# The Alliance for Choice in Education

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## 1. Executive Summary

For many lower-income Americans, the ultimate goal of acquiring education is becoming socially mobile. For the past five years, ACE has demonstrated that low-income students receiving their scholarships have a far better chance of graduating from high school and matriculating to college. That is one aspect of social mobility –educational level. But there are other aspects, mostly behavioral. After a few years, ACE students <u>and</u> their parents are beginning to take on the behavioral characteristics of the middle class.

#### Youth

- Students exercise more and spend more time on homework the longer they are with ACE.
- ACE students have consistently higher graduation rates, which is a precursor to higher earning power and economic mobility.
- The past three ACE cohorts (2013-14, 2014-15, and 2015-16) show that something occurs at or around the second year of participating in the program, as this is the approximate time students become proficient in either reading (one year) or both reading and mathematics.
- Students who have a longer tenure with ACE often participate in school more during their current year than the previous year. They are also less likely to perceive that they have been assigned too much homework.

#### **Parents**

- ACE parents form social connections through their child's school. Parents who have been at an ACE school for five years or more report having more friends at their child's school than ACE parents who have been there for a single year.
- Like their children, parents begin to adopt middle-class educational attitudes, desires, and plans by the second year.
- ACE families earn more the longer they remain with ACE, which gradually reduces the gap between their income and what would be considered a living wage. ACE families' average earnings increase between the first and second year is 12.4%, indicating something happens to ACE families during the second year of the program.
- ACE parents' average educational attainment increases the longer they participate with the ACE program. On average, parents responding to the survey gained/earned at least one post-secondary credential by the time their child had been with the program for five years.



ACE parents with longer tenure serve on committees—which are a sign of integration, leadership, and acceptance from parents, school leadership, and teachers—and become key stakeholders in their communities.

## 2. Background Research

While the belief that any individual can prosper if she has the talent and willingness to work hard has always been firmly entrenched within the American zeitgeist, the reality is that social position is largely passed down from generation to generation. Americans not only overestimate the level of social mobility in their society (Kraus and Tan, 2015), but they also often fail to recognize the way that social norms form barriers in the path of those who seek to become upwardly mobile (Horowitz, 1997). These barriers are especially harmful for minority groups and women (Horowitz, 1997).

While it is possible for some people to climb the social ladder (or fall from it), this tends not to happen because of the ways that various forms of capital—economic, human, social, and cultural—interact. Cultural preferences reinforce social ties as well as access to resources for building skills (i.e. human capital). Skills and social ties, in turn, determine the amount of wealth that an individual can accumulate, which then makes gaining more social, cultural, and human capital even easier.

Essentially, the resources that make up these four forms of capital exist in a feedback loop which reinforces a person's existing social position. Breaking this cycle by providing more resources is possible, but attention to all four types of capital is necessary to truly disrupt it. Evaluation of the ACE scholarship program shows that by providing an influx of economic capital to help low-income students attend private schools, they are also helping these students and their families build other forms of capital and, by extension, giving them a greater chance of becoming upwardly mobile.

The experience of sending a child to private school rather than a lower-quality public school has clear positive impacts for the child, but also for the child's family. Theory about the various forms of capital and how they interact help us explain why attendance at a private school appears to lead to positive family-level outcomes like higher incomes, more education, a wider social network (especially with middle-class families served by the private school), and the development of "middle-class" behaviors. This paper will seek to define the aforementioned forms of capital and then discuss how they interact to benefit the children who receive ACE scholarships as well as their families.



All data and findings in this report come from reputable sources including the Pew Research Center, the United States Census Bureau<sup>1</sup>, and the Bureau of Labor Statistics.

All data representing findings from ACE families were analyzed using several statistical methods including ANOVA and Chi-square, and used Excel and SPSS V. 21 statistical software. Prior data pertaining to ACE families came from the 2015-2016 academic years, and data trends were devised by analyzing families' tenure with the ACE program.

All data collected for this report remain the property of ACE and were analyzed according to the standards outlined and promoted by the American Evaluation Association.

#### 1.1 The Four Types of Capital

Of the four types of capital that this paper will discuss, the most straightforward are economic and human capital. Economic capital refers primarily to money or goods that can be used to create more wealth. It may also be the most crucial form for facilitating the development of other types of capital, though it is not necessarily enough all on its own. According to Bourdieu (1968), "The different types of capital can be derived from economic capital, but only at the cost of a more or less great effort of transformation," (p. 53). Bourdieu also points out that while economic capital provides straightforward access to various goods or services, there are other useful things that it cannot provide without some level of social capital accompanying it (1968).

Human capital, on the other hand, can be broadly summed up as the skills or education that people have. Becker (2008) includes things like knowledge, health, and values as well as pointing to more concrete examples like education level, medical care, and training.

The other two forms of capital—social and cultural—require a little more explanation, in part because they are conceptually similar. They may also be the most important forms for understanding why ACE scholarships can benefit entire families rather than just the child who receives the scholarship.

Bourdieu (1968) breaks cultural capital down into three categories—embodied, objectified, and institutionalized—but it can generally be understood as the knowledge that a person has regarding their culture or environment which defines their social status. It would include things like how a person dresses, speaks, spends money on, which books she reads, or what she

<sup>&</sup>lt;sup>1</sup> Includes the American Community Survey (2015 and 2017 data) and Current Population Survey (2002, 2013, 2015, and 2017 data).



chooses to do in her spare time. It refers, in short, to the cultural markers that identify individuals with certain groups or classes of people.

