



Understanding Participation of Children with Cerebral Palsy in Family and Recreational Activities

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Background and Purpose

- Age, sex, and gross motor function have been reported to influence amount of participation of children with cerebral palsy (CP), but little is known about their influence on enjoyment (1, 2).
- Less is known about influence of manual ability and communication function on children's participation.

Purpose:

- To determine the influence of sex, age, gross motor, manual ability, and communication functional levels on the frequency and enjoyment of children's participation.

Methods

Study design: A cross-sectional, multi-site study

Participants:

- 694 children with CP and their caregivers across the United States and Canada
- Children were 1.5 to 12 years of age (M=6, SD=2.6) and 55% were boys.
- Caregivers had a mean age of 37.7 years (SD=7.9) and 88% were mothers.

Measures and Procedures:

- Parents rated children's frequency and enjoyment of participation in family and recreational activities using the Child Engagement in Daily Life (CEDL) measure (3).
- Parents and therapists completed:
 1. Gross Motor Function Classification System (GMFCS)
 2. Manual Ability Classification System (MACS)
 3. Communication Function Classification System (CFCS)

Data Analysis

- Differences between four age groups (1.5-2.9, 3-5.9, 6-8.9, 9-12 years) and 5 levels of each classification system were analyzed using One-way Welch ANOVAs.
- Differences by sex were analyzed using an independent t-test.
- Alpha level was $p < 0.05$ for all analyses.

