

# Role Models, Mentors, and Media Influences

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*Melissa S. Kearney and Phillip B. Levine*

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## Summary

Children from low-income backgrounds are less likely to have economically successful role models and mentors in their own families and neighborhoods, and are more likely to spend time with media. In this article, Melissa Kearney and Phillip Levine review the theoretical and empirical evidence on how these external forces can influence children's development. The authors also document income-based differences in exposure to social influences. They show that well-designed programs involving role models, mentors, and the media can be deployed deliberately, effectively, and often inexpensively to improve children's social and economic outcomes.

After highlighting the theoretical reasons why role models, mentors, and the media could alter a child's life trajectory, the authors report a descriptive analysis showing differences over time and across income class in exposure to these influences. They show that compared to children four decades ago, today's children spend much more time in school and with media, and less time with parents, peers, and other adults. They also show that young children with low socioeconomic status (SES) spend considerably more time exposed to media and considerably less time in school, as compared to higher-SES children, and encounter very different role models in their neighborhoods.

Kearney and Levine focus on large-scale analyses that credibly claim that a specific intervention had a causal impact on children's outcomes. The beneficial impact of role models is evident in teachers' ability to positively influence the educational performance and career decisions of students who share the teacher's gender or race. Children who participate in formal mentoring programs see improvements in their school performance and are more likely to avoid the criminal justice system. Exposure to specific media content with positive messaging can lead to improved social outcomes. The authors conclude that interventions designed to improve the social influences encountered by children can make an important contribution toward the goal of increasing rates of upward mobility for children in low-income homes in the United States.

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Children and young adults spend a great deal of time away from their parents and family members. During that time, they're engaging with others, including potential role models and mentors. They also spend a great deal of time being exposed to media influences. These external factors can shape their attitudes and behaviors in profound and lasting ways. Furthermore, data indicate that children from low-income backgrounds are less likely to have economically successful role models and mentors in their own families and neighborhoods, and are more likely to spend time with media. For all these reasons, the social learning that occurs through role models, mentors, and media may contribute to the widely diverging outcomes of children from low and high socioeconomic backgrounds. But these same social forces can be deliberately, effectively, and often inexpensively deployed to improve children's social and economic outcomes and to foster upward mobility for children from economically disadvantaged backgrounds.

This article is both a call to action and a call for optimism. If role model, mentor, and media influences are left unchecked, they can exacerbate the differences that stem from socioeconomic status (SES). But well-designed programs can enhance children's social and economic outcomes at a relatively low cost. Here we review evidence that role models, mentors, and media (mainly television) can be forces for good to help advance outcomes for children. Recent evidence, mainly from scalable interventions in the United States, shows how these factors contribute to young people's economic and social outcomes. We highlight some ways these factors could be used to improve outcomes for children from low-SES backgrounds.<sup>1</sup>

## Theoretical Foundation

Today's focus on monitoring children's activities and determining what types of people, activities, and experiences they're exposed to reflects a perspective on child development that emerged only in the past half century. Before the 1960s, psychologists and child experts commonly believed that children's innate characteristics determined their life outcomes—in other words, internal forces were the primary determinants of success. But in the 1960s, child experts and psychologists began to emphasize the role played by other people and environmental stimuli in shaping children, observing that children's behavior depends on their surroundings, not just their innate needs, drives, and impulses. That change in perspective led to the development of early childhood interventions, including the introduction of Head Start in 1965 and the children's educational television program *Sesame Street* in 1969.

In his seminal 1961 work *Intelligence and Experience*, the educational psychologist Joseph McVicker Hunt wrote that children's environments may help determine their intellectual development, especially during their early years. He lamented and contradicted the “counsel from experts on child-rearing during the third and much of the fourth decades of the twentieth century to let children be while they grow and to avoid excessive stimulation.”<sup>2</sup> Around the same time, psychologist Albert Bandura rejected the view held by some theorists that the major determinants of human behavior are internal needs, drives, and impulses. He advanced a social learning theory that explains human behavior in terms of continuous reciprocal interaction between cognitive, behavioral, and environmental

influences. Bandura provided empirical support for the social learning framework through small-scale experiments in which researchers monitored individuals' reactions to a specific stimuli or experience. In his "Bobo the Clown" experiments, for instance, Bandura observed that the way children interacted with a clown doll depended on the examples they'd been shown of such interactions.<sup>3</sup>

This general social learning framework lies behind our focus on the impact of role models, mentors, and the media. Below, we consider the theoretical foundations for each of these influences separately.

### Role Model and Mentor Effects

We loosely define a *role model* as a person who sets an example for another individual to imitate. Role models can be important people in someone's life or peripheral ones, and can include parents, relatives, non-related adults, and peers. The role model can also be someone the individual doesn't know personally but has encountered through the media or in some other way.

We loosely define a *mentor* as a person who acts as an adviser, a trusted counselor, or a guide of some sort, potentially but not necessarily in an explicit or official capacity. A role model could also be a person's mentor, and vice versa. But we make a distinction between the two that's useful for characterizing the relevant theoretical and empirical evidence, as well as for drawing lessons for program design.

In this article we focus on nonparental role models and mentors. Of course, parents play an important role in shaping their children's lives, but that isn't our focus here. Other authors in this issue directly consider the

role of parents: Ariel Kalil and Rebecca Ryan write about parenting practices, and Melanie Wasserman examines family structure.

Role models can be a powerful force for social learning. They can affect the way people view themselves and the world around them, and ultimately affect their decisions about how to conduct their lives. Role models influence the attitudes and behaviors of both children and adults in a variety of ways. The legal scholar Anita L. Allen distinguishes three potential attributes of a role model: "(1) an *ethical template* for the exercise of adult responsibilities; (2) a *symbol* of special achievement; and (3) a *nurturer* providing special educational services"<sup>4</sup> Allen was focusing on a role model justification for affirmative action in the hiring of law school professors, but her thoughtful delineation of the general effects of role models extends beyond that context. As an ethical template, a role model demonstrates to others how they're supposed to conduct themselves in a particular role. For example, to exemplify appropriate professional conduct to her students, a teacher should show up for work on time, dress appropriately, treat others with respect, and the like. As a symbol of special achievement, a role model shows younger people that they can accomplish their own goals. In this instance, having a teacher who's of the same race and/or gender as the student helps make that connection stronger. A nurturer has an even closer connection to the student, perhaps becoming more like a mentor.

The economist Kim-Sau Chung makes an economics case for affirmative action, which, like Allen's, is based on role model

effects. He relabels Allen's categories into language more familiar to economists, and explicitly cites "mentoring" as an important function. In Chung's terminology, ethical templates become *moral role models* "who affect other people's preferences, perhaps through conformity effects."<sup>5</sup> Symbols of special achievement become *informational role models* "who provide information about the present value of current decisions."<sup>6</sup> Nurturers become *mentors*, "who represent resources through which human capital can be augmented."<sup>7</sup> Chung emphasizes informational role models in his work, extending the ideas of economist Charles Manski, who put forward a model of younger people learning from older ones based on the presumption that their elders had made optimal choices.<sup>8</sup>

Recent empirical evidence, which we describe below, shows that educational and professional role model effects appear to be especially strong when role models are of the same gender or race as the person being influenced. An important question for future research involves uncovering why some types of programs—whether they're based on role model, mentor, or media influences—work well in general or are more effective for some groups than others.

