

# IMPACT AND EFFECTIVENESS

## TABLE 49

### Screen Time

Effectiveness Tables

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Impact Tables

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# EFFECTIVENESS TABLES

Study Description	Measures & Outcomes	Effect Size or % Change	Effectiveness	Maintenance & Representativeness
<b>United States</b>				
<p><b>Author</b> Story, Sherwood (2003); Obarzanek, Pratt (2003); Kumanyika, Story (2003); Rochon, Klesges (2003); Treuth, Sherwood (2004); Cullen, Klesges (2004); Klesges, Baranowski (2004); Beech, Klesges (2003); Klesges, Obarzanek (2008); Baranowski, Baranowski (2003); Story, Sherwood (2003); Robinson, Kraemer (2008); Alhassan, Robinson (2008); Robinson, Killen (2003); Kumanyika, Obarzanek (2003)</p> <p>Tennessee, Texas, Minnesota, California</p> <p><b>Design</b> Intervention evaluation Randomized trial</p> <p><b>Duration</b> Low 12 weeks</p>	<p><b>Measures</b> <i>Accessibility of screen time devices (access to television monitors)</i></p> <p><b>Outcome(s) Affected</b> Physical activity (PA), overweight/obesity, fruit, juice, and vegetable consumption (FJV), and screen time (Girls health Enrichment Multi-site [GEMS] Activity Questionnaire; parent questionnaire, height, weight)</p>	<p><b>Net Positive for Overweight/obesity for African-American Females (Screen Time)</b> <b>Net Positive for Physical Activity for African-American Females (Screen Time)</b> <b>Net Positive for Screen Time for African-American Females (Screen Time)</b></p> <p><b>Screen Time:</b> <u>OVERWEIGHT/OBESITY:</u> <i>Memphis Phase 1: 12 weeks (n=60)</i> 1. Girls in the both active interventions (child-targeted and parent-targeted) demonstrated a trend toward a reduced body mass index (BMI) and waist circumference compared to the control, although not statistically significant. <i>Stanford Phase 1: 12 weeks (n=61)</i> 2. Girls in the treatment group exhibited trends toward lower BMI (adjusted difference -0.32 kg/m<sup>2</sup>, 95% CI= -0.77, 0.12; Cohen's d=0.38 SD units) and waist circumference (adjusted difference =-0.63 cm, 95% CI=-1.92, 0.67; d=0.25) than the control group. <i>Baylor Phase 1: 12 weeks (n=35)</i> 3. In a secondary analysis, there were no differences in BMI, most physical activity measures (MET-adjusted usual GEMS Activity Questionnaire [GAQ] was 0.8 greater in the hypothesized direction), or in preferences for PA or sweetened beverages. <i>Minnesota Phase 1: 12 weeks (n=54)</i> 4. BMI did not differ between treatment groups; there was a trend for waist circumference to be 1.4 cm higher in the intervention than the control (p=0.08).</p> <p><u>PHYSICAL ACTIVITY:</u> <i>Memphis Phase 1: 12 weeks (n=60)</i> 5. The two active interventions (child and parent-targeted), demonstrated an 11.7% increase in minutes of MVPA <i>Stanford Study Phase 1: 12 weeks (n=61)</i> 6. Intervention girls showed a higher trend toward increased afterschool PA (adjusted difference =55.1 counts/min, 95% CI =-115.6, 225.8; d=0.21) than control girls. 7. Analysis of the 3–6 PM time interval demonstrated an approximate 13% relative difference, favoring the intervention group (adjusted difference between groups, Treatment minus Control [T-C]=91.2 counts/min [95% CI=-65.8, 248.3], p=0.25). 8. Intervention girls self-reported approximately 12% more total minutes of moderate-to-vigorous physical activity on the previous day than controls on the GAQ. 9. Intervention girls exhibited an average increase of 54.4 ±SD 112.9 counts/min per day, and 35.7 ± SD 221.0 counts/min from 3–6 PM, compared to their baseline values. <i>Minnesota Phase 1: 12 weeks (n=54)</i> 10. Physical activity measures demonstrated consistently greater activity levels in the intervention compared to control group, although none of the differences reached statistical significance.</p> <p><u>SCREEN TIME:</u> <i>Stanford Phase 1: 12 weeks (n=61)</i> 11. Girls in the intervention group showed an increased trend for reduced television, videotape, and video game use (adjusted difference =-4.96 hours/week, 95% CI -11.41, 1.49; d=0.40).</p>	<p><b>Somewhat Effective for Overweight/obesity in African American Females (Study Population)</b></p> <p><b>Somewhat Effective for Physical Activity in African American Females (Study Population)</b></p> <p><b>Somewhat Effective for Screen Time in African American Females (Study Population)</b></p> <p>Study design = Intervention evaluation Intervention duration = Low Effect size = Net positive for physical activity, overweight/obesity, and screen time. in African-American females</p>	<p><b>Maintenance</b> Phase 2 continued in Memphis and Stanford, but results for Memphis have not yet been provided. <u>STANFORD PHASE 2:</u> 2 years (n=208)</p> <p>1. Average daily PA and percent time spent in MVPA were significantly inversely related to BMI (average daily activity, r=-0.23, p=0.0008; MVPA, r=-0.29, p&lt;0.0001) and fasting insulin (average daily activity, r=-0.27, p=0.0001; MVPA, r=-0.30, p&lt;0.0001).</p> <p><b>Sampling / Representativeness</b> Low Mean BMI of GEMS girls was substantially higher than that of age-matched African-American girls in the National Heart, Lung, and Blood Institute Growth and Health Study (NGHS) and that of girls in the more recent NHANES 1999–2002. The Memphis GEMS girls had a larger mean waist circumference and triceps skinfold than did the NHANES 1999–2002 sample. GEMS girls' mean blood pressure was lower than that of comparably aged African-American girls in NHANES 1999–2000.</p>