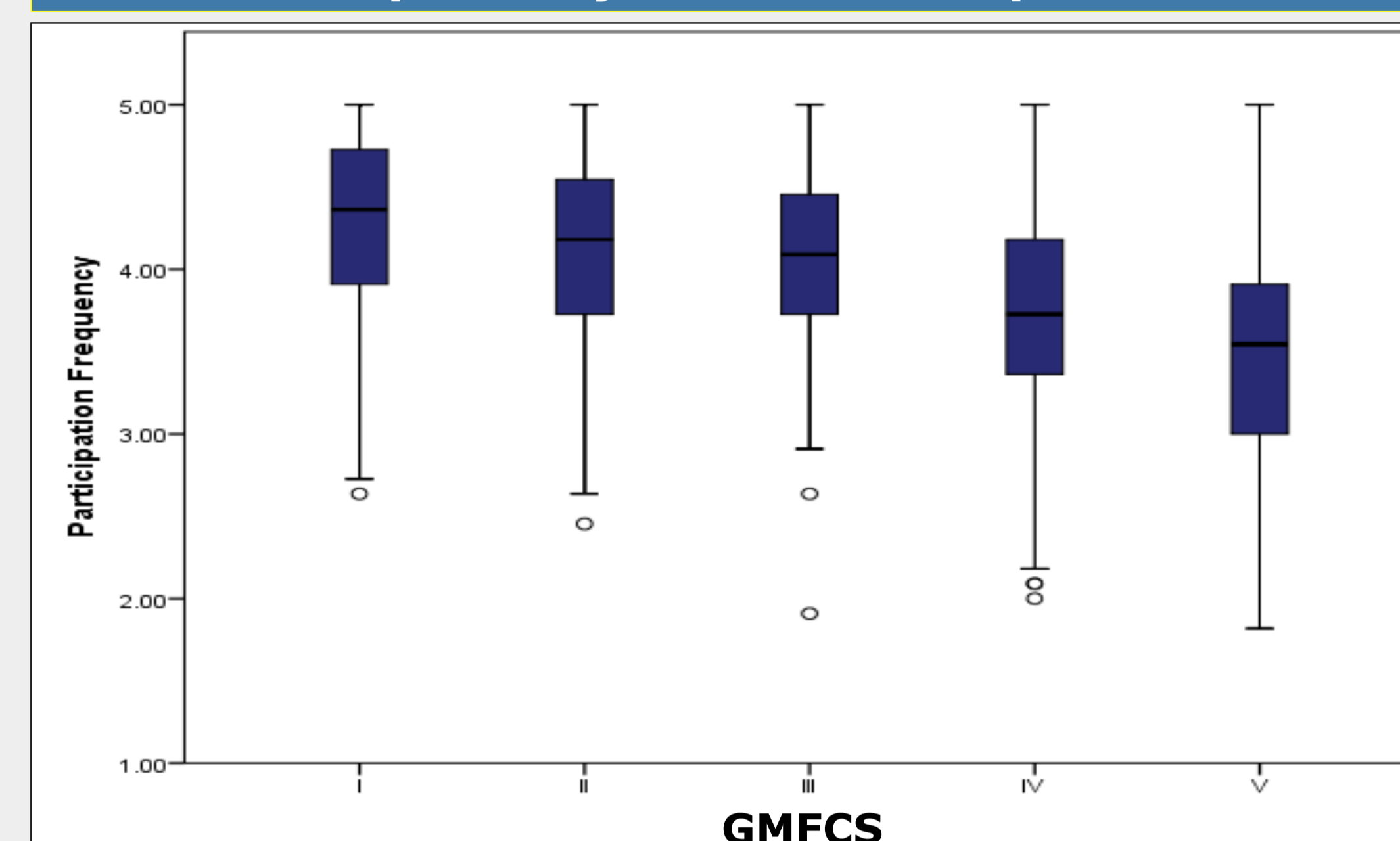
Results

Differences in Participation Across the Independent Variables

- No differences in the frequency and enjoyment of participation between girls and boys, $p > 0.05$.
- No differences in the frequency of participation across age groups, $p > 0.05$. Enjoyment of participation varied by children's age, $p < 0.01$; children 3- 5.9 years reported to enjoy activities more than children 1.5- 2.9 years, $p < 0.01$.