Social capital emphasizes the interactions and structure of relations between two entities (Coleman, 1988). This is a key form of capital which facilitates the development and transfer of human capital. Coleman notes that social capital creates human capital in the next generation—as a result of children benefitting from their parents' social ties—and goes so far as to write that human capital accumulated by parents is "irrelevant" to their child's education if there is insufficient social capital within the family (p. 110).



### 1.2 Barriers to Mobility

As Figure 1 (above) shows, achieving middle class status in the state of Colorado can be more difficult than in some surrounding states, as the minimum income requirement for households of one, three, and five are all somewhat higher. For example, a single individual in Colorado would have to make nearly \$3,000 more per year than a single individual in Colorado's neighbor to the east—Kansas—in order to qualify as middle class. Similarly, a household of three would have to bring in nearly \$5,000 more per year and a household of five would need to bring in \$6,000 more than a family in Kansas.

Figure 2 (next page) also highlights some of the key barriers needed to maintain a living salary in Colorado and Denver by specific household sizes found among ACE families. Colorado has the highest income among states in this comparison, though Denver's income levels are between those of Houston, TX and Austin, TX.



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Location	Median Income	Family Income	Per Capita Income	Non-Family Income
		States		
Colorado	\$60,629	\$74,826	\$32,217	\$37,978
Kansas	\$52,205	\$66,389	\$27,706	\$30,220
Louisiana	\$45,047	\$57,144	\$24,981	\$25,719
Montana	\$47,169	\$61,271	\$26,381	\$27,458
Wyoming	\$58,840	\$73,194	\$29,803	\$34,317
		Cities		
Denver, CO	\$53,637	\$69,783	\$35,218	\$42,308
Houston, TX	\$46,187	\$51,046	\$28,503	\$27,445
Austin, TX	\$57,689	\$73,928	\$34,015	\$43,541

#### Figure 2: Income in ACE states and cities



Data illustrated in Figure 3 (above) and Figure 4 (next page) come from the American Community Survey (2015) and show how income levels have changed in the United States over the past few years. In both cases, the lower- and middle-income groups (households and families making less than \$35,000 or between \$35,000 and \$99,999 a year) shrunk slightly





between 2011 and 2015 while the highest income group (more than \$100,000 a year) increased. For both households and families, the middle bracket was the largest (43.3% and 45.7% respectively in 2015).

Figure 5 (below) further illustrates the changing income levels in the US over five years (2011-2015) as shown in the American Community Survey (2015) data. High income families and households were the only income groups that increased.





## 3. Demographics

As Figure 6 (below) illustrates, American Community Survey (2017) data show a stark difference in the educational level attained by low-income, middle-income, and high-income households with children. While more than 60% of households with no one who has attained a high school diploma are in the low-income category, only 6.9% of households with similar educational attainment are in the high-income range. Similarly, nearly 60% of households with a Bachelor's degree or more are high income, compared to just 9.5% that are low income.



Figure 7 (next page) compares the educational attainment of ACE households that have children between the ages of 6 and 17 years old to similar households in Colorado and the US. ACE households are more likely to not have a high school diploma, no more than a high school diploma, or no more than an Associate's degree compared to their statewide and nationwide peers. They are also less likely to have spent any time in college or to have earned a Bachelor's degree or higher. Paired with the data on how households with lower educational attainment are also more likely to be in the low-income category, it alludes to the assistance that ACE scholarships provide students from lower income families and points to the reality that many of these students would be unlikely to escape that status without assistance.





## 4. How Capital Interactions Affect ACE Scholarship Recipients

The interactions between the various forms of capital are complicated—each form influences the ability to build other forms to some degree—but Figure 8 (next page) provides a simplified look at the big picture of how ACE scholarships enable students to succeed both in school and later in life. The initial input of economic capital (in the form of a scholarship) provides students with access to a culture that would otherwise be inaccessible to them— that of a private school. As the students learn the ins and outs of that new culture, they have a better opportunity to build social capital through new friendships and better relationships with teachers and educators. This part is crucial, as the development of social capital not only triggers a reinforcing loop for building more and more cultural and social capital, it also leads to greater human capital in the form of greater academic achievement and new skills.

Adapting to a new culture does present its own challenges, of course. A Plewis and Bartley (2014) study, for instance, posits that students who are more familiar with the dominant culture enjoy better communication with and more favorable evaluations from teachers, which then leads to greater academic success. However, the researchers' findings also suggest that cultural capital is something that can be learned or taught to students who were not born into those groups.



## Figure 8: Developing Human Capital Through the ACE Scholarship Program: Students



This is one of the reasons why segregation is such a pernicious problem in education, as Parcel, Dufur, and Zito (2010) write:

"Segregation disadvantages students by limiting stores of valuable social capital: Students in predominantly minority schools lack social relationships with advantaged whites," (p. 834).

Essentially, by keeping disadvantaged or minority students outside of the dominant cultural paradigm, it denies them the chance to learn about that culture. This, in turn, prevents them from developing social connections which could help them. Moreover, those students also miss out on the benefits that attending a school with high economic capital can impart. Parcel and Dufur (2001) note that students benefit from the human capital of their teachers, so schools that are able to attract better teachers—those with advanced degrees and better teaching skills—by offering higher salaries provide their students with a greater pool of human capital to draw from. Greater economic capital in schools also tends to lead to better situations for students, like smaller class sizes and new pedagogical strategies.



But the most important way that disadvantaged students can benefit from becoming ingrained in a more privileged culture is the social capital that they can build as a result. It is also absolutely crucial for students to be able to build social capital through school, as it is the dominant social environment in this stage of their lives (Crosnoe, 2004).

