Differentiating Adolescents with Severe Internalizing Symptoms Using a Brief Computerized Cognitive Task: A LASSO Regression Approach

Supplementary Materials

- The procedure of the Computer-Based Interactive Game
- Table 1: Summary of Task Parameters

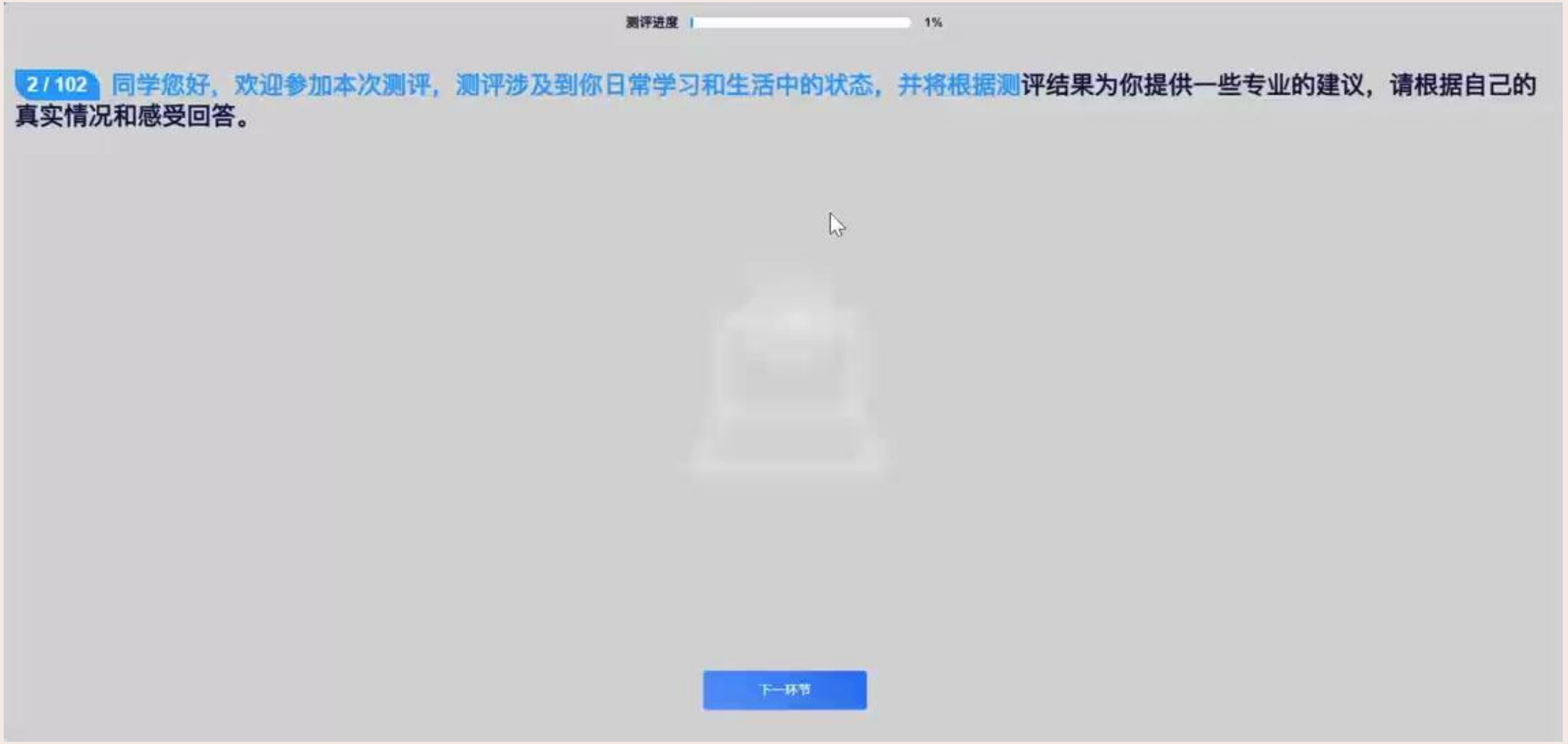
Supplementary Material

- The procedure of the Computer-Based Interactive Game

- The video shown in the third page is the supplementary material for the manuscript
- It clearly presents the procedure of employing the proposed Computer-Based Interactive Game for assessing individuals' capabilities of execution function and inhibitory control.
- You can kindly click the video and press the start buttom to have a look.