- Participation varied by children's level of function across the three function classification systems, $p < 0.001$. For all pairwise differences found, children with higher functioning had higher frequency and enjoyment of participation.

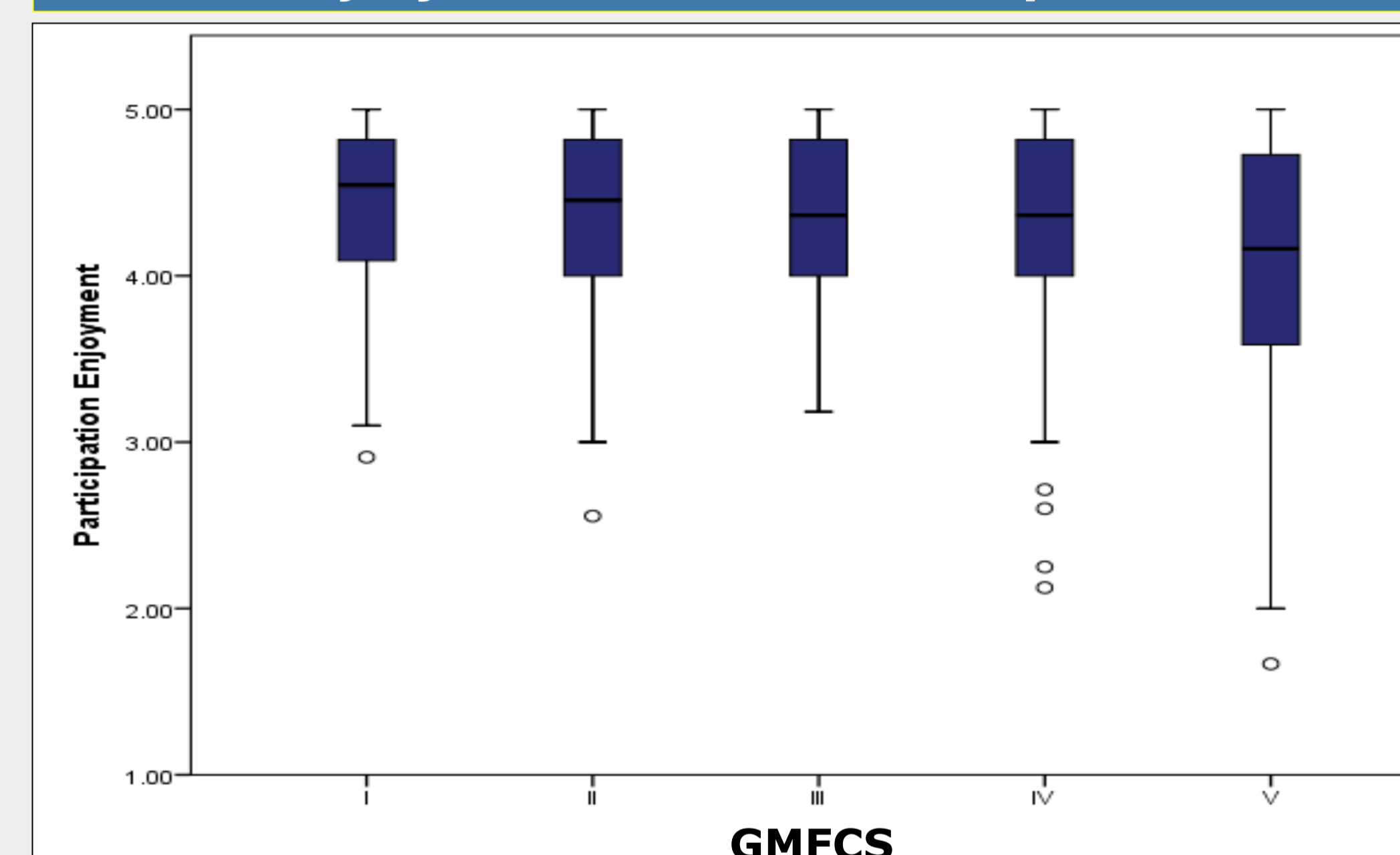
Differences in Participations Across Classification Systems' Levels

