**Supplementary Table S1.** Summary of cultural modifications for Taiwanese young adults

|  |  |
| --- | --- |
| **Session** | **Modifications** |
| Session 3 | Some social groups (e.g., equestrians) and social activities in the original PEERS-YA manual were less common in Taiwan. These groups and activities were retained but other activities favored by Taiwanese young adults (e.g., language club, singers fans, part-time job) were added. |
| Session 4  | 1. Young adults in Taiwan frequently use LINE in addition to Facebook, so this form of electronic communication was added to the curriculum.
2. The rule “Don’t call or text before or after double digits” was changed to “Don’t call or text before 9 A.M. or after 9 P.M. according to the findings of focus groups.
 |
| Session 5 | The examples of jokes (i.e., knock-knock joke) and some role plays were replaced by those more familiar to Taiwanese young adults (e.g., a humorous anecdote about skiing was replaced by biking). |
| Session 8 | Taiwanese young adults seldom invite friends to their homes as described in the original PEERS-YA program. Instead, get-togethers are usually based on activities outside their homes, such as at convenient stores or fast food restaurants. |
| Session 9 | 1. Taiwanese young adults are less likely to engage in internet dating, therefore dating friends in real life rather than online dating was emphasized. With regard to dating sources, internet dating sites, meeting in bars or in temples, and dating neighbors were less preferred by Taiwanese young adults, thus, it was recommended that young adults discuss these options with their social coaches before pursuing.
2. Flirting with one’s eyes was less common in Taiwanese young adults. Although the steps of flirting with one’s eyes was taught, we also mentioned that many young adults prefer to do more thoughtful behaviors, such as doing something for the good of the date to show that the young adult is thinking for whom.
 |
| Session 13 | Many young adults prefer to say “please don’t mind” (direct translation from Mandarin) rather than “I’m sorry” during disagreement.  |
| Session 14 | Regarding verbal comebacks for teasing: sometimes self-deprecating humor was used. |

**Supplementary Table S2.** The main effect and interaction of different group leaders on treatment outcomes (Pre-PEERS vs. Post-PEERS)

|  |  |  |
| --- | --- | --- |
|  | **Leader 1 vs. 2****(30 vs. 11)** | **Leader ╳ Time** **(pre-PEERS vs. Post-PEERS)** |
|  | F | *p* | F *p* |
| **Self-reported** |  |  |  |  |
| SRS: social communication | 0.09 | 0.765 | 0.10 | 0.750 |
| SRS: stereotyped behaviors | 0.09 | 0.760 | 0.10 | 0.747 |
| SRS: social awareness | 0.92 | 0.340 | 0.00 | 0.956 |
| SRS: social emotion | 1.71 | 0.195 | 0.00 | 0.988 |
| SRS: total score | 0.20 | 0.652 | 0.06 | 0.815 |
| AQ: Socialness | 0.93 | 0.339 | 0.49 | 0.488 |
| AQ: total | 0.00 | 0.961 | 0.12 | 0.725 |
| SIAS | 0.01 | 0.904 | 0.09 | 0.764 |
| EQ: total score | 2.83 | 0.097 | 0.13 | 0.718 |
| Social skills knowledge | 0.34 | 0.564 | 0.11 | 0.737 |
| **Coach-reported** |  |  |  |  |
| SRS: social communication | 2.98 | 0.089 | 0.04 | 0.840 |
| SRS: total score | 1.97 | 0.165 | 0.03 | 0.867 |
| **ADOS: Module 4** |  |  |  |  |
| Communication | 0.00 | 0.999 | 0.84 | 0.364 |
| Social reciprocity | 0.00 | 0.955 | 0.23 | 0.631 |
| Restricted, repetitive behavior | 1.11 | 0.296 | 0.99 | 0.325 |

**Abbreviations:** ADI-R, Autism Diagnostic Interview-Revised; ADOS, Autism Diagnostic Observation Schedule; AQ, Autism Spectrum Quotient; EQ, Empathy Quotient; ESQ, Empathizing/Systemizing Quotient; SIAS, Social Interaction Anxiety Scale; SRS, Social Responsiveness Scale

**Supplementary Table S3.** The influence of mother as coach, education, employment, and marital status of coach on treatment outcomes

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Mother as coach** vs. **Others**  | **Education higher than high school** vs. **Others** | **Married** vs. **Others**  | **Full-time job** vs. **Others**  |
| 　 | F | *p* | F | *p* | F | *P* | F | *p* |
| **Self-reported** |  |  |  |  |  |  |  |  |
| SRS: social communication | 1.17 | 0.284 | 0.05 | 0.823 | 0.01 | 0.943 | 0.98 | 0.326 |
| SRS: stereotyped behaviors | 0.09 | 0.767 | 0.39 | 0.534 | 0.00 | 0.961 | 0.26 | 0.613 |
| SRS: social awareness | 0.02 | 0.901 | 1.13 | 0.291 | 0.02 | 0.900 | 0.81 | 0.372 |
| SRS: social emotion | 0.11 | 0.737 | 0.39 | 0.534 | 0.01 | 0.928 | 0.47 | 0.496 |
| SRS: total score | 0.55 | 0.463 | 0.03 | 0.854 | 0.00 | 0.986 | 0.96 | 0.330 |
| AQ: Socialness | 0.01 | 0.995 | 0.03 | 0.859 | 0.02 | 0.883 | 0.19 | 0.666 |
| AQ: total | 0.11 | 0.738 | 0.00 | 0.964 | 0.00 | 0.983 | 0.01 | 0.922 |
| SIAS | 1.08 | 0.302 | 0.11 | 0.744 | 0.24 | 0.625 | 0.15 | 0.698 |
| EQ: total score | 0.00 | 0.945 | 0.53 | 0.471 | 0.05 | 0.832 | 0.65 | 0.423 |
| Social skills knowledge | 1.09 | 0.300 | 1.39 | 0.243 | 2.19 | 0.144 | 0.20 | 0.654 |
| **Coach-reported** |  |  |  |  |  |  |  |  |
| SRS: social communication | 0.21 | 0.646 | 0.09 | 0.770 | 0.65 | 0.422 | 0.01 | 0.936 |
| SRS: total score | 0.00 | 0.954 | 0.01 | 0.927 | 0.79 | 0.379 | 0.00 | 0.968 |
| **ADOS: Module 4** |  |  |  |  |  |  |  |  |
| Communication | 0.03 | 0.856 | 0.12 | 0.731 | 0.00 | 0.975 | 0.17 | 0.682 |
| Social reciprocity | 0.29 | 0.594 | 0.01 | 0.918 | 0.64 | 0.426 | 0.04 | 0.844 |
| Restricted, repetitive behavior | 0.05 | 0.822 | 0.11 | 0.737 | 0.28 | 0.596 | 0.12 | 0.728 |