### Media Influences

We can readily extend or adapt our consideration of the potential effects of role models to media influences. Borrowing economist Eliana La Ferrara's categorization, we see three channels through which the media can affect social and economic behaviors: (1) the provision of information; (2) role modeling and preference change; and (3) time use.<sup>9</sup> La Ferrara speculates that information provision via media exposure might

be especially important in developing countries, where information is diffuse or otherwise scarce.<sup>10</sup> But it's easy to see how the provision of directed information could also benefit children and young adults in the United States, perhaps especially those with less advantaged backgrounds or without the benefit of well-informed parents or other adult relatives. In fact, many entertainment programs have been created precisely with the goal of education.

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One obvious way that entertainment media are used for educational purposes comes in the form of educational children's programming—now ubiquitously available on television and distributed through DVDs, online content, and mobile device apps. Another example comes in the form of educational or pro-social messaging embedded in an entertainment narrative. For example, when Rachel and Ross's unplanned pregnancy was revealed in a 2001 episode of the NBC sitcom *Friends*, the efficacy of condoms was discussed.<sup>11</sup> In a similar vein, the National Campaign to Prevent Teen and Unintended Pregnancy (since renamed and repositioned as Power to Decide) consulted with the WB network to include messaging on its show *7th Heaven* to help teens make thoughtful decisions about sex.<sup>12</sup>

Media exposure doesn't just impart information to viewers—it can also change individual attitudes and preferences. It can do so by either glamorizing or, alternatively, vilifying or mocking an activity; or by associating an activity with an admired or maligned media character. For instance, viewers might know that smoking is bad for their health, but seeing a popular TV character quit smoking might make quitting more desirable. Seeing “cool” characters work hard in school might make being a serious student more acceptable to young viewers. Of course, negative messaging can also come through media exposure. If a popular TV character is seen doing something generally considered antisocial or something frowned upon—like abusing narcotics—that too can sway viewers to endorse or adopt the observed behavior. The economists Stefano DellaVigna and Matthew Gentzkow refer to both the information provision and the preference channel of media as part of a broad category of “persuasion effects.”<sup>13</sup>

A distinct effect stems from the time absorbed by media and, specifically, the activities crowded out by media time. For instance, a teenager's choosing to watch television instead of playing outdoors or studying for school creates a time substitution effect. The effect on young boys of the wildly popular video game *Fortnite* depends partly on what the boys would otherwise be doing with their time. Would they be watching violent movies or roaming the mall with friends and getting into trouble? Or would they be doing chores, or studying?

These external influences affect children's development through channels that are all closely related. But outlining the separate

channels promotes clarity when it comes to thinking about the most effective design of any particular intervention program. For example, in the case of *entertainment education*—where prosocial messages are embedded into popular media content—effects might be coming through the information channel, a role model effect, or some sort of preference change. Scholars in the field of communication have speculated that entertainment education might offer a more effective way to influence attitudes and behavior than traditional persuasive messages, because it may elicit less resistance to the persuasive messages contained in a narrative.<sup>14</sup>

## Documenting Children's Exposure to Various Influences

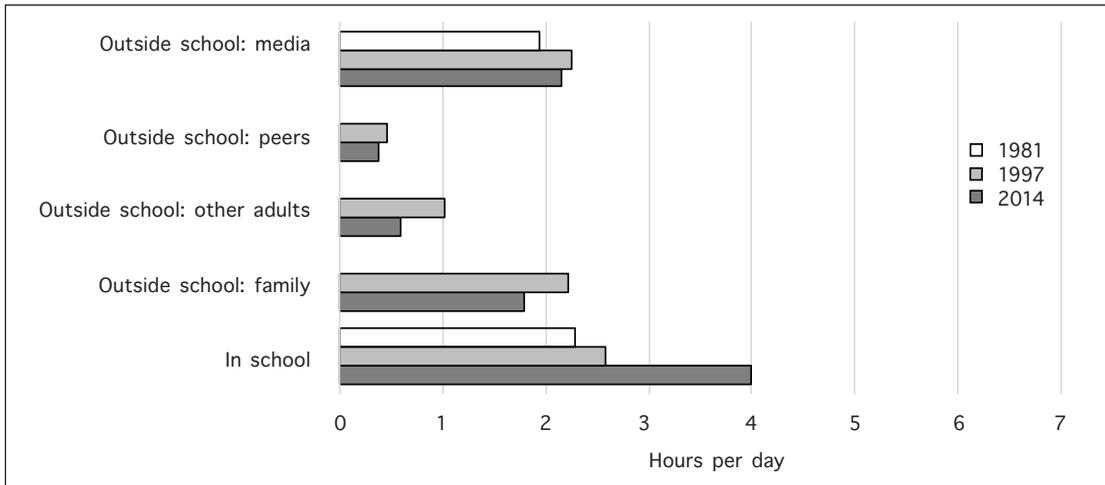
### Data on Time Use

Most children spend a great deal of time in the presence of adults other than their parents who might serve as role models. They also spend a sizable amount of time viewing media content, especially on weekends. Overall, time use data reveal that compared to children four decades ago, today's children spend much more time in school and with media, and less time with parents, peers, and other adults. There are also important differences in time use across children from more or less economically disadvantaged families.

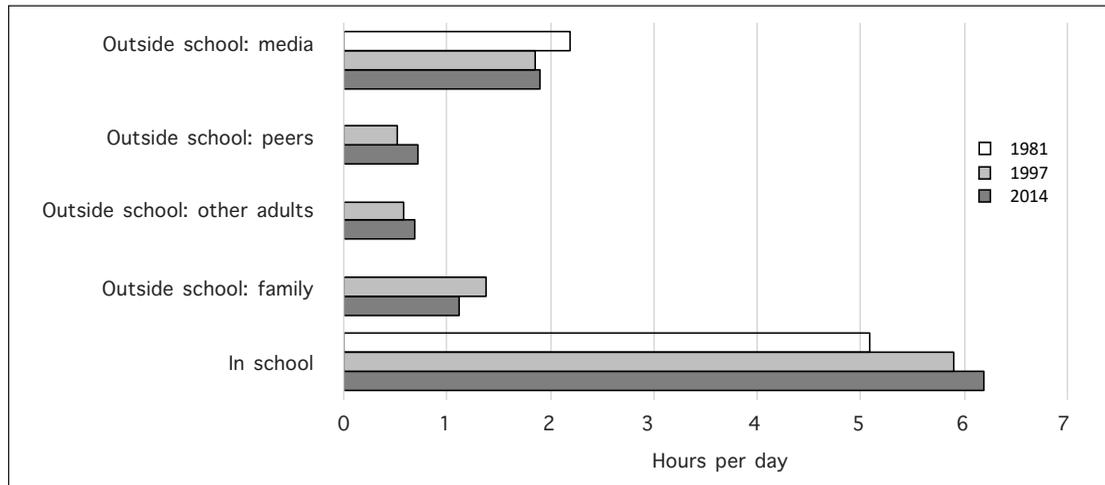
We use data from the Child Development Supplement to the Panel Study of Income Dynamics (PSID-CDS) to tabulate the amount of time that children are potentially exposed to various influences. We categorize reported time spent in various activities according to the external influences to which the children are likely exposed during those activities, designating school and family time