Dufur et al. (2013) demonstrate that while social capital in school is different from social capital at home, the two forms of social capital do complement each other. They write:

"...more positive school social environments help blunt the negative effects of very high maternal work hours...high-quality schools partly compensate for poor parental attachment and low parental involvement in school in preventing juvenile delinquency, especially for low-achieving youths," (p. 5).

Dufur et al. (2013), along with much of the rest of the literature, do suggest that social capital between children and their families is probably more important than capital at school. However, research also shows that building social capital at school can help to overcome some of the issues related with low social capital at home. In addition to the previously noted function of positive school environments in mitigating problems associated with mothers working long hours and low or poor parental involvement (Dufur et al., 2013), students' academic ambition is linked with that of their peers, which shows how social capital can directly impact achievement (Hoffman and Dufur, 2008).

Family social capital does play a vital role in children's success though. Not only does a lack of social capital at home diminish the amount of human capital that can be transferred between parents and their children (Coleman, 1988), high social capital can also make up for lower levels of economic capital (Parcel et al., 2010). Unfortunately, families from disadvantaged backgrounds often have low levels of social capital as well, as Parcel et al. (2010) write:

"...low-SES [Socio-economic status] families whose children would benefit from social capital created less of it: Low-SES parents were less engaged with the school in terms of volunteering, parent-teacher association (PTA) membership, and helping with homework," (p. 833).

This problem can largely be attributed to economic stress as well as the burden of working long hours. Nevertheless, it is critical to find ways of getting parents involved in their children's education because school social capital can only do so much to make up for that lack of attention. It has become apparent, however, that the parents of ACE scholarship recipients do tend to become more involved in their children's education to both their children's benefit and the benefit of the family as a whole.

Education is a resource passed from parent to child in a reinforcing feedback loop. As previously discussed, though, low-income families typically have lower educational attainment



compared to more affluent ones. This makes passing on educational resources (human capital) significantly more difficult. But ACE scholarships disrupt this feedback loop and expose children from poorer families to private school families as well as private school teachers who often have more educational resources for ACE students to capitalize on. This undoubtedly plays a role in ACE students' academic achievement.



ACE scholarship recipients, for example, seem to have a greater chance to succeed in high school, as evidenced by their graduation rates. From 2013-2016, ACE students graduated at higher rates than both Federal Free and Reduced Lunch (FRL) program qualifiers and Colorado



students as a group (Colorado Department of Education, 2016). This means that ACE students also have a greater opportunity to move directly into college after high school, which leads to greater potential earning power later in life (Bureau of Labor Statistics, 2016). Figure 10 (left) provides a one-year snapshot of 2016, when ACE students graduated at a somewhat higher rate than Colorado students who did not qualify for the FRL program (Colorado Department of Education, 2016).





ACE students matriculate into college at higher rates than their peers as well. As Figure 11 (left) shows, more than 75% of graduating ACE students matriculated to college in 2015, compared to only 56.5% of Colorado students and 41.3% of students from the Denver Public School (DPS) system—a predominantly lowincome district (Colorado Department of Education, 2016).

Figure 12 (below) shows that ACE parents and students are more aligned attitudinally with middle- and upper-income class parents than they are with lower income peers. Academic

attitudes of ACE parents compared to parents of poor, non-poor, private, and public school students are particularly interesting within the context of how capital interactions may help lift these families to become upwardly mobile. Not only do these parents report being satisfied with discipline and holding high academic standards compared with every other group, they also volunteer at much higher rates (National Center for Educational Statistics, 2015). This may be the venue where ACE families are best able to build social capital through interactions with teachers and the parents of their child's classmates.











As students stick with the ACE program, they also talk more about school at home, as Figure 13 (top) shows based on responses from 2014-2015 and 2015-2016 ACE surveys. There is a steady progression from one year (36.6%) to five years or more (44.8%). Similarly, students also report participating in class more regularly the more time they spend with ACE (Figure 14, middle). While 36.6% of one-year students reported participating in class more than in the previous year, that number rose to 44.2% for four-year students.

There is also a steady improvement in ACE students' ability to manage homework and their perception of having too much homework (Figure 15, bottom). Only 8.5% of students who have been with ACE for five or more years report having too much homework compared to 22% of one-year students. This is likely because ACE students adapt to the workload, develop better study habits, and come to understand the level of work associated with earning better grades, but more data are needed to form a definitive conclusion.



# 5. How Capital Interactions Affect the Families of ACE Scholarship Recipients



# Figure 16: Developing Human Capital Through the ACE Scholarship Program: Parents

The influx of economic capital provided by an ACE scholarship appears to kick off a cycle of increasing capital for parents as well as their children, though the process looks a little different in this case. Unlike their children, who first build cultural capital after their scholarship allows them to attend a private school, their parents build social capital first. Similar to their children's process, once they are able to build both social and cultural capital, it triggers a reinforcing loop between these two forms. This facilitates the development of greater economic capital, which then enables them to build more human capital.

The key difference is that while their children become embedded in the culture of a private school, these parents do not. The connection between parents and their children provides a channel for transmitting various forms of capital (Crosnoe, 2004). This is typically understood as a way that capital is transferred from parent to child, but information can flow both ways. In the case of ACE families, cultural capital appears to flow from child to parent which, in turn,



makes it easier for parents to build additional social capital both with their children and in other venues. For example, parents who are more involved in their children's education are more likely to interact with their children's teachers and the parents of their children's classmates and to then utilize the social capital that develops from those interactions (Jenkins, 1995). The cultural capital that parents gain from their children can help to facilitate this process.

