11-2012

Executive Functions as Predictors of Classroom Listening Skills

Suzanne Hungerford  
*SUNY Plattsburgh*, hungersm@plattsburgh.edu

Priscilla Douglas  
*SUNY Plattsburgh*, pdoug001@plattsburgh.edu

Elizabeth Selvarajah  
*SUNY Plattsburgh*, eselv001@plattsburgh.edu

---

Follow this and additional works at: [http://digitalcommons.plattsburgh.edu/commdisorders_posters](http://digitalcommons.plattsburgh.edu/commdisorders_posters)  
Part of the [Communication Sciences and Disorders Commons](http://digitalcommons.plattsburgh.edu/commdisorders_posters)

---

**Recommended Citation**  

---

This Book is brought to you for free and open access by the Communication Disorders and Sciences at Digital Commons @ SUNY Plattsburgh. It has been accepted for inclusion in Communication Disorders and Sciences Student-Faculty Posters by an authorized administrator of Digital Commons @ SUNY Plattsburgh.
The study shows that executive dysfunctions have significantly more executive dysfunction than the BRIEF (p<.0005). The all significant predictors of CHAPS scores were: Working Memory scores from the BRIEF did not explain a great deal of the variance in CHAPS scores (17%), but this is in line with other studies of cognitive influences on auditory processing (see Ilidou & Bamiou, 2012, for a review).

On the other hand, while statistically significant, the Working Memory scores from the BRIEF did not explain a great deal of the variance in CHAPS scores (17%), but this is in line with other studies of cognitive influences on auditory processing (see Ilidou & Bamiou, 2012, for a review).

Listening is a complex task, and cannot likely be easily explained by any one variable, such as language competence, auditory processing, working memory, or overall executive dysfunction.

For children with apparent listening difficulties, a comprehensive and multidisciplinary assessment is essential, and should include measures of executive functions (particularly working memory), in addition to language and auditory processing.

The results further underscore the need for better professional consensus on the nature and definition of auditory processing and “listening skills.”

Study Limitations:
- Heterogeneous sample
- Young sample
- Relatively small sample

Future Research:
- Investigate contributions of cognition, language, and auditory processing on listening skills.
- Investigate subscale scores on CHAPS in addition to Total scores.

The study shows that executive dysfunctions were correlated with classroom listening problems, as measured by the CHAPS. Working Memory, in particular, was highly correlated and was a significant predictor of CHAPS scores.

Wilson et al. (2011) found that CHAPS scores were not correlated with any of the diagnostic auditory processing tests they investigated (low pass filtered speech, etc.). Our findings suggest that classroom listening skills, as measured by the CHAPS, may be related to executive dysfunction.

The study was approved by the Committee on the Protection of Human Subjects. The data were collected by file review from the clinical records of children with apparent listening difficulties. A stepwise linear regression was performed using SPSS for Windows. The predictor variables were subscale scores (T-scores) from the BRIEF (see Table 2). The regression was run again using the composite BRIEF scores (Metacognitive Index and Behavioral Regulation Index) as the dependent variables. The regression was used to identify predictors of CHAPS scores, as indicated by the R Square value.

Summary and Discussion

- The study shows that executive dysfunctions are correlated with classroom listening problems, as measured by the CHAPS. Working Memory, in particular, was highly correlated and was a significant predictor of CHAPS scores.
- Wilson et al. (2011) found that CHAPS scores were not correlated with any of the diagnostic auditory processing tests they investigated (low pass filtered speech, etc.). Our findings suggest that classroom listening skills, as measured by the CHAPS, may be related to executive dysfunction.
- On the other hand, while statistically significant, the Working Memory scores from the BRIEF did not explain a great deal of the variance in CHAPS scores (17%), but this is in line with other studies of cognitive influences on auditory processing (see Ilidou & Bamiou, 2012, for a review).
- Listening is a complex task, and cannot likely be easily explained by any one variable, such as language competence, auditory processing, working memory, or overall executive dysfunction.
- For children with apparent listening difficulties, a comprehensive and multidisciplinary assessment is essential, and should include measures of executive functions (particularly working memory), in addition to language and auditory processing.
- The results further underscore the need for better professional consensus on the nature and definition of auditory processing and “listening skills.”

Methods

- Data were collected by file review from the clinical records of children and adolescents who were referred to our university clinic for a comprehensive auditory/language processing assessment. Only those children with both CHAPS and (Teacher) BRIEF scores were included (n=57; average age = 10.08 yr). The study was approved by the Committee on the Protection of Human Subjects.
- Executive functions were measured by the Behavior Rating Inventory of Executive Functions – Teacher form (BRIEF; Gioia, Isquith, Guy, & Kenworthy, 2000). The BRIEF is a norm-referenced tool considered to be a valid and reliable measure of executive functions in real-life settings (Baron, 2000).
- Classroom listening skills were measured by the CHAPS (Smokst, Brun, & Tannahill, 1992) is a teacher-completed survey of a child’s classroom “listening skills” in various conditions (e.g., in background noise, or when sustained attention is required).
- It is often used as a screening tool for auditory processing disorders; however, recent research has shown that the CHAPS is not a particularly strong predictor of performance on auditory processing tests (e.g., Competing Sentences and Low Pass Filtered Speech) (Wilson et al., 2011).
- Executive functions, such as working memory and the ability to initiate actions, plan, organize, inhibit, and self-monitor are believed to play an essential, and should include measures of executive functions (particularly working memory), in addition to language and auditory processing.

Summary and Discussion

- The study shows that executive dysfunctions are correlated with classroom listening problems, as measured by the CHAPS. Working Memory, in particular, was highly correlated and was a significant predictor of CHAPS scores.
- Wilson et al. (2011) found that CHAPS scores were not correlated with any of the diagnostic auditory processing tests they investigated (low pass filtered speech, etc.). Our findings suggest that classroom listening skills, as measured by the CHAPS, may be related to executive dysfunction.
- On the other hand, while statistically significant, the Working Memory scores from the BRIEF did not explain a great deal of the variance in CHAPS scores (17%), but this is in line with other studies of cognitive influences on auditory processing (see Ilidou & Bamiou, 2012, for a review).
- Listening is a complex task, and cannot likely be easily explained by any one variable, such as language competence, auditory processing, working memory, or overall executive dysfunction.
- For children with apparent listening difficulties, a comprehensive and multidisciplinary assessment is essential, and should include measures of executive functions (particularly working memory), in addition to language and auditory processing.
- The results further underscore the need for better professional consensus on the nature and definition of auditory processing and “listening skills.”

Study Limitations:
- Heterogeneous sample
- Young sample
- Relatively small sample

Future Research:
- Investigate contributions of cognition, language, and auditory processing on listening skills.
- Investigate subscale scores on CHAPS in addition to Total scores.