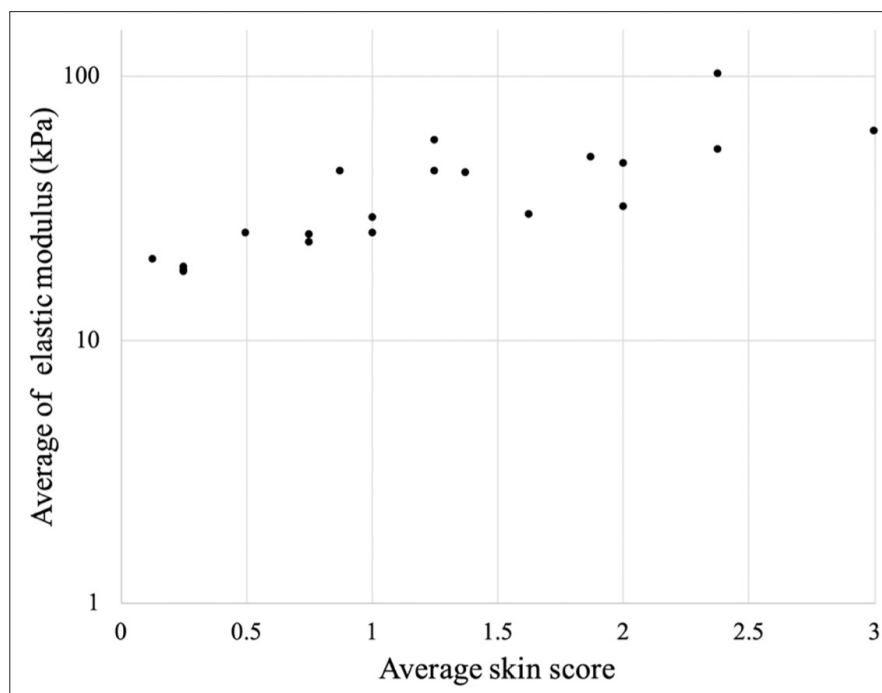
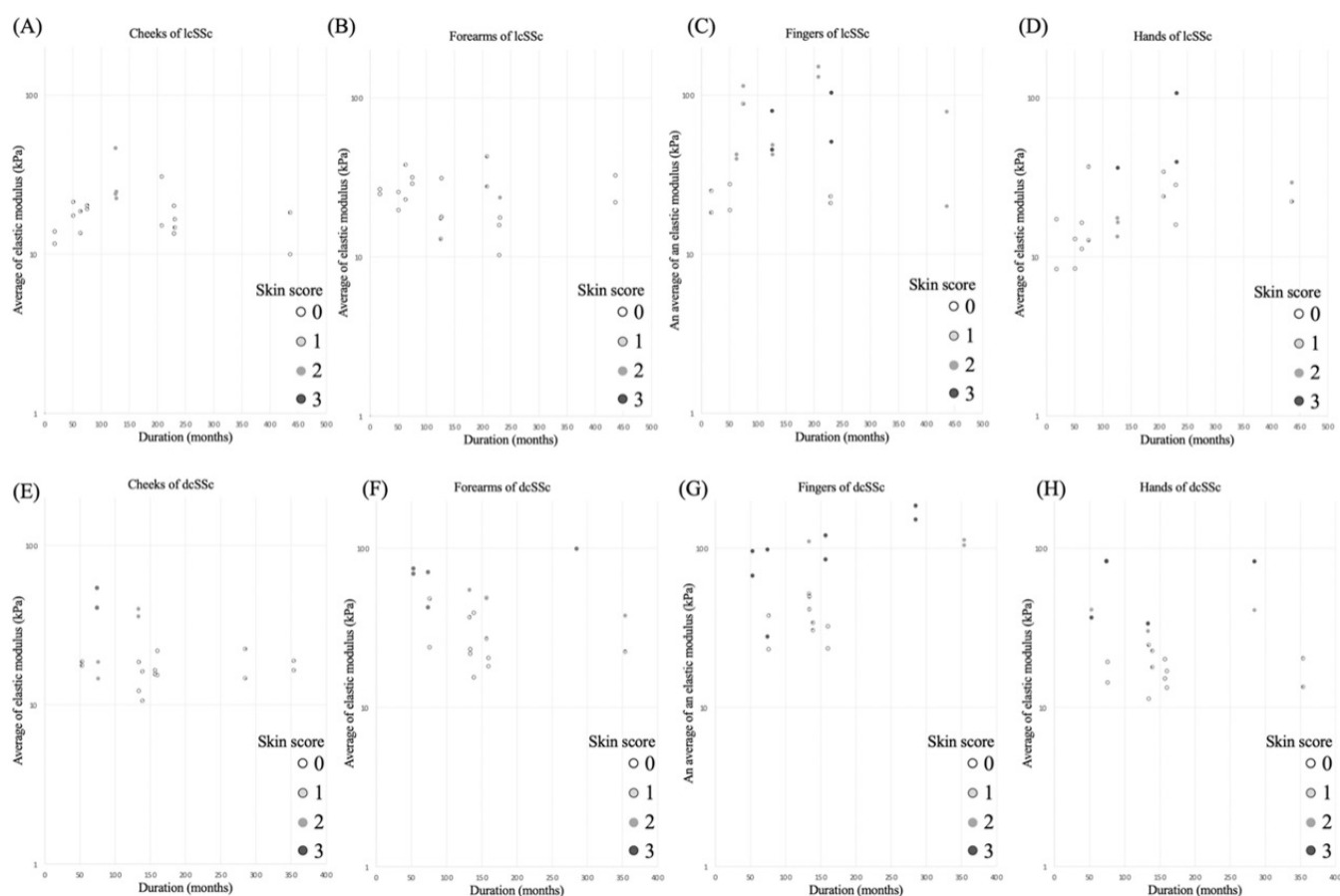