**Figure 1.** Weekday Time Use, by Age over Time

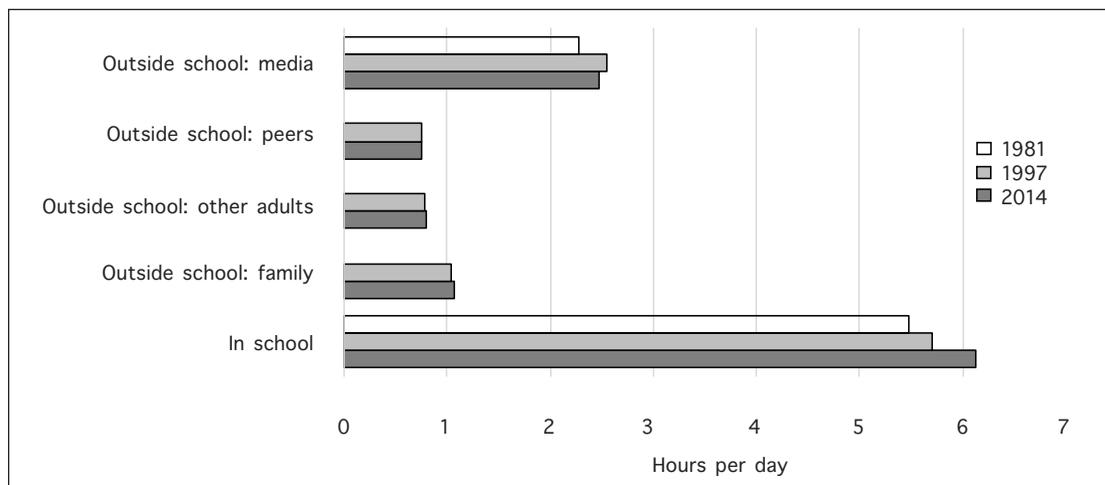
A. Ages 2–5



B. Ages 6-11

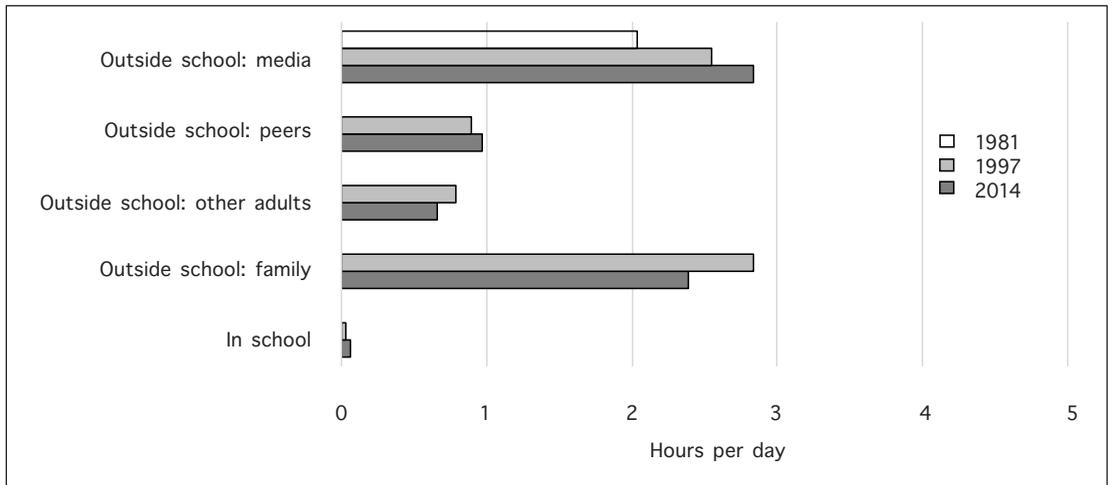


C. Ages 12–17

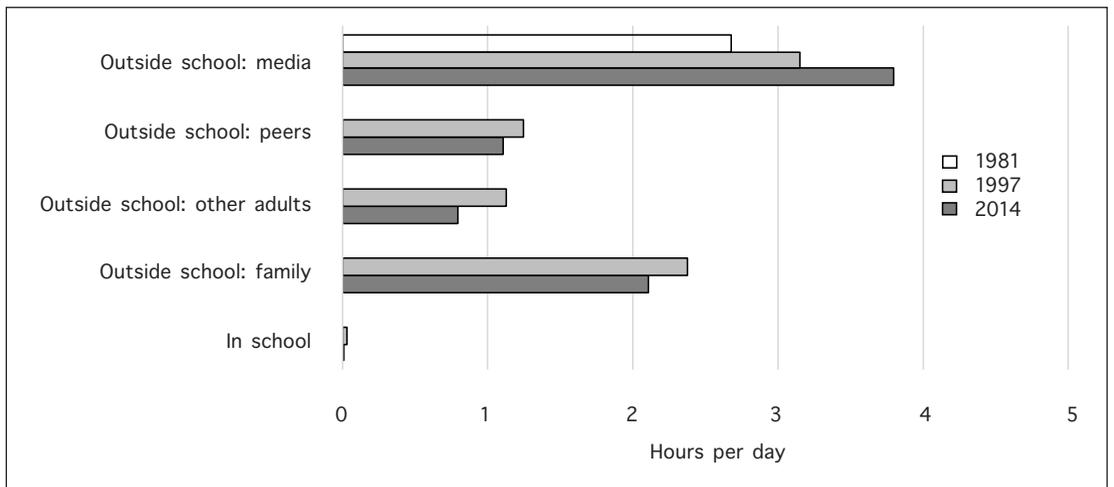


**Figure 2.** Weekend Time Use, by Age

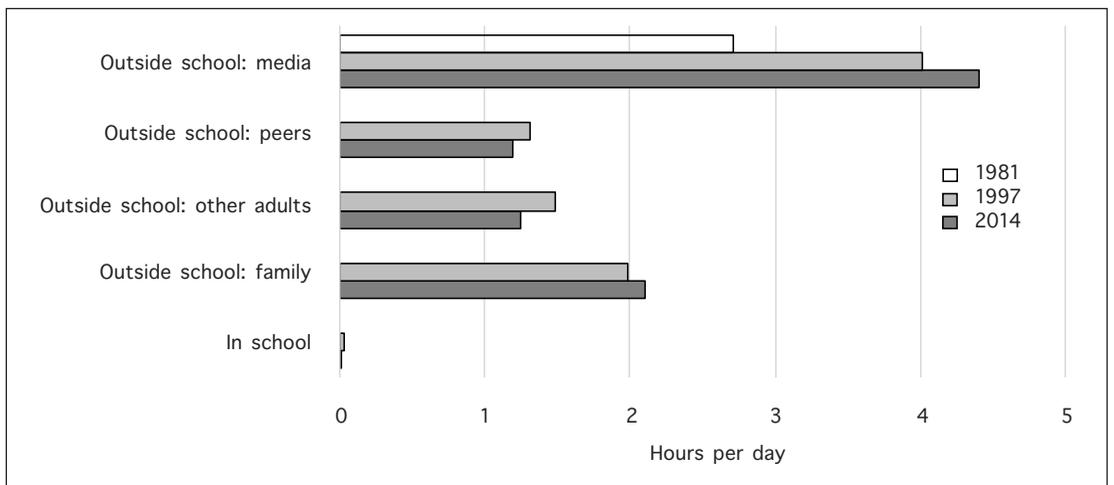
A. Ages 2–5



B. Ages 6–11



C. Ages 12-17



as separate categories. Our categories include time spent:

1. in school,
2. with family,
3. with other adults,
4. with peers, and
5. with media.<sup>15</sup>

Overlap can exist among categories, and double-counting is allowed—for example, sports are counted as time spent with other adults and with peers.<sup>16</sup>

The PSID-CDS was first implemented in 1997, when time use diaries were collected for children between birth and age 12. Those children were followed and re-interviewed in 2002–03, and again in 2007–08. For data on children between the ages of 13 and 17, we rely on the 2002–03 wave, although we refer to these data as coming from the 1997 PSID-CDS for expositional expediency. We compare patterns in these data to new PSID-CDS time use data collected in 2014 for a different sample of children under age 18. We distinguish time use for children ages two to five (preschool age), six to 11 (elementary school age), and 12 to 17 (middle and high school age). We also compare patterns in these two datasets to earlier data on children's time use in 1981–82, obtained from an independent survey of almost 1,000 children. These data contain relevant information on time spent in school and exposed to media, which we can compare to the more recent PSID-CDS data.<sup>17</sup>

Figures 1 and 2 depict children's time spent in different exposure categories in 1981–82 (for the relevant categories), 1997, and 2014. Figure 1 reports data from weekdays,

