Adolescent Girls’ Participation in Organized Sport
Joanna L. Morrissey, MS; Kristin J. Boulter, BS; Elena M. Letuchy, MS; Steven M. Levy, DDS, MPH; and Kathleen F. Janz, EdD
The University of Iowa, Iowa City, IA

ABSTRACT
Physical activity has positive benefits for adolescents. This study examined moderate-vigorous physical activity (MVPA) of adolescent girls involved in organized sport. Additional analyses examined levels of MVPA for adolescents sorted by individual, team, and recreational sports.

INTRODUCTION
• Physical activity (PA) levels appear to be higher in adolescents involved in organized sport when compared to their peers (Linver, Roth, & Brooks-Gunn, 2009)
• However, as girls age, it is more difficult to participate in organized sport due to the competitive nature of many sport programs.

METHODS:
- Sample: 169 girls
- PAQ-A: Physical Activity Questionnaire for Adolescents
- Accelerometry
- Analyses: Group comparisons based on linear models with sport types as the predictor and MVPA AMOUNT as outcome

RESULTS:
Girls (n=169) engaged in less MVPA AMOUNT than boys (P<.0001)
Girls involved in organized sport or multiple sports are more active than girls (n=169)
Girls engaged in low MVPA AMOUNT than boys (P=0.03)

CONCLUSION
• Girls spend less time in MVPA AMOUNT than boys. (See Table 1)
• Girls also participate in similar types of unorganized and organized sport. (See Tables 4 and 5)
• Girls who participated in multiple sports were more active than those who participated in only one sport. (See Tables 4 and 5)

IMPLICATIONS
• Sport is an important mode of physical activity for adolescent girls.
• Parents should encourage their daughters to be involved in team, individual, or recreational sports.
• Strategies should be developed to help girls participate in other types of physical activity (ie, aerobic exercise, active transport).
• Policies that support equality for girls and boys to participate in sport should be endorsed.

REFERENCES
- Linver, R., Roth, J., Brooks-Gunn, J. (2009). Differences in leisure-time activities according to level of physical activity in adolescents.

FUNDING
Supported by the National Institute of Dental and Craniofacial Research RO1 DE021291 and RO1 DE019055 and the General Clinical Research Center Program from the National Center for Research Resources, M01-RR00059.

RESULTS
- Table 2: Demographic and Physical Activity Characteristics of Participants by Gender
- Table 3: Distribution of Number of Organized Sport by Gender
- Table 4: Most Frequently Reported Organized Sport by Gender
- Table 5: Most Frequently Reported Unorganized Individual, Team, and Recreational Sports by Gender
- Table 6: Most Frequently Reported Unorganized Individual, Team, and Recreational Sports by Gender
- Table 7: Adjusted MYP for Sports Combinations by Gender

STRENGTHS & LIMITATIONS
- Strength: Analyzed participation in different types of organized and unorganized sport
- Limitation: Sample from Midwest (USA)

DATA COLLECTION METHODS
- The Iowa Bone Development Study (IBDS) is a prospective, longitudinal study assessing the impact of peak bone mass and strength.

STATISTICAL METHODS
- Data were examined for distribution characteristics, mean, standard deviation, and quartiles were calculated.
- Activities measured (MVPA AMOUNT) was skewed so a logtrans transformation was used to find a transformation
- Box-Cox transformations used
- Group comparisons based on linear models with sport types as the predictor and MVPA AMOUNT as outcome
- Groups compared performed on transformed variables using SAM-GLM for unadjusted and adjusted analyses for three groups (organized sport, sport combinations, and team sport combined with other sports)
- Age at time of accelerometer wear and Tanner staging were considered as covariates for analysis and entered if significantly associated with variables of interest
- Females only: analyses were run for girls and for girls in a Tanner stage 1 or greater

Table 2 - Maturation by Gender

Table 3 - Distribution of Number of Organized Sport by Gender

Table 4 - Most Frequently Reported Organized Sport by Gender

Table 5 - Most Frequently Reported Unorganized Individual, Team, and Recreational Sports by Gender

Table 6 - Adjusted MYP for Number of Organized Sport by Gender

Table 7 - Adjusted MYP for Sports Combinations by Gender

Table 8 - Adjusted MYP for Sports Combinations by Gender

The University of Iowa, Iowa City, IA

THE UNIVERSITY OF IOWA COLLEGE OF DENTISTRY