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Media Use & Academic Achievement among African-American Elementary Children

By

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In collaboration with the

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& the Steppingstone Scholars, Inc.

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Executive Summary

High-achieving, gifted African-American children ages 9 – 11 watch less television and demonstrate more active reasoning about their favorite TV shows, compared to regular educational peers not identified as gifted, whose responses are more reactive. Additional findings include:

- When asked to explain why they enjoy their favorite songs, regular students are more likely to give a simple *reaction*, such as “it’s my favorite;” high-achieving students are more likely to offer a detailed, *reasoned* answer, such as “it is appropriate and does not have any profanity in it. It’s more of a gospel song than a rap song.”
- Regular students report more daily *electronic media use* (TV, videogames, Internet, music, and cell phones) than high-achievers; however, most students of both groups report *heavy use of electronic media* on a typical school day (4+ hours), and on a typical Saturday or Sunday (6+ hours).
- Few students in either group report use of print media in the home.
- Most students report little or no *parental involvement* in their media use, with no significant differences found between high-achievers and regular students.
- Students *like when parents talk to them* about their media and technology use.
- High-achieving, gifted students are less likely to have computer, television and videogame *media devices in their bedrooms* than regular students.
- Both high-achievers and regular students report living in highly-saturated *media home environments*, with multiple TVs, stereos, videogames, computers, and cell phones.

This study shows that less *electronic media use* and more *active reasoning about television programming* is associated with *high achievement* for African-American children. More research is required to determine causality and direction of influence (i.e., to determine whether media use influences achievement or achievement influences media use). Perhaps because the levels of *parental involvement* are so low, parent involvement in media and technology is not associated with *active reasoning*, children’s *media use*, or amount of media in the *home environment*.

Recommendations

Because a large proportion of African-American children report high levels of media use and live in households that are highly-saturated media environments, efforts to decrease children’s media use seem unlikely to be effective, despite this study’s finding that lower media use is associated with high achievement.

However, since active reasoning is a higher-order thinking skill strongly associated with academic achievement, it may be useful to help all students improve academic achievement by improving their ability to use active reasoning in responding to the ubiquitous media and technologies used in everyday life.

Overview of Research Sample

This study examined the media use habits, media environment, active reasoning, and parental involvement in two independent samples of African-American high-achieving children ($n_1=73$) and regular students ($n_2=83$) ages 9-11 who responded to a survey. Representing students in Grades 5 and 6, 11% were 9-year olds, 68% were 10-year olds, and 31% were 11-year olds in the sample, with 55% girls and 45% boys.

The group of “high-achievers” included all 5th and 6th graders from Steppingstone Scholars (SS), a highly competitive extra-curricular program in Philadelphia. This program selects elementary student applicants from Philadelphia public schools, based on recommendations from teachers, academic achievement and family interviews, to prepare these students for placement in competitive middle and junior high schools.

The “regular” group included all 5th and 6th graders from Russell Byers Charter School (RBCS), a public K-6 grade elementary school that draws student applicants by lottery from across the city of Philadelphia.

Key Findings

High Achievers Use Reasoning instead of Just Reacting to Media Messages

When students are actively processing media, they are thinking about media content and form. When students are passively using media, they react emotionally without active cognition. We asked students to name their favorite TV show, song and videogame and explain why they liked it. When 9, 10, and 11-year old students use *reasoning* to reflect on their motivations for using media, they may or may not be critical viewers, but they are able to articulate ideas about why they like media messages and what they find valuable in them. This is in contrast to those who simply *react to* mediated experience. High-achieving, gifted African-American children demonstrated more *reasoning about media* in their written explanations of favorite TV shows, videogames and songs. A statistically significant difference was found between high-achieving and regular students for *active processing of TV shows*, but not for active processing of music or videogames.

Table 1. Using Reasoning in Response to Favorite Media

	% of Students in each group who used reasoning in response to favorite media	
	High Achievers, $n=73$	Regular Students, $n=83$
Favorite TV show	64%	35%
Favorite Song	45%	34%
Favorite Videogame	69%	62%

We measured active reasoning of media in open-ended survey items where students were asked to name their favorite TV show, videogame, and song, and to explain why they liked each. Students demonstrated *active reasoning* if they could:

- recognize the genre or type of message
- make a link between two elements of the composition (e.g., lyrics + beat, beat + dance);
- describe a compositional element;
- identify the message's purpose or meaning;
- mention some social aspects of using media;
- describe an emotional response plus one other element of the message.