This cycle, of course, is not always that straightforward. Economic barriers persist, and social and cultural barriers within a school setting can reinforce them. According to a 2014 study by Sime and Sheridan, impoverished parents want their children to enjoy better lives than what they have, but they are also keenly aware of their limitations— both in their own abilities/education (human capital) and their lack of beneficial social connections (social capital). These parents also understand that school provides their children with an opportunity to build cultural capital for themselves and to then transmit some of that capital throughout the family, as Sime and Sheridan write:

"They often saw children as generators of cultural capital for the family, through the knowledge they brought from school. Parents were committed to their children's education, understood the importance of qualifications for children's social mobility and were anxious for their children to do well," (2014, p. 338-339).

However, the awareness that they have limited resources available to help their children can lead to a crisis of confidence, as Sime and Sheridan write:

"Investing time and resources in children's education is likely to be too costly and too risky, with high uncertainty in terms of returns, with no guarantees whether the child will be successful. In working-class families, this uncertainty is also reinforced, as there are likely to be no prior experiences of high achievement within the family," (2014, p. 339).

The researchers find that mothers were particularly concerned about the lack of strong social networks outside of their local neighborhoods and expressed concern that they simply did not have the resources necessary (energy, knowledge, etc.) to build such networks. Families also worried that their children's cultural preferences (language, clothing choices, etc.) would lead them to be ostracized in school or that they would develop issues related to the clashing cultures at school and at home (Sime and Sheridan, 2014).

But what Sime and Sheridan (2014) ultimately find is that there are interventions that schools can take to improve these students' development and improve their parents' skills. The researchers point to a MacQueen et al. (2007) study showing that "pick up" programs at different points in a child's academic progression (like during pre-school or before starting elementary school) can help to mitigate problems and disadvantages without stigmatizing them. As for easing the parents' concerns about culture clash, Sime and Sheridan write:



"It seems that, in this context, the only way to reconcile the two spaces of home and school is by finding successful approaches to enabling parents to believe in their ability to support children's academic success and engage with educational establishments, without perceiving these as a threat to their social and cultural values, and by enhancing their ability to develop stronger and more positive home learning environments (Goodall and Vorhaus, 2011)," (2014, p. 339-340).

Of course, one of the hallmarks of high-quality schools is the myriad ways that they get parents involved in their child's education—whether through special programming or volunteer work. It is likely that this explains the improvements in human and economic capital for ACE parents. These parents gain cultural capital through their children and utilize it to build social capital with other families and teachers affiliated with the school. This, in turn, can lead to greater economic capital when these parents leverage their social connections and newfound cultural capital to find better paying work. From there, increased human capital can follow as a result of greater financial flexibility and/or more free time.

Greater cultural capital among parents can also have a very direct influence on their children's ability to succeed academically. Sime and Sheridan note a Reay (2005) study showing that schools grant a level of recognition to parents' values, attitudes, and experiences regarding education. They also point to a Peters et al. (2007) finding that the parents' views on education are connected with their confidence in a school's approach and willingness to confront the



school when they disagree with that approach (Sime and Sheridan, 2014).

# 6. Economic Capital

Economic capital, or money and other resources that can be used to create additional wealth, facilitates the building of all other forms of capital.

One of the most beneficial forms of economic capital is home ownership. Low-income families are less likely to attain the economic capital that comes with owning a home and are forced to rent instead. Figure 17 (left) shows the discrepancy between low- and middle-income families when it comes to

home ownership in Colorado and nationwide (Current Population Survey, 2017). Owning a home translates into greater stability for children as a result of fewer unplanned moves and more control over their environment.



#### 6.1 Impact of ACE - Economic Capital

	Median household size	Median household income	Per capita income
ACE	4.45	\$31,492	\$7,302
Colorado	2.3	\$74,826	\$32,217
United States	2.3	\$66,011	\$28,930

#### Figure 18: Household Size and Income



The longer a family is with ACE, the higher its per capita income increases. Figure 19 (left) highlights the per capita income—or the resources allocated to each individual family member—of ACE families as it rises steadily from year one to year four.

That rise in per capita income is particularly important as ACE families tend to be larger than the average for both Colorado and the US (American Fact Finder, 2017), so their total income has to stretch even farther.



That said, the growth in per capita income for ACE families appears to apply for both large and small families. As Figure 20 (left) shows, families ranging in size from three to six members all saw steady increases in total income the longer they stayed with ACE.



However, the cost of living in Colorado can be steep in some places, and low-wage jobs typically fail to cover that cost. Figure 21 (top left) shows the pre-tax living wage requirement for



families of different sizes in Colorado based on research by Glasmeier (2017)<sup>2</sup>. As the average size of ACE families is 4.45 members, those households would likely need to bring in more than \$80,000 a year in pre-tax income (depending on the number of parents in the household) just to keep up with the basic living wage level.

ACE families are gradually reducing the deficit between their family wages and a living wage, but there is still a long way to go. As Figure 22 (bottom left) shows, ACE families composed of four and five members (both with two parents) have seen steady growth in wages. On average, families of four

have gone from making 38.6% of the Colorado living wage for their family composition in year one to 47.4% of that level in year four. Similarly, families of five have improved from 48.2% of a living wage to 59.3% (Glasmeier, 2017).

<sup>&</sup>lt;sup>2</sup> Colorado was chosen for this comparison because ACE originated in Colorado and it is the state with the largest group of students receiving scholarships.



It typically takes about two years for ACE families to see a significant boost to their income level, and that growth continues in the years following the initial spike. The timeline also mirrors that of ACE students attaining proficiency in the classroom. More research is required to determine exactly why this happens, but the evidence for the increase in earnings is clear.