Supplementary Fig. S1. Scatter plot of the relationship between elastic modulus (logarithmic scale) and average skin score for 20 SSc patients.



Supplementary Fig. S2. Scatter plot of elastic modulus (logarithmic scale) in each duration of lcSSc and dcSSc. (A) Cheeks of lcSSc. (B) Forearms of lcSSc. (C) Fingers of lcSSc. (D) Hands of lcSSc. (E) Cheeks of dcSSc. (F) Forearms of dcSSc. (G) Fingers of dcSSc. (H) Hands of dcSSc.

Supplementary Table S1. Seven observers shared to measure elastic modulus 1600 times and skin score 320 times.

Observer	A	B	C	D	E	F	G	Total
Total (healthy controls/lcSSc/dcSSc)								
Participants	1 (1/0/0)	21 (8/8/5)	4 (4/0/0)	2 (1/0/1)	9 (4/2/3)	1 (1/0/0)	2 (1/0/1)	40 (20/10/10)
Measurement sites	8 (8/0/0)	168 (64/64/40)	32 (32/0/0)	16 (8/0/8)	72 (32/16/24)	8 (8/0/0)	16 (8/0/8)	320 (160/80/80)
Measurement times of the skin score	8 (8/0/0)	168 (64/64/40)	32 (32/0/0)	16 (8/0/8)	72 (32/16/24)	8 (8/0/0)	16 (8/0/8)	320 (160/80/80)
Measurement times of an elastic modulus	40 (40/0/0)	840 (320/320/200)	160 (160/0/0)	80 (40/0/40)	360 (160/80/120)	40 (40/0/0)	80 (40/0/40)	1600 (800/400/400)

Supplementary Table S2. Results of skin score.