figure 2 from weekends. The amount of time children spend in school has risen over the years, particularly among preschool children. Between 1981–82 and 2014, the length of time spent in preschool has almost doubled, jumping from a little over two hours per weekday to four hours. This is consistent with the rise of full-day preschool programs during this period.<sup>18</sup> As a result, young children now spend less time with parents or other adults besides teachers. Thus the potential influence of preschool teachers as role models and mentors has been increasing.

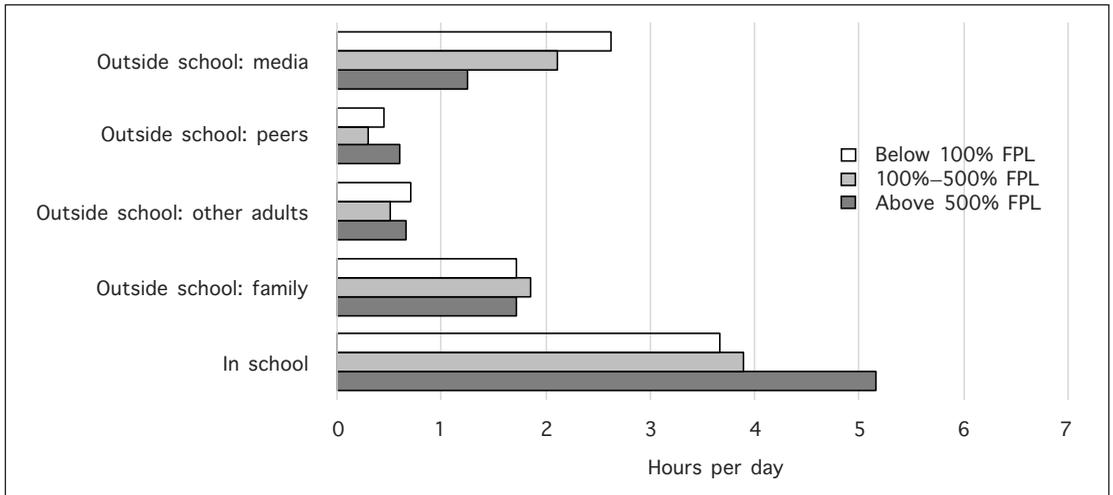
We also see a large shift toward children spending much more weekend time with media, though weekday media exposure hasn't changed much. Weekend media exposure has jumped by 62 percent among children ages 12 to 17, and by roughly 40 percent among younger children. The data show a corresponding drop in time spent with family, other adults, and peers.

Important differences in children's time use are apparent across SES groups. Figure 3 reports weekday time use by socioeconomic status using the 2014 PSID data. We define three SES groups: low-SES, with a family income below the official 2014 poverty line for a family of three; mid-SES, with a family income between the poverty line and five times higher; and high-SES, with a family income more than five times the poverty line. Differences in time use are fairly modest among older children on both weekdays and weekends, but dramatic SES differences appear among younger children.

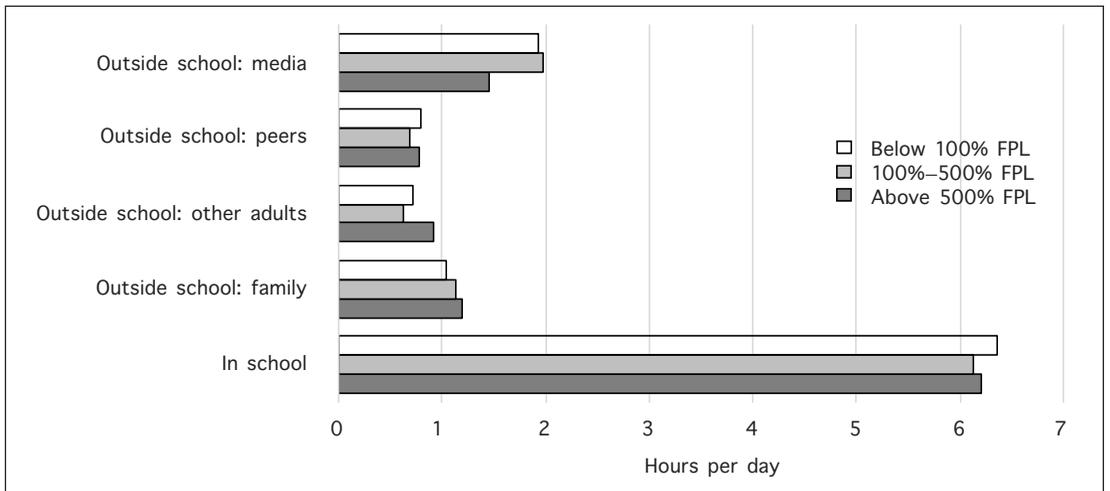
Young low-SES children spent considerably more time exposed to media and considerably less time in school, as compared to higher-SES children. In fact, low-SES children between the ages of two and five spend more