Obviously, the more time students spend in the ACE program, the more likely they are to ultimately exit the program as a result of graduation or grading out (e.g. reaching 8th grade at the school of their choice). However, another significant reason for families exiting the program is an increase in their income to the point where they make too much money to qualify for an ACE scholarship. As Figure 23 (above) shows, 15% of families who exit the program after the second year do so because their income is too high, which coincides with the previously mentioned finding that ACE families tend to see a boost to their income around the second year with the program.

# 7. Cultural Capital

Cultural capital is closely linked with education in part because school is where young people develop their cultural preferences—things like music, dress, and activities—which ultimately work to identify them with various types of groups or classes.





According to Pew Research Center (2015) data, lowincome families tend to be less satisfied with the quality of education that their child receives than middle-income families and parents in general. Nearly 15% of low-income parents report being either somewhat dissatisfied or very dissatisfied with their child's school compared to 13.3% of middle income parents and 11.9% of all parents.

## Figure 25: Exposure to the Arts

	ACE	Colorado	U.S.	Low Income	Middle Income
Attended an art exhibit	n/a	19.9%	18.3%	9.8%	22.2%
Attended the movies to see a film	n/a	80.8%	66.5%	47.7%	69.5%
Live music, theater, or dance performance	52.0%	33.7%	32.2%	14.8%	34.9%

ACE students exposure to various cultural venues is a bit mixed. On one hand, they are more likely to have attended a live music, theater, or dance performance than most in Colorado or the US as shown in Figure 25 (above) (Current Population Survey, 2015). As Figure 26 (next page) shows, however, they are also somewhat less likely to have visited an art, science, or history museum or a zoo, nature preserve, or arboretum than the national rate—though they do visit public libraries at significant higher rates than the national average, according to data from the General Social Survey (Smith et al, 2017).





According to National Center for Educational Statistics, a significantly higher proportion of ACE students visited libraries, live performances, museums, and zoos/aquariums than their peers across income levels and school types (public/private). Of course, ACE parents are doing what they can—as indicated by how often they bring their children to the library. While museums, zoos, and other cultural establishments typically charge for entry, public libraries are free. These students also receive some supplementary education through the libraries.

## Figure 27: NCES School Supplements 2014-2015

	ACE	Poor	Non-Poor	Private	Public
Libraries	77%	42%	39%	44%	38%
Live Performance	52%	23%	33%	39%	30%
Museum	59%	17%	22%	25%	20%
Zoo/Aquarium	55%	22%	18%	17%	18%





ACE families are particularly likely to utilize their local libraries. More than 74% of ACE families report using the library compared to just 60.6% of Coloradans and 56.6% of Americans. This holds true when the US and Colorado populations are broken down into low- and middle-income levels as well, as Figure 28 (above) shows (Current Population Survey, 2002).

ACE families are also disproportionately likely to read to their children compared to households with school-aged children in Colorado and the US. Once again, this also holds true when the Colorado and US populations are broken up into low- and middle-income categories, as Figure 29 (below) indicates (Current Population Survey, 2013). This is crucial, as it indicates that ACE families exhibit a higher level of engagement with their children's education.





#### 7.1 Impact of ACE - Cultural Capital

ACE parents display a strong involvement in their child's education that remains consistent throughout their time with ACE. There is a slight dip in how often they read to their child, but that is likely explained by the child getting older. ACE parents are also well-informed about their child's friends' plans regarding college and maintain high expectations that their child will go to college as well, which signifies that education plays a key role in their households.





Parents also tend to become more engaged with their child's education the longer they remain with ACE. While most parents feel strongly about the importance of their child earning good grades, the rate of positive responses to this question rises from 93.3% in year one to nearly 97% after five years or more. Similarly, more parents report helping their child with homework after more time spent with the ACE program.



Parents are also more likely to respond that their child likes school better than the previous year and that their child's friends do well in school after more time spent with ACE.

# 8. Social Capital

Social capital, both at home and in school, is a particularly important form of capital for young people to develop. It refers to the number and strength of an individual's social connections, which can be beneficial in countless ways. Social capital is essential for passing on human capital from generation to generation (parents' social connections can ultimately benefit their children), but it can also provide something of a safety net for people both young and old.



Nearly 90% of ACE families report eating dinner together regularly—a vastly higher rate than low-income Colorado families and more on par with middle-income Colorado families—which is a strong indication of social capital at home (Current Population Survey, 2013). The importance of families eating dinner together is well established, largely because it is a prominent venue for family members to communicate with each other and share news about their days. And as





Figure 34 (top left) shows, ACE families eat dinner together at high rates throughout their time with the program. Eating dinner as a family is a proxy variable for cohesiveness and parental engagement (Putnam, 2015). It also contributes to ACE parents' knowledge of their child's career ambitions as illustrated in Figure 35 (bottom left). As early as the third grade, ACE parents are engaging with their child's education and aware of their child's career goals.





ACE families typically place a high value on education. This is not unexpected, as lowincome families tend to place a higher value on obtaining a college degree than middle-income families, as Figure 36 (left) illustrates (Pew Research Center, 2015).

#### 8.1 Volunteering

Another potential avenue for families to build *both* cultural and social capital is through volunteering. Lower income households do not typically engage in volunteer activities. This is not only the case when compared against all families in Colorado and the US, it is also true when those populations are broken down into low- and middle-income groups, as Figure 37 (below) illustrates (Current Population Survey, 2015).