**Abbreviations:** ADI-R, Autism Diagnostic Interview-Revised; ADOS, Autism Diagnostic Observation Schedule; AQ, Autism Spectrum Quotient; EQ, Empathy Quotient; ESQ, Empathizing/Systemizing Quotient; SIAS, Social Interaction Anxiety Scale; SRS, Social Responsiveness Scale

**Supplementary Table S4.** The maintenance ofPEERS intervention effect at 3rd and 6th month follow-ups

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Pre-PEERS** | **Post-PEERS** |  |  |
|  |  | Time 0 | Time 2 | Time 3 |  |  |
|  |  |  (N=41) | (N=35) | (N=33) | **Time 0 vs. Time 2** | **Time 0 vs. Time 3** |
|  | Mean | SD | Mean | SD | Mean | SD | df | t | p | df | t | p |
| **a. Overall severity** |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS total (self) | 88.6 | 29.5 | 77.8 | 33.0 | 75.2 | 36.0 | 33 | 3.05 | 0.005 | 33 | 3.13 | 0.004 |
| SRS total (coach) | 97.0 | 24.7 | 75.4 | 20.3 | 75.4 | 21.8 | 34 | 5.96 | <.0001 | 32 | 4.87 | <.0001 |
| AQ total (self) | 95.8 | 13.0 | 90.4 | 15.3 | 86.9 | 15.6 | 33 | 3.01 | 0.005 | 33 | 2.85 | 0.007 |
| AQ total (coach) | 101.4 | 10.3 | 93.6 | 11.0 | 95.5 | 9.3 | 34 | 3.67 | 0.001 | 32 | 2.71 | 0.011 |
| **b. Social deficits** |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS: social communication (self) | 38.9 | 15.8 | 33.1 | 16.9 | 31.4 | 19.0 | 33 | 3.23 | 0.003 | 33 | 3.61 | 0.001 |
| SRS: social communication (coach) | 41.6 | 13.1 | 29.0 | 11.5 | 28.9 | 11.4 | 34 | 6.57 | <.0001 | 32 | 5.32 | <.0001 |
| AQ: socialness (self) | 35.3 | 7.5 | 31.4 | 8.2 | 29.3 | 7.8 | 33 | 3.51 | 0.001 | 33 | 3.33 | 0.002 |
| AQ: socialness (coach) | 38.2 | 5.9 | 33.4 | 7.0 | 34.4 | 6.7 | 34 | 4.14 | 0.000 | 32 | 2.72 | 0.011 |
| **c. Social emotion** |  |  |  |  |  |  |  |  |  |  |  |
| SRS: social emotion (self) | 12.2 | 4.9 | 10.0 | 5.9 | 10.7 | 6.2 | 33 | 3.23 | 0.003 | 33 | 1.73 | 0.093 |
| SRS: social emotion (coach) | 13.7 | 4.7 | 9.7 | 3.5 | 10.0 | 3.8 | 34 | 5.96 | <.0001 | 32 | 4.54 | <.0001 |
| **d. Stereotyped behaviors** |  |  |  |  |  |  |  |  |  |  |  |
| SRS: stereotyped behaviors (self) | 19.0 | 8.2 | 16.9 | 8.5 | 16.5 | 8.8 | 33 | 2.34 | 0.025 | 33 | 2.28 | 0.029 |
| SRS: stereotyped behaviors (coach) | 21.4 | 6.6 | 16.1 | 6.0 | 16.0 | 5.7 | 34 | 4.78 | <.0001 | 32 | 4.32 | 0.000 |
| **e. Others** |  |  |  |  |  |  |  |  |  |  |  |  |
| SIAS: Social interaction anxiety (self) | 43.6 | 15.0 | 38.7 | 15.3 | 38.8 | 17.7 | 33 | 2.59 | 0.014 | 33 | 1.47 | 0.151 |
| Social skill knowledge (self) | 16.0 | 2.7 | 20.3 | 4.0 | 19.7 | 4.7 | 33 | -6.17 | <.0001 | 33 | -4.17 | 0.000 |
| Empathy Quotient (self) | 24.9 | 11.5 | 29.6 | 14.2 | 33.0 | 14.5 | 33 | -2.45 | 0.020 | 33 | -4.1 | 0.000 |
| ESQ (coach) | 18.0 | 7.1 | 19.2 | 7.7 | 18.9 | 6.9 | 34 | -1.1 | 0.279 | 32 | -1.55 | 0.131 |

**Abbreviations:** AQ, Autism Spectrum Quotient; ESQ, Empathizing/Systemizing Quotient; SIAS, Social Interaction Anxiety Scale; SRS, Social Responsiveness Scale