Frequency of Participation

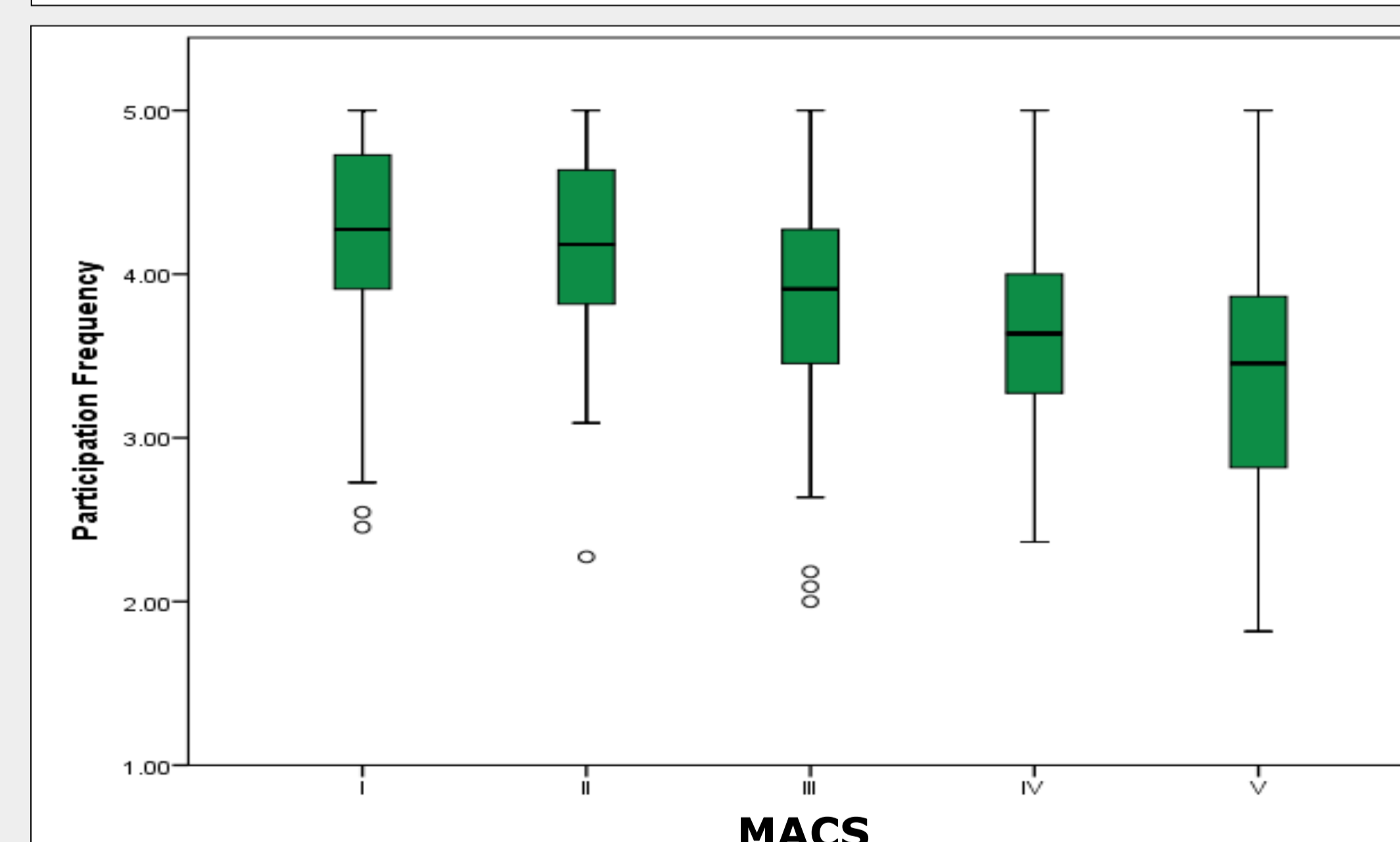


Significant differences between each level ($p < 0.001$), except between levels II and III