ACE parents devote more hours per month to volunteering than parents in Colorado and the US. This places them in direct contact with other, higher income parents, in an environment where child development is the overall goal. Parent volunteerism in schools also differs from other forms of volunteerism in that the child or class of children are the beneficiaries rather than strangers (Fahey, 2008). Parents, therefore, are more likely to engage with activities that will benefit their children directly (Lareau, 2001).



ACE parents spend almost three times as many hours per month volunteering (11.4) as the average Colorado parent (4.37). ACE parents, then, have nearly three times the opportunity to learn middle-class behaviors firsthand from middle-class parents. Once again, ACE parents also continue to volunteer at a high rate even when compared to low- and middle-income parents separately (Current Population Survey, 2015).

Unfortunately, there are some key differences. Fewer ACE families find themselves sitting on important decision-making committees where they would have even more exposure to parents who are higher up the socio-economic ladder. Instead, they spend most of their time engaged with general labor or clerical activities. This may be the result of their education, so more research is needed. Although the ratio of clerical to labor hours is somewhat unusual compared to individuals in Colorado, the numbers are similar to Americans as a group, as Figure 38 (above) shows. Moreover, most low- and middle-income individuals are more likely to volunteer in clerical/labor roles in both Colorado and the US (Current Population Survey, 2015).<sup>3</sup>

<sup>&</sup>lt;sup>3</sup> These two roles are highlighted because they are at opposite ends of a spectrum for volunteering. General labor and clerical tasks require little training, but sitting on a committee indicates that an individual is viewed as a leader and accepted by other volunteers and the organization's leadership.





The longer families remain with ACE, the higher their rate of volunteerism climbs for both clerical/labor roles and working on committees. It generally takes some time—generally four years or more—before ACE families begin to volunteer like middle-class ones, but the ultimate spike in volunteering rates is statistically significant<sup>4</sup>.



#### 8.2 Impact of ACE - Social Capital

ACE survey data indicates that parents are highly involved, regularly attend school functions, and are comfortable talking with their child's teachers. ACE parents also acquire more friends through their child's school the longer they are involved with ACE. Naturally, this expands their social connections which can then contribute to further involvement with the school, reinforcing their gains in social capital.

## 9. Human Capital

Human capital may be the form of capital most directly connected with a solid education. It refers to the knowledge, skills, values, or even physical abilities that a person develops over the course of her lifetime. It is likely the most important form of capital needed for obtaining greater economic capital and moving up the social ladder.

#### 9a. Impact of ACE - Human Capital



ACE parents often pursue degrees and other education for themselves while they are with ACE. On average, these parents advance from having no postsecondary credentials (including certificates) to having at least one. It is possible that

these parents were encouraged to pursue higher education for themselves as a result of their interactions with ACE (and perhaps being inspired by their child's educational progress).



Based on data from the American Time Use Survey (2017), ACE students spend more time on healthy activities—particularly exercise or playing outside—than their peers nationally. They also spend more time in school, but somewhat less time participating in clubs and after-school activities. Over time with ACE, the most significant change in students' use of their time is the number of hours they spend on







Research has shown that making mistakes leads to increased knowledge and is necessary for developing expertise. Comfort with making mistakes and receiving critical feedback in school helps to reinforce the education that students receive and indicates that they are learning (Heick, 2014). ACE students, for the most part, are consistently unafraid to make mistakes in their schoolwork throughout their time with ACE.





# Appendix

Contains data and descriptions to supplement the report material. Section headers in the appendix are meant as a guide for matching data to the sections of the report they are intended to supplement.

#### A. Background Research





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Figures A2 and A3 highlight the change in the number of households which received various types of benefits from 2014-2015 and between 2011-2015. As they show, the number of Colorado households receiving several types of benefits—including cash public assistance, Social Security, and food stamps/SNAP—grew faster than the national rate over both timelines. The only exception was Supplemental Security Income (SSI), which grew faster nationally in both the one-year and five-year timelines.



#### Figure A4: Sources of Household Income

	Mean E	arnings	Mean Social Security		Mean Supplemental Security Income (Disability)		Mean Cash Public Assistance Income	
	Colorado	USA	Colorado	USA	Colorado	USA	Colorado	USA
2011	\$75,634	\$73,302	\$15,792	\$16,213	\$8,815	\$8,629	\$3,608	\$3,729
2014	\$78,841	\$76,303	\$17,294	\$17,836	\$9,656	\$9 <i>,</i> 400	\$3,678	\$3,720
2015	\$80,459	\$77,300	\$17,548	\$17,790	\$9,556	\$9 <i>,</i> 393	\$3,627	\$3 <i>,</i> 490



Figure A5 below shows changes in average earnings, Social Security, SSI, and public assistance income over a five-year period (2011-2015) in Colorado and the US as a whole. As it illustrates, while average earnings grew in Colorado faster than the national rate between 2011 and 2015, the average income from Social Security benefits and cash public assistance did as well.



#### **B.** Demographics

ACE also serves a disproportionately diverse population when compared with Colorado and the US as a whole. Though less than 20% of the US population and 33.1% of Colorado's population identifies as Hispanic according to Current Population Survey (2017) data, more than half (52%) of the population that ACE serves is Hispanic, as Figure B1 (below) shows.





Comparing Colorado to US Levels							
Colorad	= 5.6%						
Low Income	Middle Income	Low Income	Middle Income				
9.8%	11.10%	1.7%	4.7%				

Figure B2: Disability, by Income Level:

Another challenge that impacts low-income families is disabilities. As Figure B2 shows, in both Colorado and the US low-income families are affected by disabilities at lower rates than both the national average and middle-income families. Although comparatively lower, low-income families with disabilities have even fewer resources available to devote to education as well as greater difficulty in finding work.

