

## **Supplementary Material**

### Expression recognition

Our test included two kinds, the simple expression recognition and complex expression recognition. Each kind of tests involve 10 questions. There are two options for each question. One is right, the other option is wrong. Subjects could get 1 point for a correct answer and 0 point for a wrong answer. Finally, the score of simple expression recognition, complex expression recognition and total score of expression recognition were calculated.

### Theory of Mind (ToM) Test

The first-level false belief task examines the subjects' ability to understand the false beliefs of others. Second-level false belief task examines participants' inferences or cognitions about other people's beliefs about another person, that is, recursive thinking about other people's mental activities. Each task has control problems and test problems. If the answer to the control question is wrong, mark "0"; if only the answer to the control question is correct, mark "1"; if both the control question and the test question are correct, mark "2".

## Supplementary material, Appendix 1 General condition sheet

### 1. Personal information

Name: \_\_\_\_\_ Sex:  1 male 2 female Race: \_\_\_\_\_

Date of birth: \_\_\_\_\_ Age: yearmonth

Residence:  1 city 2 town 3 rural area

Educational level: 1 primary school 2 middle school 3 high school 4 undergraduate  
5 postgraduate 6 others \_\_\_\_\_

Parent occupation: father \_\_\_\_\_ mother \_\_\_\_\_

Father's and mother's educational levels:

father  1 primary school 2 middle school 3 high school 4 undergraduate 5  
postgraduate 6 others \_\_\_\_\_

mother  1 primary school 2 middle school 3 high school 4 undergraduate 5  
postgraduate 6 others \_\_\_\_\_

Detailed address \_\_\_\_\_

Postcode \_\_\_\_\_ Phone \_\_\_\_\_ Mailbox: \_\_\_\_\_

### 2. Family information

Only child  1 yes 2 no

Family relationship  1 Harmonious 2 Fine 3 Disharmony 4 Parents  
Divorced

Family financial situation (annual income CNY, %)

1 <30000 2= 30000-50000 3= 50000-70000 4= 70000-100000 5 >100000

Family education type

1 Severe 2 Corporal punishment 3 Laissez-faire 4 over-protection 5

Contradictious 6 Democratic and scientific 7 Others \_\_\_\_\_

### 3. Past history

Past major diseases  1 yes \_\_\_\_\_ 2 no

Previous physical diseases and operations \_\_\_\_\_

Drug allergy  1 yes \_\_\_\_\_ 2 no

4. Family history of mental illness

1 positive    2 negative

Relationship with the patient \_\_\_\_\_; Diagnosis or main symptoms \_\_\_\_\_

**Supplementary Table 1 The inventory of subjective life quality for child and adolescent development**

ISIQ	no	sometime	often	always
	s			s
<b>Cognitive component</b>				
<b>1.Family life</b>				
I like to spend time with my parents	1	2	3	4
My family is better than others	1	2	3	4
My parents and I do interesting things together	1	2	3	4
The family get along well with each other	1	2	3	4
My parents treated me fairly	1	2	3	4
I like to stay at home with my family	1	2	3	4
It's easy to talk with my family	1	2	3	4
<b>2.Peer interaction</b>				
My friend is very kind to me	1	2	3	4
My friends are ready to help me	1	2	3	4
I have many friends	1	2	3	4
My friends are good	1	2	3	4
My friends are very concerned about me	1	2	3	4
I have a good time with my friends	1	2	3	4
<b>3.School life</b>				
I wish I didn't learn	1	2	3	4
I like the life in school	1	2	3	4
I like school	1	2	3	4
I learned a lot in school	1	2	3	4
I don't feel comfortable at school	1	2	3	4

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There are many things in school that I don't like	1	2	3	4
I like some activities in school	1	2	3	4
School life is interesting	1	2	3	4
<b>4.Environment</b>				
Preferring an environment of neighbors	1	2	3	4
Like where I live	1	2	3	4
My house is a good fit	1	2	3	4
I like my neighbors	1	2	3	4
There are a lot of interesting things where I live	1	2	3	4
<b>5.Self perception</b>				
I like myself	1	2	3	4
I am a good child	1	2	3	4
I'll do a lot	1	2	3	4
Everyone thought I was interesting	1	2	3	4
Most people like me	1	2	3	4
I think I look good	1	2	3	4
<b>Emotional component</b>				
<b>6.Depressive experience</b>				
feel inferior to others	1	2	3	4
Pessimistic about the future	1	2	3	4
I don't want to associate with people and have no feelings for others	1	2	3	4
I don't think life is interesting	1	2	3	4
I feel like I am a loser	1	2	3	4
I hate myself	1	2	3	4

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I don't feel energetic and attractive	1	2	3	4
7. Anxiety experience				
I feel nervous when asking questions in class or taking exams	1	2	3	4
Hesitation in doing things	1	2	3	4
Worry about being late for an appointment or class	1	2	3	4
I'm more nervous than others	1	2	3	4
I'm easily upset and scared	1	2	3	4
I don't think I have enough time. I have a lot to do	1	2	3	4
I'm afraid I'll say the wrong thing	1	2	3	4
I blush and my heart rate is accelerating in front of strangers	1	2	3	4
8. Somatosensory				
Feel numbness or tingling in hands and feet	1	2	3	4
I have a bad appetite	1	2	3	4
Feel tired for no reason	1	2	3	4
I easily feel my hands and feet shaking and sweating	1	2	3	4
I feel difficult to breathe or faint	1	2	3	4

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Instruction: please draw "√" on the corresponding number according to your real thoughts or feelings, where: 1 = no such thoughts or feelings, 2 = sometimes have such thoughts or feelings, 3 = often have this idea or feeling, 4 = always have this idea or feeling.