**Figure 3.** Weekday Time Use in 2014, by Age and Family Income

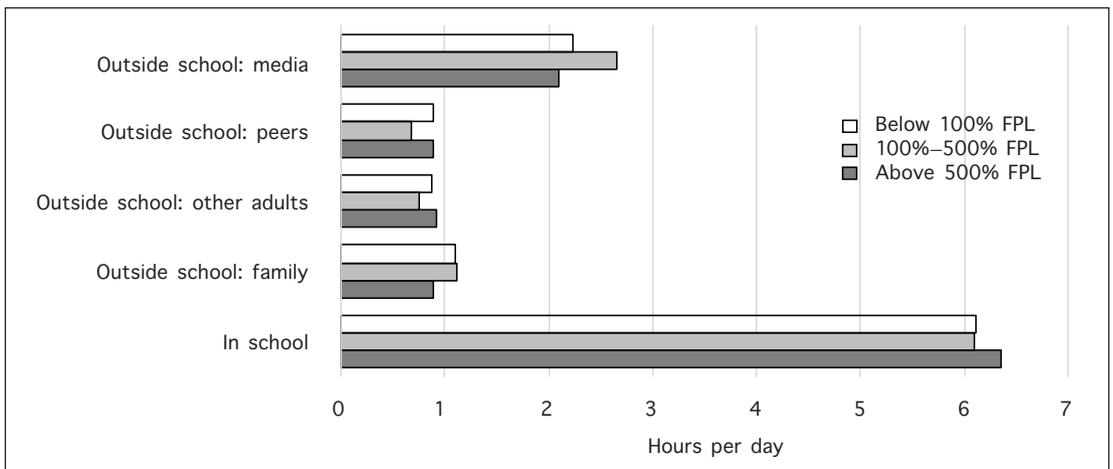
A. Ages 2–5



B. Ages 6–11



C. Ages 12–17



than twice as much time exposed to media as do high-SES children: 2.6 hours per day versus 1.2 hours per day. They also spend much less time in school: 3.7 hours per day versus 5.2 hours. The differences are smaller in weekend time use (not shown in the figure, due to space constraints). Other researchers have found especially large summer time-use gaps across SES groups, most notably in children's television viewing.<sup>19</sup>

### Data on Neighborhood Characteristics

The people children encounter in their daily existence are potential role models and mentors. As we noted above, parents and other relatives are children's primary influences, and other articles in this issue discuss how family structure and parenting shape children's outcomes. We consider instead the types of people who live around children, with an emphasis on SES differences in exposure to different types of adults.

For this exercise, we approximate neighborhoods using publicly available data at the census tract level from the 2011–15 American Community Survey (ACS), accessed through the IPUMS National Historical Geographic Information System (NHGIS).<sup>20</sup> In 2010 there were 73,000 census tracts, representing an average of around 4,200 people per tract. We construct measures of the local environment faced by the “typical” child in an income class by taking the population-weighted average of different census tract characteristics across the country within each income category. We define low-income children as those whose family income is below the federal poverty line, and high-income children as those whose family incomes are at least five times the federal poverty line.

In table 1 we see notable differences in potential neighborhood role models for children of different SES backgrounds. A typical low-income child lives in a neighborhood where 18.5 percent of adults dropped out of high school—far exceeding the national average of 11.7 percent and more than three times the 5.6 percent in high-income neighborhoods. Almost twice as many adult males are out of the labor force in the census tracts where low-income children live, compared to high-income children's neighborhoods (15.5 versus 8.1 percent). We see similar patterns in family formation and welfare. The rate of exposure to households headed by unmarried parents is twice as great among low-income children as among high-income children. Receiving SNAP benefits (the Supplemental Nutrition Assistance Program, formerly known as food stamps) is three times more common in the neighborhoods where low-income children live. If children are drawing lessons from the adults around them about how they might reasonably expect to live their lives, these differences between children in low- and high-income families might perpetuate income and class gaps and impede social mobility.

Economist Raj Chetty and colleagues, exploring data from the Equality of Opportunity project, have found striking empirical correlations that make it clear that neighborhoods matter for children's outcomes. In fact, one of their analyses shows that the “cultural” features of a place—such as the share of households headed by one parent, the divorce rate, the crime rate, and so on—are highly negatively correlated with rates of upward mobility.<sup>21</sup>

A recent study from the same data lab at Harvard University documents wide

**Table 1.** Local Environmental Conditions for Rich and Poor Children Compared to the National Average

Measure of Socioeconomic Environment	Low-Income Children	National Average	High-Income Children
<b>Educational Attainment</b>			
% high school dropout	18.5	11.7	5.6
% non-college grad	79.4	66.9	49.8
<b>Employment and Income</b>			
% of households < \$25,000	32.4	22.9	13.7
% non-employed (male)	23.6	19.1	12.7
% out of labor force (male)	15.5	12.9	8.1
<b>Marriage and Fertility</b>			
% of births to unmarried mothers	41.9	35.6	18.2
% of births to teen mothers	6.2	4.9	2.2
% of households headed by unmarried parents	38.2	26.9	19.2
<b>Welfare Receipt</b>			
% receiving SNAP	23.5	13.7	7.0
% receiving public assistance	4.5	2.7	1.7

Source: American Community Survey Five-Year Sample (2011-2015), as obtained from the NHGIS. Low-income children are defined as those living in families below 100 percent of the federal poverty line (FPL); high-income children are those in families above 500 percent of the FPL.

disparities between white and black boys in rates of upward mobility.<sup>22</sup> Its analyses further show that the neighborhood characteristics associated with better outcomes for black boys are also associated with larger intergenerational gaps relative to whites. For example, the share of college graduates in a neighborhood is a positive predictor of upward mobility rates for blacks, but it's also a positive predictor of black-white gaps—so while the share of college graduates in a neighborhood is good for black boys' upward trajectory, it's even better for white boys' upward trajectory.

There are a few exceptions to this pattern, most notably the role played by the presence of fathers in a neighborhood. The fraction of low-income fathers (not just men, but fathers specifically) present in a neighborhood is associated with both higher levels of adult income for black boys and smaller black-

white gaps. The study confirms that the presence of black fathers, not just black men overall, is especially conducive to successful outcomes for black boys, both in an absolute sense and relative to their white peers. The authors observe that the few areas in which black-white gaps in mobility are relatively small tend to be low-poverty neighborhoods with low levels of racial bias and high rates of black father presence. As the authors note, black males who move to such neighborhoods earlier in childhood earn more as adults and are less likely to be incarcerated, but fewer than 5 percent of black children grow up in such environments. This finding is consistent with the view that having black fathers around—not just one's own father, but other fathers in the neighborhood—exerts a powerful, positive role model and mentoring influence on black boys.