Supplementary Material

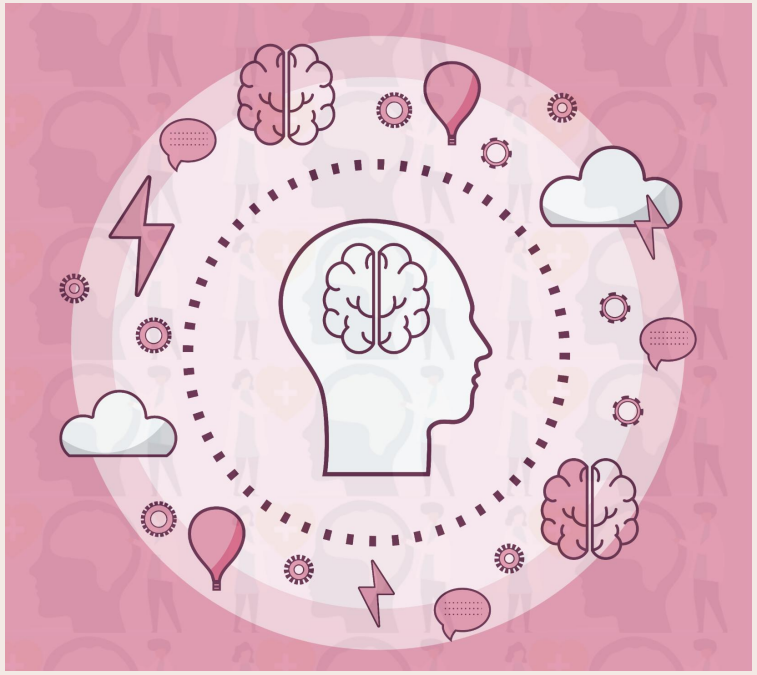
- The procedure of the Computer-Based Interactive Game



Supplementary Material

- Table 1: Summary of Task Parameters

- The table shown in the fifth and sixth pages is the summary of task parameters about the Computer-Based Interactive Game.
- The parameters, including task duration, total trials, task components, stimuli, response recording, performance metrics, hardware/software, as well as testing conditions, are presented with clear description.



Supplementary Material

- Table 1: Summary of Task Parameters

Parameter	Description
Task Duration	~2 minutes
Total Trials	50 (dynamic, randomized)
Task Components	1. Sustained Attention Task (SAT) – Button press to target stimuli 2. Go/NoGo Task (GNG) – 60% Go trials, 40% No-Go trials 3. Trail Making Task (TMT) – Alternating number-letter sequences
Stimuli	Animal images (target: squirrel; non-target: other animals)
Response Recording	Real-time capture of: - Correct hits (target response) - Correct rejections (non-target inhibition) - Misses (omitted target response) - False alarms (incorrect non-target response)

Supplementary Material

- Table 1: Summary of Task Parameters

Parameter	Description
Performance Metrics	- Alertness: Mean reaction time (RT) - High: <1s, Moderate: 1-2s, Low: >2s - Inhibitory Control: Correct response rate (%) - High: >95%, Moderate: 80-95%, Low: <80% - Executive Function: Deviation from target (cm) - High: <0.5cm, Moderate: 0.5-1cm, Low: >1cm
Hardware/Software	- Tracker: HTC Vive Tracker (120Hz optical sensor) - Engine: Unity (v2021.3) - Environmental Control: MIL-STD-810H compliance (-40 ° C to +85 ° C)
Testing Conditions	- Electromagnetically shielded room - Seated posture (eyes 50cm from screen) - Controlled light/temperature