Supplemental material

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**Table. Supplemental Digital Content 4:** Interclass correlations coefficient (ICC), Spearman's rank correlation (ρ), Kappa statistics (κ), and 95% confidence interval (95% CI) for test-retest reliability [a], and concurrent validity [b] of the Muscle-Strengthening Exercise Questionnaire (MSEQ)-Long items.

| MSEQ-Long items (4 types of MSE assessed separately) | Test-retest reliability [a] | | | | Concurrent validity [b] | |
|---|---|---|---|---|---|---|
| | ICC (95%CI) | ρ (95% CI) | κ (95% CI) | % Agreement | ICC (95%CI) | ρ (95% CI) |
| *Days per week (usual week)* | | | | | | |
| Use weight machines [e] | 0.85 (0.74-0.91) | 0.79 (0.60-0.94) | – | – | 0.69 (0.16-0.86) | 0.76 (0.59-0.89) |
| Body weight exercises [f] | 0.93 (0.88-0.96) | 0.86 (0.73-0.93) | – | – | 0.74 (0.56-0.85) | 0.59 (0.36-0.76) |
| Use resistance bands or free weights [g] | 0.95 (0.92-0.97) | 0.87 (0.73-0.95) | – | – | 0.72 (0.35-0.86) | 0.64 (0.38-0.84) |
| Holistic exercises [h] | 0.95 (0.91-0.97) | 0.83 (0.65-0.95) | – | – | 0.78 (0.45-0.89) | 0.77 (0.60-0.89) |
| *Duration (minutes/per day)* | | | | | | |
| Use weight machines [e] | 0.90 (0.82-0.94) | 0.82 (0.67-0.93) | – | – | 0.60 (0.18-0.79) | 0.73 (0.56-0.87) |
| Body weight exercises [f] | 0.88 (0.79-0.93) | 0.77 (0.60-0.87) | – | – | 0.39 (-0.04-0.64) | 0.34 (0.08-0.56) |
| Use resistance bands or free weights [g] | 0.89 (0.82-0.94) | 0.79 (0.62-0.90) | – | – | 0.78 (0.37-0.90) | 0.74 (0.55-0.86) |
| Holistic exercises [h] | 0.96 (0.94-0.98) | 0.88 (0.74-0.96) | – | – | 0.70 (0.38-0.84) | 0.73 (0.54-0.87) |
| *Level of intensity* [c] | | | | | | |
| Use weight machines [e] | 0.90 (0.83-0.94) | 0.82 (0.66-0.95) | – | – | 0.73 (0.38-0.87) | 0.71 (0.52-0.85) |
| Body weight exercises [f] | 0.93 (0.89-0.96) | 0.78 (0.61-0.90) | – | – | 0.35 (-0.07-0.61) | 0.30 (0.03-0.55) |
| Use resistance bands or free weights [g] | 0.93 (0.88-0.96) | 0.76 (0.59-0.88) | – | – | 0.78 (0.21-0.91) | 0.68 (0.52-0.82) |
| Holistic exercises [h] | 0.89 (0.82-0.94) | 0.81 (0.63-0.94) | – | – | 0.69 (0.43-0.83) | 0.63 (0.41-0.78) |
| *Muscle groups used* [d] | | | | | | |
| Use weight machines [e] | | | | | | |
| Legs | – | – | 0.70 (0.49-0.88) | 85.2 | – | – |
| Hips | – | – | 0.61 (0.34-0.85) | 87.0 | – | – |
| Back | – | – | 0.74 (0.54-0.89) | 87.0 | – | – |
| Abdomen | – | – | 0.33 (-0.01-0.65) | 81.5 | – | – |
| Chest | – | – | 0.78 (0.59-0.93) | 88.9 | – | – |
| Shoulders | – | – | 0.85 (0.67-0.96) | 92.6 | – | – |
| Arms | – | – | 0.81 (0.63-0.96) | 90.7 | – | – |
| Body weight exercises [f] | | | | | | |
| Legs | – | – | 0.51 (0.19-0.79) | 85.2 | – | – |
| Hips | – | – | 0.83 (0.65-0.96) | 92.6 | – | – |
| Back | – | – | 0.40 (0.14-0.64) | 72.7 | – | – |
| Abdomen | – | – | 0.71 (0.41-0.93) | 90.7 | – | – |
| Chest | – | – | 0.54 (0.23-0.80) | 85.2 | – | – |
| Shoulders | – | – | 0.53 (0.26-0.74) | 77.8 | – | – |
| Arms | – | – | 0.57 (0.33-0.79) | 79.6 | – | – |
| Use resistance bands or free weights [g] | | | | | | |
| Legs | – | – | 0.55 (0.23-0.81) | 87.0 | – | – |
| Hips | – | – | 0.66 (0.45-0.85) | 83.3 | – | – |
| Back | – | – | 0.49 (0.16-0.74) | 81.5 | – | – |
| Abdomen | – | – | 0.44 (0.19-0.67) | 72.2 | – | – |
| Chest | – | – | 0.33 (0.02-0.60) | 75.9 | – | – |
| Shoulders | – | – | 0.84 (0.55-1.00) | 96.3 | – | – |
| Arms | – | – | 0.63 (0.22-0.92) | 92.6 | – | – |
| Holistic exercises [h] | | | | | | |

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| | | | | | | |
|---|---|---|---|---|---|---|
| Legs | – | – | 0.58 (0.34-0.79) | 79.6 | – | – |
| Hips | – | – | 0.61 (0.38-0.81) | 81.5 | – | – |
| Back | – | – | 0.74 (0.50-0.91) | 88.9 | – | – |
| Abdomen | – | – | 0.66 (0.45-0.85) | 83.3 | – | – |
| Chest | – | – | 0.69 (0.44-0.88) | 87.0 | – | – |
| Shoulders | – | – | 0.57 (0.34-0.78) | 81.5 | – | – |
| Arms | – | – | 0.76 (0.53-0.94) | 90.7 | – | – |

[a] Test and retest of MSEQ was conducted a maximum of 14 days apart.

[b] To assess the concurrent validity, respondents completed the MSE 7-day log for 7 consecutive days a maximum of 14 days after the first administration.

[c] To assess level of intensity, using the previously validated OMNI-Resistance Exercise Scale (Robertson et al., 2003), respondents was asked to report for each type of muscle-strengthening exercise "on a scale of 0-10 please indicate how hard you feel you exercise when you are doing … with 0 representing "extremely easy" and 10 representing "extremely hard".

[d] To assess muscle groups used, respondents were asked when they undertake muscle-strengthening exercise, do they do exercise that target the following muscle groups legs, hips, back, abdomen, chest, shoulders, and arms.

[e] Weight machines defined as using weight machines such as leg press, chest press, lat pulldown.

[f] Body weight exercises defined as doing push-ups, sit-ups.

[g] Resistance exercises defined as using resistance bands or free weights like dumbbells.

[h] Holistic exercises defined as doing Yoga, Tai-Chi and Pilates.

– results not applicable for this variable.