When asked to explain why they like their favorite TV show, examples of children's active reasoning responses included:

"I like Narato because it is about a boy who will follow his dreams no matter what. It has a lot of action."

"It is about a teenager who is a rock star and it shows me that even a kid can be famous and a star. It was her dream and even if it was hard, she accomplished it. It shows me that I can do that too."

"It's funny and the cartoons can sometimes be so clueless and at other times can be so evil."

When asked to explain why they like their favorite videogame, 9, 10, and 11-year old students who used active reasoning offered the following thoughts:

"It has awesome graphics, great characters, and cool super attacks."

"I like it because it feels like you are really playing sports."

When describing why they liked their favorite popular music, students who used active reasoning responded with answers like these:

"I like the beat of the song and I like the theme and setting of a hospital."

"It is appropriate and does not have any profanity in it. It's more of a gospel song than a rap song."

As Table 1 shows, many children in the study did not demonstrate active reasoning. Many responded to the question about why they liked their favorite show, videogame and music by mentioning only a reactive answer — usually a simple emotional reaction. The most common answer was "It's funny." Other reactive answers were descriptions of how frequently they watched, played or listened. When asked to explain why they liked various media, many claimed only that "it's my favorite," "it's cool," or "it is the best," or offering only vague or redundant descriptors.

One of the major concerns in education is the development of children's higher-order reasoning and problem-solving skills. The capacity of individuals to use reasoning and evidence to support ideas and opinions is a central component of critical thinking. This skill develops in a dialogic environment in which students are encouraged to provide support for their conclusions and choices. While most students have the ability to develop reasoning and argumentation skills, they need guidance and a supportive environment, where reasoning is valued and appreciated. Students' use of reasoning and argumentation in relationship to everyday activities, like media consumption and technology usage, may be leveraged to support success in the classroom.¹

Researchers have found that when the classroom culture supports a discourse of reasoning and argumentation, students demonstrate knowledge gains.² If students can be encouraged to use reasoning in responding to everyday mass media, popular culture, and technology, children's language, literacy and critical thinking skills can be increased. This may be of special value to African-American children, who spend more time using television, videogames, music and digital media than other demographic groups.

Academic Achievers are Heavy Electronic Media Users but Consume Less than Regular Students

Most students in our survey spend considerable amounts of time with television, videogames, the Internet, music and cell phones. Children in both groups report *heavy use of electronic media* on a typical school day (4+ hours), and on a typical Saturday or Sunday (6+ hours). The Appendix explains how we measured 9, 10, and 11-year old students' media consumption in a conservative way so as to accurately capture the many different types of children's media use in the home.

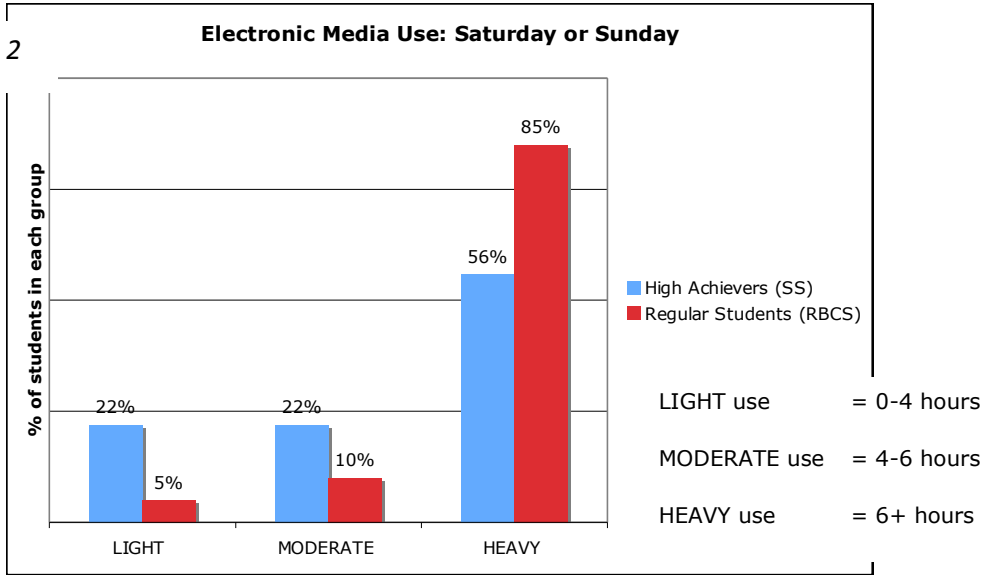
As shown on Table 2, high-achieving students report less daily electronic media use than regular students, with 85% of regular students and 56% of high-achievers identified as *heavy users* of media. In general, though, media consumption among both high-achievers and regular students is substantial, at 30+ hours weekly.