# IMPACT TABLES

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
<b>United States</b>						
<p><b>Author</b>  Story, Sherwood (2003); Obarzanek, Pratt (2003); Kumanyika, Story (2003); Rochon, Klesges (2003); Treuth, Sherwood (2004); Cullen, Klesges (2004); Klesges, Baranowski (2004); Beech, Klesges (2003); Klesges, Obarzanek (2008); Baranowski, Baranowski (2003); Story, Sherwood (2003); Robinson, Kraemer (2008); Alhassan, Robinson (2008); Robinson, Killen (2003); Kumanyika, Obarzanek (2003)</p> <p>Tennessee, Texas, Minnesota, California</p>	<p><b>Participation/Potential Exposure</b>  Participation = Not reported  Exposure = Not reported</p> <p><b>High-Risk Population</b>  High</p> <p>8-10 year old, African-American females (all interventions) (target population)</p> <p>(intervention population not defined)</p> <p>8-10 year old African-American females (evaluation population)</p> <p>low- and middle-income (intervention dependent)</p>	<p><b>Representative</b>  Not Applicable</p> <p><b>Potential Population Reach</b>  More Evidence Needed</p> <p>Participation / exposure= Not reported</p> <p>Representativeness = Not reported</p> <p><b>Potential High Risk Population Reach</b>  More Evidence Needed</p> <p>High-risk population = High</p> <p>Representativeness = Not reported</p>	<p><b>Intervention Components</b>  Complex</p> <p>Electronic TV time managers used to monitor TV time (home meetings with instructor)</p> <p><b>COMPLEX:</b></p> <ol style="list-style-type: none"> <li>Physical activity opportunities in a pilot afterschool program: the Girls health Enrichment Multi-site Studies (GEMS)</li> <li>Family Education (meetings, food preparation and consumption)</li> <li>Nutrition Component (skill-building, recipes, food preparation, taste-testing)</li> <li>Homework period (girls were given time to do homework)</li> </ol> <p><b>Feasibility</b>  Intervention feasibility = High</p> <p>Policy feasibility = High</p> <p>Intervention activities: Physical activity opportunities, nutrition education, family education, reduced screentime, homework period</p> <p>Specialized expertise: Not reported</p> <p>Resources needed: Electronic TV time managers (to reduce time), incentives/prizes (beads, pedometers, t-shirts), videotapes (training sessions), educational materials (pamphlets, newsletters, magnets, recipes, parent packets), activity resources (jump ropes), transportation, field trip fees, child care, snacks and bottled water, website development, internet and computer, summer camps/community centers/schools, personnel (mentor, nurses, dance teachers), volunteers (American Heart and Diabetes Associations), fruits for tasting, storage area for food, game supplies</p> <p>Costs: Not reported</p> <p><b>Implementation Complexity</b>  High</p> <p>Intervention components = Complex</p> <p>Feasibility = High</p>	<p><b>Population Impact</b>  More Evidence Needed</p> <p>Effectiveness = Somewhat effective for overweight/obesity, physical activity, nutrition and screen time in the study population</p> <p>Potential population reach = More evidence needed</p> <p>Implementation complexity = High</p> <p><b>High-risk Population Impact</b>  More Evidence Needed</p> <p>Effectiveness = Somewhat effective for Screen Time, Overweight/obesity, Physical Activity and Nutrition in African-American females</p> <p>Potential high-risk population reach = More evidence needed</p> <p>Implementation complexity = High</p> <p><b>Sustainability</b>  Yes</p> <p>Two sites (Memphis and Stanford) continued the GEMS activities for an additional 2 years (Phase 2)</p>	Not Reported	Not Reported