## Empirical Evidence on Role Model Effects for Youth

Research shows that role models with whom youth identify—often adults of the same gender or race—can have an important positive influence on children’s lives. Scholars have extensively researched the impact of role models on youth, particularly the effect of having a classroom teacher of the same gender or race. One problem for this research is that students often aren’t randomly assigned to classes. Researchers need a way to isolate the causal effect of a teacher of the same gender—a presumed role model effect—from the impact coming from the fact that students, parents, or educators might selectively match with teachers. For instance, better students may be assigned to better teachers. One research method takes advantage of the fact that the faculty teaching a particular course can vary from year to year depending on the vagaries of sabbaticals, parental leaves, and so on, in ways that are unrelated to student choices. Economists have used the composition of the faculty teaching a particular class in a particular semester to predict the likelihood that a student is exposed to a teacher of the same gender or race. These researchers then observe whether students’ educational outcomes change as a result of this essentially randomly determined exposure to a teacher of the same race or same gender.

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*Female college students are more likely to pursue a STEM major if they have a female teacher in a STEM class.*

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Another empirical approach that economists use to study the impact of teacher role models is the implementation of a randomized

controlled trial (RCT) field experiment that randomly assigns a set of students to a same-gender or same-race teacher. If these students perform better in some dimension than control-group students who weren’t randomly assigned in this way, then the differences can be interpreted as having been caused by the gender or race match. All the research we review here uses one of these two approaches.

A number of studies find that female college students are more likely to pursue a major in science, technology, engineering, or math (STEM) if they have a female teacher in a STEM class, an association that’s interpreted as a positive role model effect. One study, using the faculty composition strategy described above, finds that across many STEM fields, women are likely to take more courses in those subjects if they’re assigned to a female professor.<sup>23</sup> Another study draws on the random assignment of students to courses at the US Air Force Academy and finds that female cadets perform better in science and math classes when they have a female professor.<sup>24</sup>

Two related studies examine the impact that being assigned a female role model/mentor has on women’s choice of STEM majors. In one, social psychologists Tara C. Dennehy and Nilanjana Dasgupta assess the impact of assigning a peer mentor to women enrolling at a large public university and planning to major in engineering.<sup>25</sup> They find that students assigned a female mentor were more likely to persist in the major than those assigned a male mentor, and more likely to continue to aspire to a post-college career in engineering. In the other study, economist Thomas Breda and coauthors report the results of an RCT involving 12th-grade girls enrolled in French high schools. In the

randomly assigned treatment group, a female scientist came to the classroom and gave a one-hour presentation on science-related careers and the underrepresentation of women in those careers; girls in the control group didn't receive this presentation.<sup>26</sup> That small intervention led to a 20 percent increase in the probability that a female student would enroll in a male-dominated STEM track in college.

A number of studies have shown that same-race teachers have a positive effect. One such study, by a team of academic economists, examines dropout rates and grade performance among students enrolled at a community college.<sup>27</sup> The study relies on the fact that some students have a low priority in the registration process and may not be able to choose which section of a course to enroll in. This process generates quasi-random variation in the race of the professor an individual student happens to get; it simply depends on which section is available. The researchers find that when underrepresented minority students end up in classes with underrepresented minority faculty, their performance relative to white students improves.

In two other studies, education economists used data from the 1980s Student Teacher Achievement Ratio (STAR) experiment in Tennessee to study the effects of having a teacher of the same or a different race.<sup>28</sup> The STAR experiment was designed to randomly assign students to classes of different sizes, but it also randomly assigned students to white or minority teachers—a fact that these studies capitalize on. One of the studies finds that both white and black students performed better on tests when their teachers were the same race as themselves. The second study uses the same approach but looks at longer-

term outcomes. It finds that black students assigned to a black teacher in elementary school were more likely to graduate from high school and enroll in college than were those assigned to a white teacher.

Role model effects from teachers to students are just one channel by which black teachers might benefit black students. Some evidence from elementary schools suggests that black teachers have higher expectations for black students than do white teachers.<sup>29</sup>

Studies have also documented the effects of same-gender and same-race role models in the workplace. For example, two economists in the US military evaluated the impact of same-gender or same-race role models on occupational choice by taking advantage of the random assignment of US military officers to serve as role models to cadets.<sup>30</sup> They found that female and racial-minority cadets who were assigned a female or racial-minority role model, respectively, were more likely to choose the role model's area of specialization.

Researchers have also examined whether seeing women in positions of leadership has an aspirational effect for girls. For example, economist Lori Beaman and coauthors made use of 1993 legal changes in India that required randomly selected villages to reserve a number of leadership positions for women.<sup>31</sup> About 15 years later, the researchers surveyed thousands of adolescent children and their parents; some of the children had grown up in the selected villages and some had not. They found that girls' aspirations and educational attainment increased in the villages that had more female leadership.

The evidence we've reviewed comes from a variety of settings and from different periods

in children's lives, and it considers a range of outcomes. Yet it all points to the conclusion that positive role models have a meaningful, beneficial impact on a child's life trajectory.

## Empirical Evidence on Mentoring Programs for Youth

Statistics show that many children don't have a supportive relationship with any adult beyond their parents. According to data reported by Mary Bruce and John Bridgeland, nine million at-risk youth have never had an adult mentor of any kind in their lives.<sup>32</sup>

As mentoring services have developed over time, several large-scale evaluations have assessed how to alter the life trajectories of children from lower-SES backgrounds. To keep this overview manageable, we focus here on evidence from the United States, though there are many examples of role model studies elsewhere. One of us (Levine) reviewed research from the US context through 2013 in a report for the Brookings Institution's Hamilton Project.<sup>33</sup> Here we highlight some of that earlier evidence and augment it with a few important and more recent evaluations. Overall, the evidence suggests that mentoring services can play an important role in a child's development.

Levine identifies five programs that use mentoring as their primary intervention, aim to improve the economic outcomes of mentees, measure educational outcomes (necessary to gauge the subsequent impact on economic wellbeing), and have been evaluated via RCTs.<sup>34</sup> Some programs were community-based and others school-based. School-based interventions focus on academic support, while community-based interventions address broader life issues beyond academics, with adult mentors who

meet with their mentee outside of school hours and beyond the school year. Other interventions are comprehensive in nature, offering extensive mentoring services but also providing additional features like financial incentives, community service requirements, supplemental education, and the like.