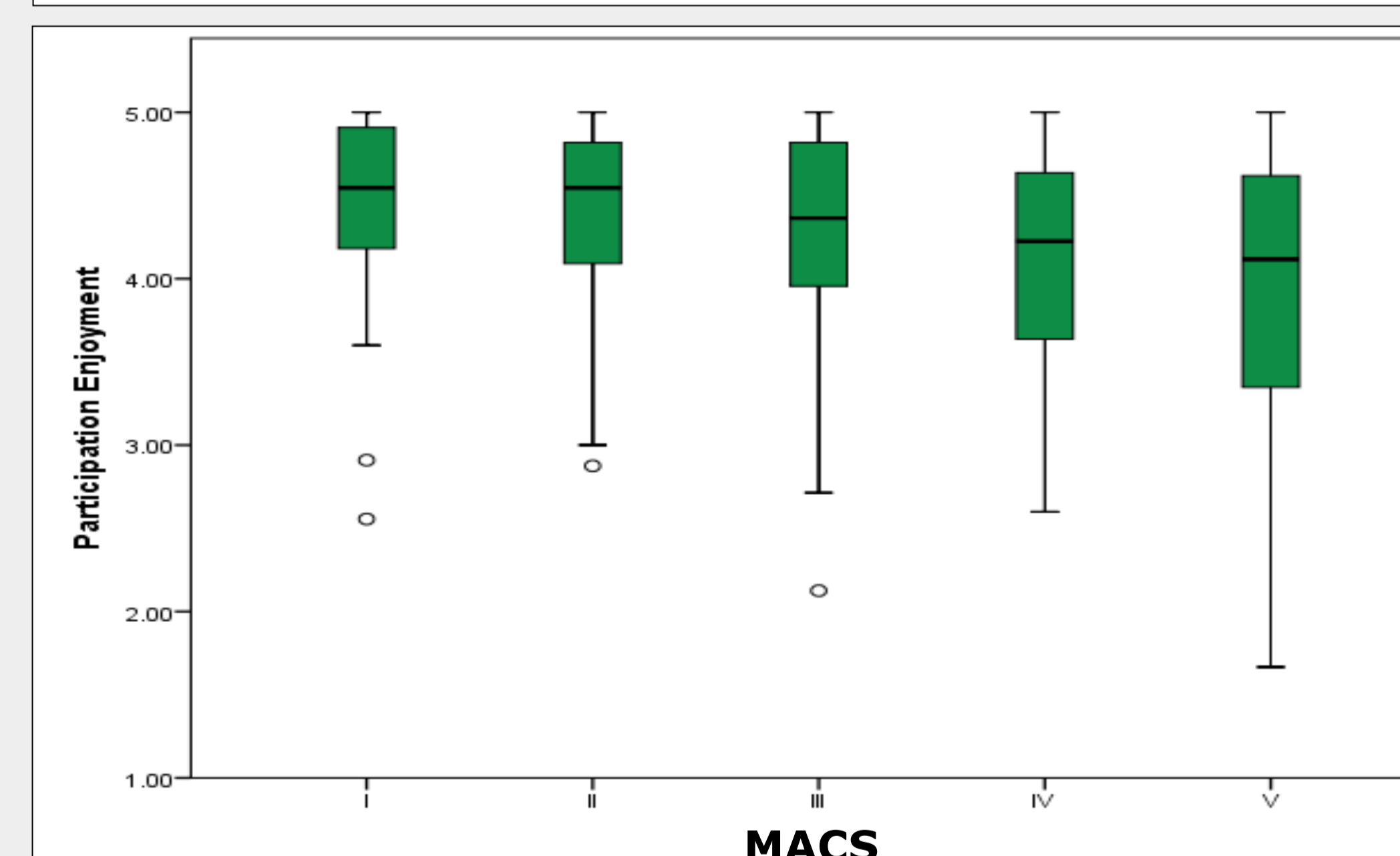
Enjoyment of Participation



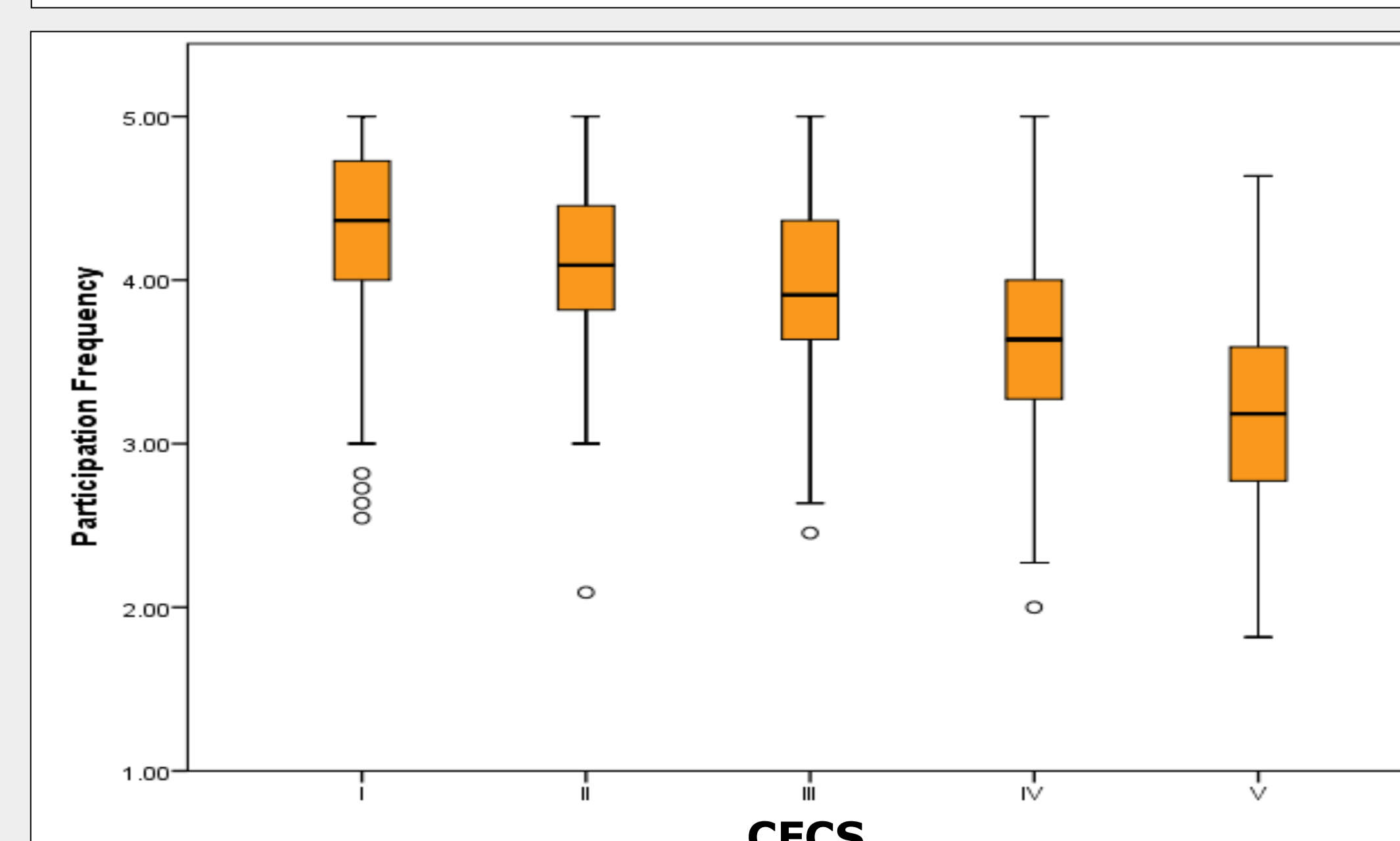
Significant differences ($p < 0.05$):
 • level I > levels IV and V
 • levels II and III > level V