Most students in both groups are *light users* of print media, and there is no significant difference between the reports of high achievers and regular students for *time spent reading* books, newspapers, comics, or magazines. Nearly half of both gifted and regular students report "never" reading a newspaper, and only 5% of students read a newspaper "a lot" or "all the time."

¹ Hobbs, R. (2004). A review of school-based initiatives in media literacy. *American Behavioral Scientist* 48(1): 48-59. See also Kellner, D. & Share, J. (2007). Critical media literacy: Crucial policy choices for a 21st century democracy. *Policy Futures in Education* 5(1): 59-69.

² Roychoudhury, Anita (2007). Elementary students' reasoning: crests and troughs of learning. *Journal of Elementary Science Education* 19(2): 25 – 43.

Table 2



High Achievers are Less Likely to have Media in the Bedroom

Most African-American children in this study have television and videogames in the room where they sleep. 88% of regular students and 79% of high-achieving 9, 10, and 11-year olds have TV in the bedroom, for example. Previous studies have shown that television and other media in the bedroom is associated with more media consumption, decreased sleep, and other behaviors that do not contribute to high levels of academic achievement.

High-achieving students live in homes that are just as saturated with media and technology as regular students. Most students in both groups reported having TVs, stereos, videogame devices, and cell phones in their own bedrooms, and about half of each group reported having computers with Internet in their bedrooms. However, as shown on Table 3, high-achieving students were less likely than regular students to have videogames, stereos, cell phones, I-pods, and the Internet in their bedrooms.

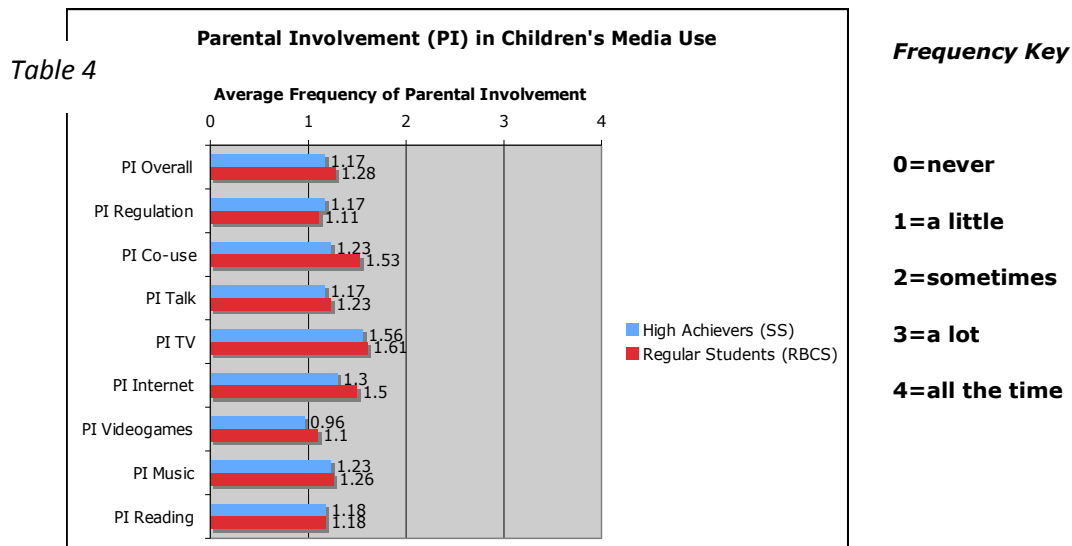
Table 3. Media in the Bedroom

Media in My Bedroom	% of Students who report media item in bedroom	
	High Achievers (SS) n=73	Regular Students (RBCS) n=83
TV	79%	88%
Videogames	80%	82%
Stereo	59%	68%
Cell phone	68%	72%
Computer with Internet	46%	53%

Parents are Generally Not Involved in Children’s Media Use

Few parents spend much time talking with children about TV, music, the Internet, videogames, and print media, at least according to the children who participated in this study. When they do talk about media with their children, it is more likely to be about TV and least likely to be about videogames.