Community-based mentoring appears to be the most effective.<sup>35</sup> The evaluation of the Big Brothers Big Sisters community-based mentoring program, for example, indicates that the program has substantial benefits for youth.<sup>36</sup> This is perhaps the prototypical mentoring program. It targets children between the ages of 10 and 14 most of whom are economically disadvantaged and almost all of whom live in single-parent households. In the evaluation, mentors spent a few hours per week with their mentees over the course of a year. Even though the mentors focused their interactions on life skills rather than academic skills, the children reaped educational benefits that included reduced absenteeism, greater confidence in their academic ability, and, on average, a 0.08 increase in their grade point average (on a four-point scale). After translating that GPA increase into an impact on adult wages, Levine estimates a \$7,500 increase in lifetime earnings relative to a program cost of about \$1,600 (in 2013 dollars), a benefit-cost of ratio of almost 5:1.<sup>37</sup>

The My Life program is among the more recently introduced mentoring interventions that have been rigorously evaluated. It addresses the needs of children aging out of the foster care system, typically at ages 16 to 19.<sup>38</sup> These young people have historically experienced substantial negative outcomes, including extensive interaction with the criminal justice system. My Life combined one-on-one mentoring services

with group mentoring workshops. It focused on improving “self-determination,” enabling young people to take action and make better decisions to control their lives. During a year of hourlong weekly meetings, mentors introduced role-playing, rehearsing, practicing, and other strategies to help mentees accomplish such practical goals as dealing with others and interacting with bureaucracy. Group mentoring focused on broader topics, like getting a job.

The longer-term effects of the intervention were impressive, particularly for men. Two years after the intervention, when participants were 19–20 years old, 29.3 percent of control group members had experienced some involvement with the criminal justice system, compared to 6.6 percent of the treatment group. Despite the intervention’s relatively small sample size (72 men), this difference is large enough to be statistically significant.

Recent studies show that comprehensive mentoring services can have sizable positive effects on educational attainment. In one study, academic researchers evaluated Pathways to Education, a comprehensive program targeting very disadvantaged students in a Toronto housing project.<sup>39</sup> The program offered high school freshmen extensive tutoring, mentoring, other adult advisers, and small-scale financial support, and it required a commitment from students and their parents. The evaluation wasn’t an RCT; rather, it compared program participants with students living in other, comparable housing projects. The researchers found that students who participated in Pathways were 35 percent more likely to complete high school and 60 percent more likely to enroll in college.

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*We see compelling evidence that well-designed mentoring programs can meaningfully improve outcomes for some disadvantaged youth.*

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Another encouraging study was recently completed by a team of economists (including one of us, Kearney) associated with the Lab for Economic Opportunities at the University of Notre Dame. We used an RCT to examine Stay the Course, a comprehensive case management program designed to help low-income students in Texas persist in community college. The intervention included coaching, mentoring, and referral services, along with emergency financial assistance.<sup>40</sup> We found that degree completion rates tripled among women, though we detected no significant effect for male students. Economists Scott Carrell and Bruce Sacerdote found a similar gender difference when they examined the impact of another mentoring program geared toward college completion, this one in New Hampshire.<sup>41</sup> The intervention targeted high school students identified by their guidance counselors as being on the margin of applying to college; it focused on offering assistance with the college application process. Using experimental methods, the researchers found that girls who received the treatment were 15 percentage points more likely to attend college as a result of the intervention. The authors conclude that “the mentoring treatment is largely acting as a substitute for the potentially scarce resource of parental help or skill.”

In summary, we see compelling evidence that well-designed mentoring programs can

meaningfully improve outcomes for some disadvantaged youth. However, we need to know more about when and why some programs work better than others, or work better for some groups than for others. Role models and mentors potentially do a number of things—they affect attitudes and beliefs (either by example or through explicit messaging), they encourage and nurture (perhaps through coaching, positive messaging, or even explicit advocacy), and they impart information. We still lack clear evidence about which of these factors is especially effective, either in general or in particular contexts or for particular groups.

### **Empirical Evidence on Media Influences on Youth**

Much recent evidence, provided by rigorous empirical studies across a diverse set of contexts and outcomes, shows that exposure to specific media content can have sizable positive effects on social and educational attitudes, behaviors, and outcomes. It's an encouraging finding, in contrast to the longstanding presumption that television exposure is likely harmful for children. Granted, sustained exposure to pernicious images on television might very well be harmful, though we know of no rigorous causal evidence. But a number of notable studies show that television can have beneficial effects—both intentional and unintentional.

We focus here on causal evidence, largely from the United States, on the effects of specific media exposure on children and young adults.<sup>42</sup> Our review in this section is nowhere near exhaustive. We refer interested readers to work by economists Stefano DellaVigna and Eliana La Ferrara, whose more comprehensive reviews include a

broader set of outcomes, including political outcomes, and many studies conducted in developing countries.<sup>43</sup> We also acknowledge that our review of relevant evidence is almost entirely about television. No causal evidence has yet emerged about the impacts of exposure to social media personalities or social media more generally.

Adults have long worried that television is inherently counterproductive to child development. But rigorous causal evidence suggests otherwise. In a seminal paper on the topic, economists Matthew Gentzkow and Jesse Shapiro exploited the idiosyncratic timing of television broadcasting's arrival across US metropolitan areas, which was driven by government licensing procedures, to study how exposure to television during early childhood affects later educational outcomes.<sup>44</sup> Using data from the 1965 Coleman Study, which include standardized test scores for over 300,000 students in grades six, nine and 12, the authors found no evidence that exposure to television during early childhood meaningfully reduced test scores. Their findings present a powerful refutation of the commonly held view that exposure to television at early ages is detrimental to educational development. They also found that, among minority and immigrant children, exposure to television led to an improvement in educational test scores in English subject matter. This could be explained by the fact that for some groups of children, television increases exposure to the English language.

The revolutionary children's television program *Sesame Street* was created in the 1960s with an explicit educational purpose. Its creators recognized television's potential to reach millions of children with lessons in numeracy, literacy, and cultural awareness. The program's launch, in 1969,

was accompanied by a well-designed quasi-experimental study of its efficacy; the study confirmed that children exposed to the show saw relative improvements in measures of literacy and numeracy.<sup>45</sup> *Sesame Street's* mission has since expanded to include lessons in life skills, such as healthy habits, self-expression, self-regulation, empathy, and friendship.

Observational studies have found correlations implying that children who watch *Sesame Street* have better educational outcomes and test scores than children who don't.<sup>46</sup> But those types of comparisons are plagued by the problem that correlation isn't causation. For instance, more motivated parents may encourage their children to watch programs with an educational component, and those children might have received higher test scores anyway—making it difficult to conclude that the show is in fact what improves outcomes for children. That is, the types of children who watch an educational show and the types of parents who put educational television on for their children might simply be more interested in learning.

In a recent research project, we documented that children who were in their preschool years when *Sesame Street* first aired on television in 1969, and were exposed to the show, did indeed perform better when they entered school.<sup>47</sup> To isolate the show's causal effect, we conducted an empirical analysis that exploits geographic variation in broadcast reception. We then used 1980, 1990, and 2000 US Census data to relate variation in preschool-age exposure to *Sesame Street* to later grade-for-age status, educational attainment, and labor market outcomes. The results indicate that *Sesame Street* improved school performance, particularly for boys, and might have had

positive longer-term effects on educational and labor market outcomes.