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**Supplementary Table 2 Adolescent health-related risky behavior inventory**

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Items	Autism group (n=110)	Normal group (n=110)	Z	P
<b>Aggression and violence behaviors</b>				
Have you been involved in a physical fight?	1(1,5)	1(1,3)	-5.428	<0.001
Have you intentionally hit, shoved, kicked or confined someone?	1(1,5)	1(1,3)	-3.441	0.001
Have you driven (a bicycle, scooter, or car) without considering consequences (e.g., at high speed under the influence of certain substances)	1(1,5)	1(1,3)	-2.884	0.004
Have you blackmailed others for money?	1(1,5)	1(1,3)	-2.370	0.018
Have you ever carried a weapon (e.g., a gun, dagger, stick, etc.)?	1(1,5)	1(1,5)	-2.354	0.019
Have you bullied, threatened or intimidated someone?	1(1,5)	1(1,5)	-2.274	0.023
Have you gotten revenge on someone	1(1,5)	1(1,5)	-2.194	0.028
Have you verbally attacked someone	2(1,5)	2(1,5)	-1.895	0.058
Have you made fun of others for their physical defects or appearance	1(1,5)	1(1,4)	-0.876	0.381
Have you destroyed others' properties	2(1,5)	2(1,5)	-0.852	0.394

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### Health compromising behaviors

Have you ever had physical discomforts such as dizziness, sweating, and faintness due to excessive dieting?	1(1,5)	1(1,3)	-4.140	<0.001
Don't you take part in any kind of sports?	2(1,5)	2(1,5)	-1.331	0.183
How often do you drink milk/soymilk?	1(1,5)	3(1,5)	-0.914	0.361
Have you ever eaten too much or vomited after overeating?	1(1,5)	1(1,4)	-0.711	0.477
How often do you have breakfast?	1(1,5)	1(1,5)	-0.483	0.629

### Rule breaking behaviors

Have you ever run away from home	1(1,5)	1(1,5)	-2.606	0.009
Have you gambled?	1(1,5)	1(1,1)	-2.257	0.024
Have you cheated in tests	1(1,5)	1(1,5)	-1.290	0.197
Have you skipped classes or played truant from school?	1(1,5)	1(1,5)	-0.762	0.446
Have you lied to his/her family members (such as grandparents, parents, brothers and sisters)?	2(1,5)	2(1,5)	-0.711	0.477
Have you ever been warned, demerit recorded, punished or dropped out of school due to your disobedience?	1(1,5)	1(1,5)	-0.643	0.520

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Steal money	1(1,5)	1(1,3)	-0.627	0.530
<b>Unprotected sex behaviors</b>				
Do you use contraception when having sexual intercourse?	1(1,5)	1(1,2)	-3.594	<0.001
Have sexual intercourse with over two people at the same time	1(1,5)	1(1,1)	-3.056	0.002
Have you got sexual intercourse with strangers	1(1,5)	1(1,1)	-2.874	0.004
Do you drink alcohol or use drugs before having sexual intercourse?	1(1,5)	1(1,1)	-2.014	0.044
Boy: Have you ever caused a girl pregnant? Girl: have you ever been pregnant accidentally?	1(1,5)	1(1,1)	-1.740	0.082
<b>Suicide and self-injury behaviors</b>				
Have you tried to cut or burn yourself?	1(1,5)	1(1,4)	-2.967	0.003
Do you have any plan to commit suicide?	1(1,5)	1(1,3)	-2.470	0.014
Do you have any ideas of suicide?	1(1,5)	1(1,5)	-2.441	0.015
Have you ever intentionally hurt yourself by biting, scratching, hitting, etc.?	1(1,5)	1(1,5)	-2.217	0.027
Have you ever committed suicide?	1(1,5)	1(1,4)	-1.327	0.184
<b>Substance use behaviors</b>				

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Have you drunk alcohol out of control at a party?	1(1,5)	1(1,1)	-2.682	0.007
Have you been irritable, headache, or sleepless while quitting smoking?	1(1,4)	1(1,4)	-1.728	0.084
Have you drunk alcohol to save face?	1(1,5)	1(1,3)	-1.476	0.140
How often do you smoke?	1(1,4)	1(1,3)	-1.143	0.253
Have you smoked under the pressure of companion?	1(1,3)	1(1,3)	-1.037	0.300
Have you been drunk?	1(1,5)	1(1,2)	-0.894	0.371

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