As depicted in Table 4, students in each group answered survey questions about the frequency of their parents’ involvement in their media use, including television, Internet, videogames, music and reading. When asked about co-using activities, high-achieving 9, 10, and 11-year old students reported that their parents were less likely to watch TV with or play videogames with them (M = 1.23) as compared with regular students (M = 1.53).



Children Have Positive Attitudes about Parental Involvement in their Media Use

African-American children in this study have positive attitudes about talking with parents about media and technology. Children with higher levels of parent involvement, including those with more family rules about media use, have the most positive attitudes about talking with parents about media. Even though it’s not too common as part of family life, 9, 10, and 11-year old children like talking to parents about media—and they offered these reasons:

“I like talking to my parents about that kind of stuff to see what we have in common. I feel close to them when I’m talking to them about that kind of stuff.”

“I like it because I will know if they don't want me to play, visit, read or listen to that thing.”

“My mom and Dad and I we sit and we talk it makes feel good that I'm not doing wrong.”

“Certain movies they don't like me watching, so they make me watch a positive movie.”

“It means they are looking out for me. It also makes me feel safe.”

Only about 20% of children reported that they did not like talking with their parents about media and technology. However, they had their reasons, too. Some of these included:

“She makes it like an hour-long conversation.”

“Sometimes when I talk about those things I'm told I can't go to that website, I can't watch that movie, etc.”

“Because I want to watch what I want and my grandmother does not watch tv that often.”

Strategies for Engaging Children in Active Processing of Media

To build the kind of active processing of media and technology in the home that can help with academic achievement, parents can engage children by asking descriptive questions, predictive questions, evaluative questions, and critical thinking questions about media messages and technology tools. Here are some examples:

Descriptive questions encourage children to use language to explain, define, or demonstrate their comprehension of media messages. Questions include:

- What just happened?
- Who is that character?
- What do you have to do to get to the next level?

Predictive questions encourage children to think about what might happen next. Predictive questions help children develop inference-making skills that can be useful for reading comprehension and other forms of active learning. Examples of predictive questions include:

- What will that character do next?
- If you go there or do that, what's likely to happen?

Evaluative questions invite children to make a judgment or interpretation, sharing their opinions and attitudes about a media message or technology resource. Some examples of evaluative questions include:

- Why do you like this?
- What do you like and dislike about this person?
- Would you watch, listen to this, or play this again? Why or why not?

Critical thinking questions can be activated when children have to recognize the genre, identify construction techniques that attract and hold attention, examine the purpose, spot the point of view, consider the target audience, or reflect on the impact of the media message or use of the technology tool. Some developmentally-appropriate examples for elementary-school children include:

- What kind of show is this?
- Is this an actor or a real person? How can you tell?
- What information would be helpful to have right now?

Conclusion

Considering that most of the urban, public school children who participated in this study come from poor and working-class socio-economic backgrounds where parents may work long hours and live in neighborhoods where crime and violence are prevalent, it is not surprising that most students report *heavy electronic media use* daily with *low parental involvement* regardless of their achievement level.

However, it is surprising that no significant differences were found between high-achievers and regular students in their time spent reading and in their home media environments, as prior research has found these variables to predict achievement.

High-achieving 9, 10, and 11-year olds do show more active reasoning about favorite media than regular students, offering more well-elaborated answers in responding to a question about television programs, videogames and music.

Both high-achievers and regular students clearly have knowledge and expertise related to popular media that can be used to stimulate and engage the sort of active, engaged and analytical thinking that schools would like all of their students to develop. Since our findings clearly show a strong association between more active reasoning and high levels of academic achievement, we believe that both academically-gifted and regular education students may benefit academically from efforts to help children improve their active reasoning and argumentation skills in response to mass media, popular culture and digital media.