			_		
	Poor	Non-Poor	Private	Public	ACE
No High School Diploma	3%	1%	0.01%	1%	14.20%
High School Diploma	17%	7%	5%	9%	15.30%
High school Certificate	11%	8%	3%	9%	28.90%
2-Year College Degree	20%	17%	8%	19%	10.50%
4-Year College Degree	17%	30%	36%	27%	6.90%
Graduate College Degree	32%	37%	47%	34%	5.80%

## Figure B3: Parents Education 2014-2015

Using data from the National Center for Educational Statistics (2015), Figure B3 (above) shows parental education levels for low-income and non low-income families as well as whether those families sent their children to private school. Typically, education is a resource passed from parent to child in a reinforcing feedback loop. This makes it significantly more difficult for poor and public school families to pass on educational resources (human capital) to their children. However, the ACE scholarship disrupts this feedback loop and exposes children from poor families to private school families and private school teachers who typically have more educational resources (human capital) for ACE students to capitalize on.



#### **C. Capital Interactions**



ACE scholarships almost entirely benefit students who qualify for the Federal Free and Reduced Lunch (FRL) program, as Figure C1 illustrates. While nearly 35% of Colorado households make below 130% of the poverty rate and another 7.44% bring in less than 185% of the poverty rate (Colorado Department of Education, 2017)—qualifying them for free lunches or reduced-price lunches, respectively—the rates for ACE households are more than 72% for free lunch and an additional 21% for reduced price lunches. Less than 7% of ACE households do not qualify for the program at all.





Students from low-income families in Colorado tend to struggle with the SAT compared with their more affluent peers, Colorado students as a whole, and benchmark expectations (see Figure C2 above). In 2017, low-income Colorado students earned scores about 50 points lower in both reading and math on average than their statewide cohort as a group. The deficit with non-low-income students was closer to 75 points in both categories (Colorado Department of Education, 2016). Low-income students scored 16.6% lower than non-low-income students in English/reading and 16.7% lower in math. They scored 10.9% lower than the Colorado average in English/reading and 11% lower in math.



ACE students are also outperforming their peers in reading and math proficiency, as shown above (Colorado Department of Education, 2016). The significant difference between ACE



students and other low-income students is particularly noteworthy, as it suggests that these students would be less likely to succeed without the opportunity given to them through the ACE scholarship program. The following charts (Figures C4 and C5) provide an even stronger view of that impact, as they show how ACE students in grades 3-8 are currently outperforming their FRL and non-FRL peers as well as Colorado students as a whole in reading and math proficiency (Colorado Department of Education, 2016).







The below charts (Figures C6, C7, and C8) come from the 2013-2014 ACE report which suggests that it takes students about two years with the ACE program to become proficient. In the case of reading, that happened in the 2013-2014 academic year.



Figure C6:

Data from the 2014-2015 and 2015-2016 years reinforce this finding even further, showing that students became proficient in both areas in their second year, as the chart below shows.









The growth in ACE students' performance is particularly critical at different points in their academic careers. For example, students generally learn to read until the third grade, and from that point on reading becomes a crucial tool for learning more advanced material. Similarly, students who succeed in eighth grade algebra are better able to handle more advanced math



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classes in high school. As the graph above shows, ACE students outperform their peers during both of these critical junctures, setting them up for even greater academic achievement (Colorado Department of Education, 2016; Loveless, 2013; Annie E Casey Foundation, 2010).



The high achievement of ACE students—both over time and at particularly crucial moments may explain, in part, their significantly higher rates of college matriculation as well. As Figure C10 (above) shows, more than 75% of graduating ACE students matriculated to college in 2015, compared to only 56.5% of Colorado students and 41.3% of students from the Denver Public School system—a predominantly low-income district (Colorado Department of Education, 2016). The higher matriculation rate of ACE students also holds up over time, as the three-year snapshot of 2013-2015 rates in Figure C11 (below) shows.





Similarly, ACE students also have vastly lower drop-out rates than students from any economic background (Figure C12). While nearly 10% of the lowest quartile of students and 2.4% of the highest quartile dropped out during the 2015-2016 academic year, only .01% of ACE students dropped out (National Center for Education Statistics, 2016).



The difficulties faced by students from low-income families persists into college as well. Whether they enroll in a two- or four-year school, lower-income students are significantly more likely to enroll in remedial courses. As Figure C13 (below) shows, more than 75% of the lowest quartile students enrolled in two-year schools and more than half of lowest quartile students in four-year schools took a remedial course (Chen and Simone, 2016).





#### **D. Economic Capital**

ACE families tend to have significantly lower incomes than the average family in Colorado or the US. As the following graph (Figure D1) shows, this is the case in both median income and per capita income (or the average number of dollars allocated to each family member including children) (American Community Survey, 2017). Obviously, this takes its toll on these families' lifestyles. Figure D2 illustrates the financial situation for parents at different income levels in the US, based on Pew Research Center (2015) data. While more than 36% of all parents in the US report living comfortably and a further 33.6% report having enough to meet expenses with some money left over, the situation is much worse for low-income families with children. More than 20% of low-income families do not even make enough to cover their basic expenses, and another 40.4% make just enough. In other words, more than 60% of low-income families with children are either failing to get by or just barely managing. Only 12% of these families report living comfortably.

ACE families—though typically lower in income—seem to enjoy greater work stability than most. The average ACE family member has stayed with her current job for 5.75 years, while the norm in most industries is 4.5 years or less (Bureau of Labor Statistics, 2016).









