1.02-4.97)	3.22 (1.32-7.85)
Race/ethnicity (vs. White)				
Asian	0.16 (0.02-1.38)	0.16 (0.01-1.49)	1.56 (0.58-4.18)	1.38 (0.48-4.97)
Black	1.20 (0.43-3.38)	0.94 (0.32-2.78)	0.69 (0.27-1.77)	0.80 (0.28-2.27)
Hispanic	0.53 (0.10-2.87)	0.43 (0.07-2.46)	2.44 (0.88-6.76)	--- ^c
BMI (vs. <30 kg/m ²)				
≥30 kg/m ²	2.42 (1.12-5.24)	2.09 (0.91-4.79)	1.01 (0.54-1.91)	2.10 (0.94-4.69)
Disease activity (vs. <median SLAQ)				
≥median SLAQ	1.32 (0.61-2.85)	0.89 (0.38-2.08)	0.23 (0.11-0.47)	0.26 (0.11-0.61)
Disease damage (vs. <median BILD)				
≥median BILD	0.91 (0.43-1.96)	0.77 (0.33-1.78)	0.41 (0.21-0.78)	0.44 (0.21-0.91)
Depressive symptoms (vs. none to mild) ^d				
Moderate to severe	0.88 (0.36-2.14)	1.40 (0.56-3.50)	1.08 (0.55-2.10)	0.65 (0.20-2.09)

APPEAL, Approaches to Positive, Patient-centered Experiences of Aging with Lupus; BILD, Brief Index of Lupus Damage; BMI, body mass index; CLUES, California Lupus Epidemiology Study; SLAQ, Systemic Lupus Activity Questionnaire.

^aDefined as ≥2 quartiles apart for Short Physical Performance Battery score (objective) and PROMIS Depression Short Form 8b T-score (perceived).

^bAdjusted for all other variables listed in the table, with age, BILD, and SLAQ entered as continuous variables.

^cToo few participants in category for stable estimates.

^dUsing cutoffs of PROMIS Depression 8a T-score >56.2 and 8-item Patient Health Questionnaire (PHQ-8) score ≥10.0.

Supplementary Table 7. Association of participant characteristics with discordance between perceived and objective physical functioning in APPEAL participants only

Characteristic	Relative risk ratio for discordant ^a (vs. concordant) physical function scores			
	Underestimation (objective>perceived)		Overestimation (objective<perceived)	
	Unadjusted	Adjusted ^b	Unadjusted	Adjusted ^b
Age (vs. 18-34 years)				
35-49 years	0.72 (0.35-1.49)	0.55 (0.25-1.19)	0.42 (0.18-1.00)	0.43 (0.15-1.15)
≥50 years	0.86 (0.42-1.75)	0.65 (0.31-1.40)	0.49 (0.21-1.12)	0.42 (0.15-1.14)
Sex (vs. female)				
Male	1.42 (0.55-3.62)	2.12 (0.78-5.71)	3.25 (1.29-8.18)	3.66 (1.26-10.67)
Race/ethnicity (vs. White)				
Asian	--- ^c		--- ^c	
Black	1.11 (0.41-2.98)	1.03 (0.38-2.92)	1.03 (0.30-3.59)	1.32 (0.36-5.01)
Hispanic	0.90 (0.19-4.20)	1.22 (0.25-5.98)	1.00 (0.15-6.55)	2.45 (0.33-18.20)
BMI (vs. <30 kg/m ²)				
≥30 kg/m ²	1.42 (0.82-2.47)	1.51 (0.84-2.70)	0.98 (0.49-1.97)	1.17 (0.52-2.62)
Disease activity (vs. <median SLAQ)				
≥median SLAQ	1.68 (0.94-3.00)	1.51 (0.81-2.82)	0.18 (0.07-0.41)	0.15 (0.05-0.39)
Disease damage (vs. <median BILD)				
≥median BILD	1.47 (0.85-2.55)	1.33 (0.71-2.45)	0.81 (0.41-1.61)	1.16 (0.52-2.59)
Depressive symptoms (vs. none to mild) ^d				
Moderate to severe	1.08 (0.57-2.04)	0.86 (0.43-1.74)	0.58 (0.22-1.56)	1.13 (0.37-3.44)
Visit type (vs. in-person)				
Remote	1.60 (0.92-2.78)	1.62 (0.90-2.91)	1.28 (0.64-2.57)	1.50 (0.67-3.31)

APPEAL, Approaches to Positive, Patient-centered Experiences of Aging with Lupus; BILD, Brief Index of Lupus Damage; BMI, body mass index; SLAQ, Systemic Lupus Activity Questionnaire.