Parents should also be encouraged to promote children's active reasoning about media and technology by using descriptive, predictive, evaluative and critical thinking questions in interacting with their children. These types of questions can also be productively used in the elementary classroom as well to promote the higher-order thinking skills of reasoning and argumentation.

This research provides important new knowledge about the roles of media in the lives of urban students who come from predominantly African-American families. Much more research needs to be done with this population to determine what sorts of classroom activities and in-home activities may support the development of higher-order active reasoning and academic achievement.

More information is needed to learn about parental perspectives on children's media use. It will also be important to learn how these student survey reports compare to other measures such as media diaries and home interviews.

Given the potential for schools to promote both greater parental involvement with children's media use and more active reasoning skills among students, future research should also investigate the impact of media literacy education on the relationship between academic achievement, higher-order thinking skills, and media use for children from urban, public elementary schools.

Appendix: Notes on Data Analysis

Media and Technology Use. Students in each group responded to the same survey questions about *amount of media use*, which asked them to choose the number of hours they spend using each of six types of media (TV, music, Internet, videogames, cell phones, and reading) on a typical school day and a typical weekend day. Since children's estimates of hours of daily activity cannot be expected to be precise, the survey asked students to select from six choices ranging in two hour spans from "never" to "8+ hours" for each item. These answers were transformed into a numeric scale from 0 to 5. These numbers were then transformed into expressions of *light*, *moderate* and *heavy* use. For a weekday, 0 and 1 indicated *light use* (under 2 hours), 2 indicated *moderate use* (2-4 hours) and 3-5 indicated *heavy use* (4+ hours). For a Saturday or Sunday, 0-2 indicated *light use* (under 4 hours), 3 indicated *moderate use* (4-6 hours) and 4-5 indicated *heavy use* (6+ hours).

For reading, T-tests for equality of means showed no statistically significant difference between high achievers (SS) and regular students (RBCS) in their reports of *time spent reading* books, magazines, comics, and newspapers (for each measure, $p > .05$) with means indicating *light use* (0-2 hours) for most students in each group on school days and weekend days.

Means for students' *electronic media use* were computed by using a *cumulative scale* that added each student's score on the five electronic media variables (for a possible range of 0-25). The scale was found to have high reliability (Cronbach's Alpha = .67). By computing the average for high achievers (SS, $X_1 = 6.8$) and for regular students (RBCS, $X_2 = 8.9$) on this scale, the mean scores for students in each group could be compared to determine any statistically significant differences in reported *electronic media use* between the two groups of students.

T-tests for equality of means were performed to test the null hypothesis that there is no difference on the *electronic media use cumulative scale* between the scores of high achievers (SS) and regular students (RBCS) on a school day and on a Saturday or Sunday. For both school days and weekend days, a statistically significant difference was found, showing regular students to report greater *electronic media use* than high achievers for a school day ($t_{154} = -3.1, p < .05$) and Saturday or Sunday ($t_{153} = -5.283, p < .05$).

In order to account for possible student multi-tasking, another measurement was used to confirm the significant difference between groups in average daily *electronic media use*, and to find how many students in each group reported *heavy*, *moderate*, and *light electronic media use* on a given day. Researchers took each student's highest score of the *electronic media use* questions for a given day and assumed that score (0-5) to be a report of the student's total use for the day. Thus, in this conservative measure, it is assumed that the student is fully multitasking, using all reported hours of *electronic media use* at once across TV, Internet, videogames, music, and cell phones, with the highest score for any one of these media representing the total hours of use. Even with this conservative estimate of daily media use, most students in each group reported being *heavy users of electronic media* (see charts 1, 2).

Finally, each student's *high score in electronic media use* was used as a conservative measure to compute and compare the mean scores of each group. Using this conservative measure accounting for possible multi-tasking, T-tests for equality of means were performed to test the null hypothesis that there is no difference between high achievers (SS) and regular students (RBCS) in *electronic media use* on a school day and on a Saturday or Sunday. Again, for both school days and weekend days, a statistically significant difference was found, showing regular students to report greater *electronic media use* than high achievers for a school day ($t_{154} = -2.61, p < .05$) and Saturday or Sunday ($t_{154} = -3.26, p < .05$).