Figure D4 breaks down how low- and middle-income individuals participate in the workforce in Colorado and nationwide and alludes to changes in behavior based on income and how that can limit advancement. For example, a higher rate of low-income individuals are disabled or retired.



Figure D4: Employment Status								
	Low Income Middle Income							
	Colorado U.S. Colorado U.S.							
Employed-At Work	56.8%	61.9%	84.5%	77.1%				
Employed-Absent	7.6%	2.7%	2.0%	4.9%				
Unemployed-On Layoff	5.4%	0.8%	<0.1%	0.7%				
<b>Retired-Not in Labor Force</b>	2.2%	2.3%	<0.1%	1.3%				
Disabled-Not in Labor Force	9.8%	9.7%	<0.1%	2.9%				
Not in Labor Force	oor Force 18.2% 17.9% 13.6% 10.9%							

Pew Research Center (2015) data also shows how low-income families are more likely to want their children to become financially independent than more advantaged families. Financial security is a strong motivator. More than 92% of low-income families believe that it is either extremely (52.1%) or very (40.1%) important that their child becomes financially independent. This is only true for about 70% of middle-income parents (41.9% reported extremely important while 27.9% said it was very important), and nearly 24% of those parents reported that it was not too important.





#### E. Cultural Capital

No supplementary materials

#### F. Social Capital









As Figure F3 shows, there is a noticeable discrepancy in how low-income and middle-income individuals perceive the neighborhood they live in. In both Colorado and the US at large, low-income individuals are less likely to trust their neighbors or do favors for them than those in the middle-income range (Current Population Survey, 2013). This is an indicator of social interaction and the likelihood of these individuals influencing their communities.





Figure F4 illustrates findings about neighborhood trust from the Pew Research Center (2015). These data indicate that low-income parents are much more likely to rate their neighborhoods as poor (10%) or fair (21.5%) than middle-income parents and all parents as a group.



Time spent with ACE also shifts parents' perceptions regarding school safety and the frequency of their child getting into trouble. Over time, parents reported more confidence that their child is safe at school and fewer occasions when they were contacted about their child getting into trouble.



ACE parents feel that their child's school is in a safe neighborhood, indicate a strong sense of trust in the school, and believe that their child is receiving the best education from the school. However, the parents' sense of safety in the neighborhood declines the longer they are affiliated with ACE.



Most Americans who volunteer are asked to do so directly by the school or organization they are working to benefit. However, middle-income individuals are slightly more likely to be asked by the organization/school (69.5%) rather than a friend/relative or co-worker than low-income individuals (65.4%) (Current Population Survey, 2015). These data may signify greater social connections with a child's school or at work among middle-income individuals.

#### G. Human Capital

One particularly problematic issue for low-income Americans is the availability of health insurance. This is particularly true in Colorado, where only 48.3% of low-income residents have health insurance. By contrast, more than 73% of middle-income Coloradans and roughly 84% of middle-income Americans have health insurance (Current Population Survey, 2017). This, obviously, highlights one of the most significant benefits of social mobility, as middle-income individuals have a much easier time obtaining and utilizing health insurance to get the medical care they need.











While most Americans (67%) must procure private health insurance plans, lower-income individuals are disproportionately likely to receive Medicaid (35%) or CHIP (Children's Health Insurance Program) benefits (7.2%). However, while they are much less likely to obtain a private health insurance plan than Americans as a group or middle-income Americans specifically, they are still somewhat more likely to have private insurance (43.6%) rather than Medicaid.

Given the reality that lower-income individuals have a more difficult time acquiring adequate health insurance, it is hardly surprising that they also experience worse health than middle-income individuals. In Colorado, 16.5% of low-income individuals rate their health as either fair or poor compared to just 6.6% of middle-income individuals. Across the US, those figures rise to nearly 19% and 9%, respectively (Current Population Survey, 2017). Essentially, the lower your income status, the more likely you are to be in poor health.

Figure G4 on the next page highlights other health-related issues impacting lower-income communities—lack of access to parks, recreation centers, sidewalks, and libraries as measured by poverty level. Apart from libraries (which obviously offer their own benefits), these items encourage walking and active behavior. Colorado fares much better than the US, where 6.3% of those making between 0-99% of the poverty level and 4.2% making between 100-199% of the poverty level lack access to these benefits, most likely because of Colorado's abundance of natural parks. However, it is still an issue that disproportionately harms low-income communities (McKenzie et al., 2013). The graph further illustrates how rising income levels means greater access to these amenities. McKenzie et al. (2013) further highlight how income is tied to health outcomes as well. Put simply, the researchers' find that the higher an individual's income is, the more likely it is that that individual will experience good overall health. Similarly, they also report a positive link between income and maintaining a healthy weight.









Low-income parents are somewhat less likely to believe that they are doing a good job as a parent than middle-income parents. While 88% of low-income parents do say that they do a very good or good job (compared to 93% of middle-income parents), more than 10% say that they are doing just a fair job (Pew Research Center, 2015).

By contrast, low-income parents seem to value how their community perceives their parenting ability more than middle-income parents do. While nearly 40% of middle-income parents report that their community's opinion matters a lot, 53% of low-income parents feel that way. Meanwhile, only 16.7% of low-income parents say that their community's opinion does not matter at all compared to nearly 26% of middle-income parents and 26.4% of all parents (Pew Research Center, 2015)







Similarly, a greater percentage of low-income parents report that they enjoy being a parent all the time (53.6%) than middle-income parents (38.8%) and all parents (40.3%).





Lower-income parents also feel that they do not put enough pressure on their children to succeed in school at higher rates than all parents and middle-income parents specifically as the graph above shows (Pew Research Center, 2015).



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