^aDefined as ≥2 quartiles apart for Short Physical Performance Battery score (objective) and PROMIS Depression Short Form 8b T-score (perceived).

^bAdjusted for all other variables listed in the table, with age, BILD, SLAQ entered as continuous variables.

^cToo few participants in category for stable estimates.

^dUsing cutoffs of PROMIS Depression 8a T-score >56.2 and 8-item Patient Health Questionnaire (PHQ-8) score ≥10.0.

Supplementary Table 8. Association of participant characteristics with discordance between perceived and objective physical functioning in CLUES participants only

Characteristic	Relative risk ratio for discordant ^a (vs. concordant) physical function scores			
	Underestimation (objective>perceived)		Overestimation (objective<perceived)	
	Unadjusted	Adjusted ^b	Unadjusted	Adjusted ^b
Age (vs. 18-34 years)				
35-49 years	1.95 (0.17-22.38)	1.56 (0.12-19.89)	0.52 (0.20-1.37)	0.74 (0.25-2.12)
≥50 years	1.98 (0.20-19.78)	1.10 (0.08-15.52)	0.57 (0.24-1.34)	1.26 (0.21-4.15)
Sex (vs. female)				
Male	--- ^c	--- ^c	1.04 (0.32-3.39)	1.20 (0.32-4.45)
Race/ethnicity (vs. White)				
Asian	--- ^c	--- ^c	1.58 (0.56-4.49)	1.62 (0.52-5.10)
Black	--- ^c	--- ^c	1.73 (0.37-8.06)	2.00 (0.38-10.11)
Hispanic	--- ^c	--- ^c	3.17 (1.07-9.41)	4.53 (1.34-10.15)
BMI (vs. <30 kg/m ²)				
≥30 kg/m ²	0.89 (0.10-7.98)	0.63 (0.05-7.34)	1.49 (0.62-3.56)	2.24 (0.75-6.72)
Disease activity (vs. <median SLAQ)				
≥median SLAQ	0.33 (0.04-2.95)	0.22 (0.01-3.26)	0.40 (0.16-0.99)	0.59 (0.21-1.72)
Disease damage (vs. <median BILD)				
≥median BILD	1.18 (0.23-6.08)	1.09 (0.18-6.73)	0.34 (0.14-0.80)	0.33 (0.12-0.89)
Depressive symptoms (vs. none to mild) ^d				
Moderate to severe	0.65 (0.07-5.73)	0.40 (0.03-5.84)	0.19 (0.04-0.84)	2.89 (0.05-1.53)

BILD, Brief Index of Lupus Damage; BMI, body mass index; CLUES, California Lupus Epidemiology Study; SLAQ, Systemic Lupus Activity Questionnaire.

^aDefined as ≥2 quartiles apart for Short Physical Performance Battery score (objective) and PROMIS Depression Short Form 8b T-score (perceived).

^bAdjusted for all other variables listed in the table, with age, BILD, and SLAQ entered as continuous variables.

^cToo few participants in category for stable estimates.

^dUsing cutoffs of PROMIS Depression 8a T-score >56.2 and 8-item Patient Health Questionnaire (PHQ-8) score ≥10.0.

Supplementary Table 9. Association of participant characteristics with discordance between perceived and objective physical functioning in APPEAL and CLUES combined, using minimally important differences to define discordance

Characteristic	Relative risk ratio for discordant ^a (vs. concordant) physical function scores			
	Underestimation (objective>perceived)		Overestimation (objective<perceived)	
	Unadjusted	Adjusted ^b	Unadjusted	Adjusted ^b
Age (vs. 18-34 years)				
35-49 years	0.52 (0.27-1.00)	0.54 (0.27-1.06)	0.36 (0.20-0.63)	0.42 (0.22-0.79)
≥50 years	0.78 (0.43-1.41)	0.77 (0.40-1.46)	0.38 (0.22-0.66)	0.54 (0.29-1.01)
Sex (vs. female)				
Male	0.69 (0.26-1.80)	0.81 (0.30-2.16)	1.24 (0.60-2.59)	1.18 (0.53-2.64)
Race/ethnicity (vs. White)				
Asian	0.67 (0.27-1.67)	0.71 (0.27-1.85)	1.42 (0.65-3.09)	0.93 (0.39-2.22)
Black	0.58 (0.30-1.10)	0.54 (0.27-1.09)	0.51 (0.26-0.99)	0.67 (0.32-1.40)
Hispanic	0.84 (0.33-2.11)	0.84 (0.32-2.64)	1.49 (0.66-3.37)	1.85 (0.74-4.58)
BMI (vs. <30 kg/m ²)				
≥30 kg/m ²	0.84 (0.51-1.39)	0.83 (0.48-1.43)	0.70 (0.44-1.13)	1.03 (0.59-1.80)
Disease activity (vs. <median SLAQ)				
≥median SLAQ	0.70 (0.43-1.13)	0.76 (0.44-1.30)	0.16 (0.09-0.28)	0.23 (0.12-0.42)
Disease damage (vs. <median BILD)				
≥median BILD	0.67 (0.41-1.08)	0.72 (0.42-1.21)	0.40 (0.25-0.65)	0.70 (0.42-1.29)
Depressive symptoms (vs. none to mild) ^c				
Moderate to severe	0.82 (0.45-1.47)	0.90 (0.47-1.72)	0.25 (0.11-0.56)	0.56 (0.24-1.35)
Visit type (vs. in-person)				
Remote	1.59 (0.99-2.58)	1.85 (1.08-3.17)	0.91 (0.57-1.46)	1.54 (0.88-2.69)