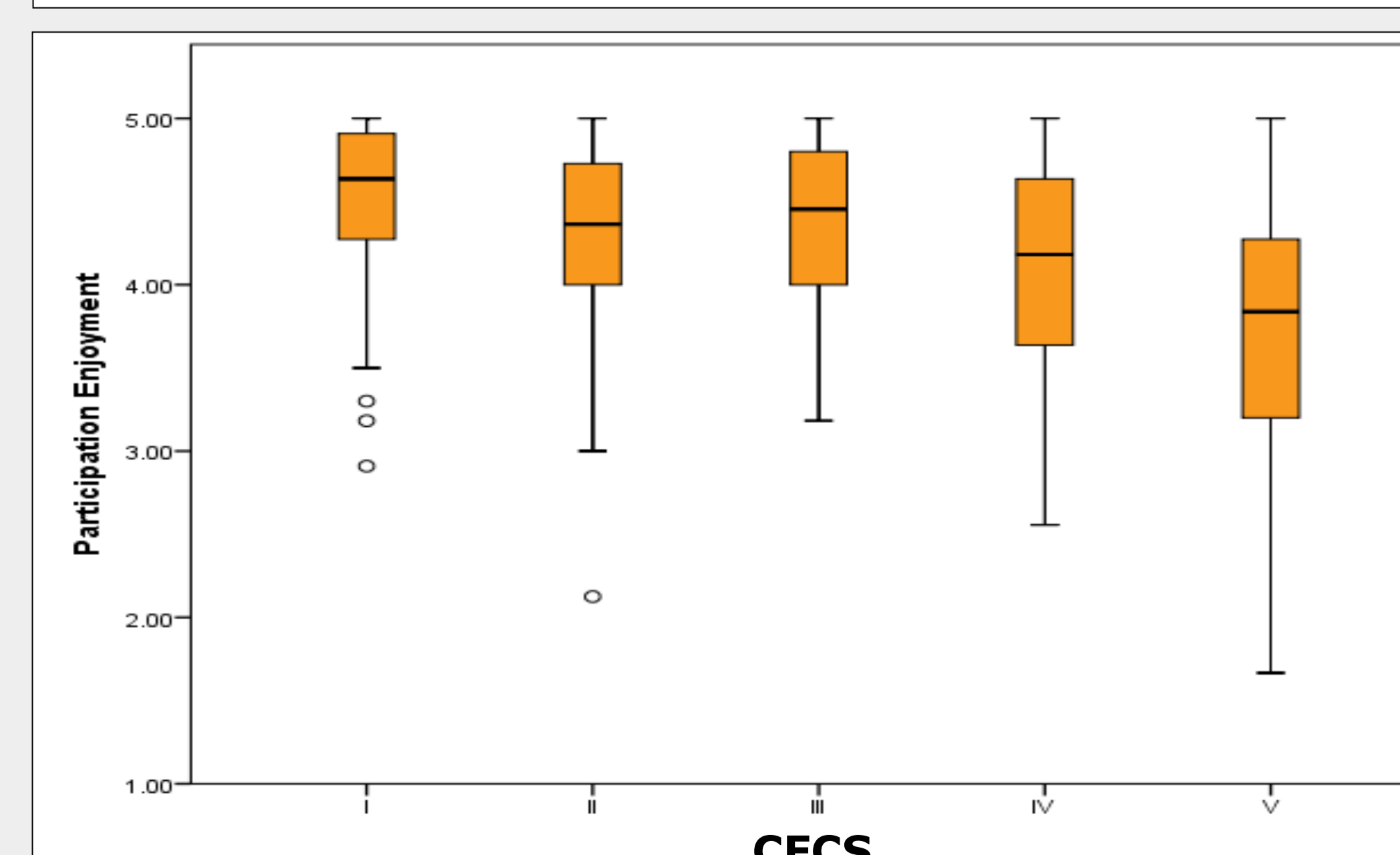
Significant differences ($p < 0.001$):
 • levels I and II > levels III, IV and V
 • level III > level V



Significant differences ($p < 0.05$):
 • levels I and II > levels IV and V



Significant differences between each level ($p < 0.001$), except between levels II and III



Significant differences between each level ($p < 0.001$), except between levels II and III

Conclusion

- In general, children with higher gross motor, manual and communication function participated more often in family and recreational activities.
- Despite the effect of age and functional classification on enjoyment of participation, differences are not clinically meaningful, as on average children in all groups enjoyed the activities very much.
- Children in level V had the greatest variability of participation with some children participating almost never and some enjoying their participation very little.
- The CEDL Family and Recreational Activities domain discriminates children with CP of varying functional abilities, but not by sex or age.

Clinical Relevance

- Understanding the effect of functional ability on participation has implications for:
 - Family-therapist collaboration in setting participation-related goals and designing plans of care.
 - Interdisciplinary supports and services for optimizing children's participation.
- Therapists are encouraged to use the CEDL family and recreational domain to evaluate and monitor children's participation.

References

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2. Chiarello, LA, et al. (2012). Understanding participation of preschool-age children with cerebral palsy. *J Early Intervention*.
3. Chiarello, LA, et al. (2014). Child engagement in daily life: a measure of participation for young children with cerebral palsy. *Disabil. Rehabil.*

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