Change Blindness in Adults with ADHD Tendency

Ho-Wan Kwak · Mun-Seon Chang · Gho Kim · Min Kyoung Cho · Yeung-Jun Sohn · Sang il Lee
(Department of Psychology, Kyungpook National University, Korea)

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Change blindness is the striking failure to see large changes that normally would be noticed easily (Simons & Rensink, 2005). This study examined whether a change blindness task might be a useful tool in discriminating the group of adults with ADHD tendency from the normal group, assuming that this task might reveal attention deficits in ADHDs.

**METHOD**

Participants were 469 university students who were subjected to the change blindness task (CB), continuous-performance test (CPT), and Conners’ ADHD scale. According to DSM-ADHD scale, upper 25 students were assigned to ADHD group, lower 25 as control group.

In the CB, students were instructed to press an arrow (left/right) key on deciding whether the two displays are the same or not. In the CPT, they were told to press the space key if the display does not contain the digit ‘5’ (CPT not-X type).

Table 1. Correlations among DSM subscales and CB indices.

<table>
<thead>
<tr>
<th>CB indices</th>
<th>Conners’ DSM-IV</th>
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<tbody>
<tr>
<td></td>
<td>inattention</td>
</tr>
<tr>
<td>mean RT</td>
<td>-.13**</td>
</tr>
<tr>
<td>standard deviation</td>
<td>-.09**</td>
</tr>
<tr>
<td>accuracy</td>
<td>-.12**</td>
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</tbody>
</table>

**RESULTS and DISCUSSION**

Table 1 shows correlations among ADHD subscales and the CB indices. DSM inattention subscale was significantly correlated with mean RT, standard deviation, and accuracy. However, DSM hyperactivity/impulsivity subscale was significantly correlated only with response accuracy. Taken together, it is suggested that CB may reveal attention deficits (i.e., inattention) in adult ADHD.

Table 2 shows the result of discriminant analysis for the CB and for the CPT. Thirteen indices (same/different response x 4/8/12 display size x RT/accuracy, and standard deviation) from the CB gave rise to some 92% overall classification accuracy, whereas only 72% accuracy was obtained from CPT indices.

In summary, 1) CB indices correlated with Conners’ DSM-IV subscales, suggesting that CB may reflect inattention, 2) CB had more discriminant power than CPT. Unlike Cohen & Shapiro (2007) who failed to find additional discriminant power of CB over CPT, this study showed that CB may be superior in diagnosing ADHDs’ inattention to CPT, given the fact that CPT is known to reflect impulsivity mainly, whereas CB indices correlated more with inattention than with hyperactivity.

The availability of change blindness task as supplementary measure for diagnosis of ADHD patients might help detecting behavioral and cognitive characteristics of ADHDs. Further research is needed to test the diagnostic power of CB using clinically diagnosed ADHD patients.

**REFERENCES**


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