APPEAL, Approaches to Positive, Patient-centered Experiences of Aging with Lupus; BILD, Brief Index of Lupus Damage; CLUES, California Lupus Epidemiology Study; BMI, body mass index; SLAQ, Systemic Lupus Activity Questionnaire.

^aDefined as ≥2 quartiles apart for Short Physical Performance Battery score (objective) and PROMIS Depression Short Form 8b T-score (perceived).

^bAdjusted for all other variables listed in the table, with age, BILD, and SLAQ entered as continuous variables.

^cUsing cutoffs of PROMIS Depression 8a T-score >56.2 and 8-item Patient Health Questionnaire (PHQ-8) score ≥10.0.

Supplementary Table 10. Association of participant characteristics with discordance between perceived and objective physical functioning in APPEAL and CLUES combined, using multiple imputation

Characteristic	Relative risk ratio for discordant ^a (vs. concordant) physical function scores			
	Underestimation (objective>perceived)		Overestimation (objective<perceived)	
	Unadjusted	Adjusted ^b	Unadjusted	Adjusted ^b
Age (vs. 18-34 years)				
35-49 years	0.91 (0.46-1.81)	0.66 (0.32-1.37)	0.40 (0.21-0.75)	0.52 (0.26-1.03)
≥50 years	1.02 (0.52-1.97)	0.78 (0.38-1.58)	0.49 (0.27-0.99)	0.69 (0.36-1.34)
Sex (vs. female)				
Male	1.10 (0.45-2.71)	1.45 (0.57-3.70)	2.09 (1.01-4.30)	2.00 (0.92-4.34)
Race/ethnicity (vs. White)				
Asian	0.12 (0.02-0.99)	0.18 (0.02-1.52)	1.83 (0.75-4.47)	1.37 (0.53-3.59)
Black	1.34 (0.63-2.85)	1.01 (0.46-2.22)	0.83 (0.38-1.81)	1.06 (0.46-2.45)
Hispanic	0.66 (0.19-2.26)	0.65 (0.18-2.30)	2.46 (0.99-6.10)	3.03 (1.14-8.03)
BMI (vs. <30 kg/m ²)				
≥30 kg/m ²	1.69 (1.02-2.81)	1.37 (0.80-2.33)	0.87 (0.52-1.46)	1.30 (0.72-2.36)
Disease activity (vs. <median SLAQ)				
≥median SLAQ	1.71 (1.01-2.90)	1.45 (0.83-2.55)	0.22 (0.12-0.41)	0.25 (0.13-0.50)
Disease damage (vs. <median BILD)				
≥median BILD	1.52 (0.91-2.54)	1.24 (0.72-2.16)	0.52 (0.31-0.87)	0.73 (0.42-1.28)
Depressive symptoms (vs. none to mild) ^c				
Moderate to severe	1.04 (0.57-1.88)	0.83 (0.32-1.59)	0.39 (0.18-0.85)	0.72 (0.30-1.72)
Visit type (vs. in-person)				
Remote	2.26 (1.36-3.78)	1.84 (1.08-3.14)	0.68 (0.39-1.16)	0.92 (0.50-1.70)

APPEAL, Approaches to Positive, Patient-centered Experiences of Aging with Lupus; BILD, Brief Index of Lupus Damage; BMI, body mass index; CLUES, California Lupus Epidemiology Study; SLAQ, Systemic Lupus Activity Questionnaire.

^aDefined as ≥2 quartiles apart for Short Physical Performance Battery score (objective) and PROMIS Depression Short Form 8b T-score (perceived).

^bAdjusted for all other variables listed in the table, with age, BILD, and SLAQ entered as continuous variables.

^cUsing cutoffs of PROMIS Depression 8a T-score >56.2 and 8-item Patient Health Questionnaire (PHQ-8) score ≥10.0.