*Sesame Street* was designed to educate, but even media purely meant to entertain can impart messages—either positive or negative—that lead to changes in educational and social behaviors and outcomes. A few studies from outside the United States are especially relevant on this point. One set of studies examines the impact of introducing *novelas*, or soap operas, in Brazil, and demonstrates the impact that media portrayals can have on social outcomes. Economists Eliana La Ferrara, Alberto Chong, and Suzanne Duryea capitalized on the staggered introduction of *novelas* (commercially produced by Rede Globo) in Brazilian municipalities.<sup>48</sup> They document that the broadcast introduction of *novelas* into a community led to a reduction in fertility, with the largest effects being among poorer and less educated women. The authors attribute this effect to the fact that the *novelas* portrayed families that were much smaller than the typical Brazilian family at the time. The authors hypothesize that the small families portrayed served as role models and led to a reduced demand for children among young female viewers. Using the same methodological approach, La Ferrara and a coauthor show that exposure to the *novelas* also led to higher rates of divorce and separation.<sup>49</sup>

Economists Robert Jensen and Emily Oster employed a similar empirical strategy to examine the social effects of the staggered introduction of cable television across villages in India from 2001 to 2003.<sup>50</sup> They found that exposure to cable programming led to more progressive social views, including increased decision-making

among women and a lower tolerance for domestic violence. A number of examples from developing countries document positive effects from television and radio programs that were explicitly designed with progressive messages and information about healthy behaviors. For example, research has shown that exposure to a soap opera in Tanzania that conveyed messages about HIV prevention, family planning, and gender equity led to more responsible sexual behaviors.<sup>51</sup>

In a somewhat surprising example of how media content developed purely for entertainment can have positive social effects, our own research finds that MTV's reality show *16 and Pregnant* led to a sizable decrease in teen childbearing rates.<sup>52</sup> The show followed the lives of teenagers during their final months of pregnancy and early months of motherhood. To investigate whether exposure to the show led to a change in teen childbearing rates, we started with data from the US Vital Statistics system, which records virtually all births in the country, including their location. We organized these births by geographically defined television markets and linked them to Nielson television ratings data. We found that after MTV began airing *16 and Pregnant* in 2009, places with higher MTV viewership rates experienced larger relative declines in teen childbearing. Our analysis implies that the introduction of *16 and Pregnant* produced a 4.3 percent reduction in teen births in the 18 months following its initial airing. An examination of data from Google Trends and Twitter provides corroborating evidence that the show led to an increased interest in birth control among viewers; we find that when episodes were aired, there was an increase in Google

search and Twitter activity using the words “birth control.”

The impact of this MTV program on teen childbearing behavior and outcomes doesn't reflect a role model effect. Teenagers didn't emulate the behavior they observed among the teens on the show; instead, they took steps to avoid sharing their fate. This is most likely an information effect, through which the show's depictions of teen parenting—which featured frequent arguments with boyfriends and parents, being left out of partying with former friends, weight gains and health complications, and the sleep deprivation and constant work involved in tending to a newborn—relayed useful information to teens about how costly a pregnancy and birth would be.

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*Teenagers exposed to [16 and Pregnant] responded by changing their behavior and ultimately reducing their rate of childbearing.*

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Through this show, it seems that MTV created a compelling entertainment feature: ratings were extremely high. Teenagers exposed to the show—either through direct viewership, conversations with peers, or changed peer group norms—might otherwise have been cavalier about having sex and using contraceptives. But they responded by changing their behavior and ultimately reducing their rate of childbearing.<sup>53</sup>

An as-yet-unpublished 2018 study by an economics PhD student directly considers

the effect that a media role model can have on students' educational aspirations and achievement.<sup>54</sup> The paper presents the results of an RCT in Uganda designed to test the effect of exposure to an aspirational movie on student achievement. A subset of students preparing to take their national exams were randomly assigned to view the movie *Queen of Katwe*, which features a poor girl who, through grit and determination, becomes a national chess champion; other students were shown a placebo movie. Students who viewed the aspirational movie were substantially less likely to fail their math exam, with the strongest effects among female and lower-ability students. Though the study design couldn't distinguish between informational and role model effects, the results are consistent with the notion that a movie depicting the aspirational true story of a girl who rises above her poor background can positively affect student motivation and outcomes. This study is intriguing from a policy perspective because the cost of the intervention was only \$5 per student—to cover the movie screening and transportation to the theater. Thus it's much more scalable than other, more intensive educational interventions that aim to increase student test scores and performance.

Taken as a whole, these studies provide powerful evidence that targeted media messages can promote positive youth development. People who design media programs and those who become media influencers can therefore be quite powerful. As with many things, whether that power is ultimately good or bad for children and society depends on how it's wielded. If we assume that the goal is to promote positive outcomes for young

people, the evidence appears to offer a few general lessons. First, a program will have a greater effect if it contains more informational content. Second, the impact of a role model, or of aspirational content depicting college completion, will be larger for young people who don't regularly encounter college students or college graduates in their own lives. For this reason, entertainment programs that are either explicitly designed to inform or inspire, or that include embedded narratives that might inform or inspire, will likely be most effective for youth who wouldn't otherwise receive that information or those messages from their families or peers.

## Conclusions

There's no single way to increase the rate of upward mobility for children in low-income homes in the United States. To do so will require wide-ranging changes and interventions that address a host of challenges, many of which are discussed elsewhere in this issue. But the evidence we've presented here leads us to conclude that role models, mentors, and media influences can be deployed effectively to improve children's economic and social outcomes.

Based on our review of the relevant facts and research, we conclude that interventions designed to improve children's social influences can make important contributions. Mentors who help guide youth productively through the path of life can have a meaningful impact. Role models with whom children identify can advance children's aspirations and open doors for them. Using the media to promote positive messages can influence children's thinking and improve decision-making. From a fiscal perspective, none of these

interventions is particularly costly. From a policy perspective, none of them requires legislation or federal intervention. They should thus be recognized as cost-effective and readily implementable ways to improve

outcomes for children—including academic achievement, labor market success, and positive health behaviors—and especially for children from economically disadvantaged backgrounds.

## Endnotes

1. To keep our article manageable, we've generally limited our review to evidence obtained from scalable, real-world interventions, and we focus mostly on empirical evidence produced by economists. This approach is in contrast to the one we took in a recent collaboration with social psychologists, where we deliberately highlighted complementary research from economics and social and development psychology that leads to a unified framework for examining how low-income children in the United States form expectations for their own economic success and make decisions accordingly. See Alexander S. Browman et al., "How Economic Inequality Shapes Mobility Expectations and Behaviour in Disadvantaged Youth," *Nature Human Behaviour* 3 (2019): 214–20, <https://doi.org/10.1038/s41562-018-0523-0>.
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