	Skin score	0	1	2	3	Total
Total (healthy controls/lcSSc/dcSSc)	Cheeks ^{a)}	44 (37/5/2)	26 (3/11/12)	8 (0/4/4)	2 (0/0/2)	80 (40/20/20)
	Forearms ^{a)}	60 (40/13/7)	11 (0/6/5)	3 (0/1/2)	6 (0/0/6)	80 (40/20/20)
	Fingers ^{a)}	45 (40/2/3)	11 (0/5/6)	12 (0/9/3)	12 (0/4/8)	80 (40/20/20)
	Hands ^{a)}	55 (40/8/7)	10 (0/5/5)	7 (0/4/3)	8 (0/3/5)	80 (40/20/20)
	Total ^{b)}	204 (157/28/19)	58 (3/27/28)	30 (0/18/12)	28 (0/7/21)	320 (160/80/80)

a) 2 parts per 1 participant; b) 8 parts per 1 participant.

Supplementary Table S3. Spearman's rank and Pearson product-moment correlation coefficients between elastic modulus and skin score.

	Spearman's rank correlation coefficient	95% CI	<i>p</i>	Pearson product-moment correlation coefficient	95% CI	<i>p</i>
20 patients						
Cheeks	0.62	0.38-0.78	<0.001	0.72	0.53-0.84	<0.001
Forearms	0.64	0.41-0.79	<0.001	0.75	0.57-0.86	<0.001
Fingers	0.64	0.41-0.79	<0.001	0.65	0.43-0.8	<0.001
Hands	0.75	0.57-0.86	<0.001	0.77	0.61-0.87	<0.001
Total	0.67	0.57-0.75	<0.001	0.70	0.61-0.78	<0.001
40 participants						
Cheeks	0.53	0.36-0.66	<0.001	0.58	0.42-0.70	<0.001
Forearms	0.46	0.28-0.61	<0.001	0.65	0.51-0.76	<0.001
Fingers	0.45	0.29-0.58	<0.001	0.53	0.39-0.64	<0.001
Hands	0.52	0.35-0.66	<0.001	0.65	0.51-0.76	<0.001
Total	0.43	0.34-0.51	<0.001	0.57	0.50-0.63	<0.001

CI: confidence interval.

Supplementary Table S4. The elastic modulus and 95% confidence interval of healthy controls, lcSSc, and dcSSc.

	Healthy controls	lcSSc	dcSSc	SSc
Cheeks	14.5±7.5 (12.1-16.9)	19.7±8.0 (15.9-23.4)	22.0±11.4 (16.7-27.4)	20.8±9.8 (17.7-23.9)
Forearms	22.6±8.4 (19.9-25.2)	24.6±8.3 (20.7-28.4)	50.8±45.7 (29.4-72.2)	37.7±35.1 (26.5-48.9)
Fingers	35.2±24.0 (27.5-42.9)	58.4±40.5 (39.5-77.4)	74.4±47.0 (52.4-96.4)	66.4±44.1 (52.3-80.5)
Hands	18.3±7.7 (15.8-20.7)	25.5±21.5 (15.4-35.6)	32.1±23.7 (21.0-43.1)	28.8±22.6 (21.5-36.0)
Total	22.6±15.7 (20.2-25.1)	32.0±27.9 (25.8-38.2)	44.8±40.1 (35.9-53.7)	38.4±35.0 (33.0-43.9)

Supplementary Table S5. Intraobserver reliability.

Observers	Healthy controls	SSc patients	ICC (1,1)	95% CI	<i>p</i>
A	1	0	-0.018	-0.153 to 0.372	0.511
B	8	13	0.904	0.881–0.924	<0.001
C	4	0	0.810	0.712–0.889	<0.001
D	1	1	0.745	0.570–0.884	<0.001
E	4	5	0.832	0.775–0.880	<0.001
F	1	0	0.714	0.443–0.920	<0.001
G	1	1	0.892	0.797–0.955	<0.001
Total	20	20	—	—	—

ICC: intraclass correlation coefficient.